

### 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

---

SR 3.0.1           SRs shall be met during the MODES or other specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

---

SR 3.0.2           The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met.

For Frequencies specified as "once," the above interval extension does not apply.

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance.

Exceptions to this Specification are stated in the individual Specifications.

---

SR 3.0.3           If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is greater. This delay period is permitted to allow performance of the Surveillance. A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

(continued)

---

SURVEILLANCE REQUIREMENTS (continued)		
SURVEILLANCE		FREQUENCY
SR 3.1.7.7	Verify each pump develops a flow rate $\geq 41.2$ gpm at a discharge pressure $\geq 1220$ psig.	In accordance with the Inservice Testing Program
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	24 months on a STAGGERED TEST BASIS
SR 3.1.7.9	Verify all piping between storage tank and pump suction is unblocked.	24 months  <u>AND</u>  Once within 24 hours after pump suction piping temperature is restored to $\geq 70^{\circ}\text{F}$

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.1.8.1      -----NOTE-----  Not required to be met on vent and drain  valves closed during performance of  SR 3.1.8.2.  -----    Verify each SDV vent and drain valve is  open.</p>	<p>31 days</p>
<p>SR 3.1.8.2      Cycle each SDV vent and drain valve to the  fully closed and fully open position.</p>	<p>92 days</p>
<p>SR 3.1.8.3      Verify each SDV vent and drain valve:</p> <ul style="list-style-type: none"> <li>a.    Closes in <math>\leq 30</math> seconds after receipt  of an actual or simulated scram  signal; and</li> <li>b.    Opens when the actual or simulated  scram signal is reset.</li> </ul>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.11	<p>-----NOTES-----</p> <p>1. Neutron detectors are excluded.</p> <p>2. For function 2.a, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	184 days
SR 3.3.1.1.12	Perform CHANNEL FUNCTIONAL TEST.	24 months
SR 3.3.1.1.13	<p>-----NOTES-----</p> <p>1. Neutron detectors are excluded.</p> <p>2. For IRMs, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	24 months
SR 3.3.1.1.14	Verify the APRM Flow Biased Simulated Thermal Power-High time constant is within the limits specified in the COLR.	24 months
SR 3.3.1.1.15	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.16	Verify Turbine Stop Valve Closure and Turbine Control Valve Fast Closure Trip Oil Pressure-Low Functions are not bypassed when THERMAL POWER is $\geq 33.3\%$ RTP.	24 months
SR 3.3.1.1.17	<p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Neutron detectors are excluded.</li> <li>2. For Functions 3, 4, and 5 in Table 3.3.1.1-1, the channel sensors are excluded.</li> <li>3. The STAGGERED TEST BASIS Frequency for each Function shall be determined on a per channel basis.</li> </ol> <p>-----</p> <p>Verify the RPS RESPONSE TIME is within limits.</p>	24 months on a STAGGERED TEST BASIS

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.2.4 -----NOTE-----            Not required to be met with less than or equal to four fuel assemblies adjacent to the SRM and no other fuel assemblies in the associated core quadrant.            -----            Verify count rate is <math>\geq 3.0</math> cps.</p>	<p>12 hours during CORE ALTERATIONS            AND            24 hours</p>
<p>SR 3.3.1.2.5 -----NOTE-----            Not required to be performed until 12 hours after IRMs on Range 2 or below.            -----            Perform CHANNEL FUNCTIONAL TEST.</p>	<p>31 days</p>
<p>SR 3.3.1.2.6 -----NOTES-----            1. Neutron detectors are excluded.            2. Not required to be performed until 12 hours after IRMs on Range 2 or below.            -----            Perform CHANNEL CALIBRATION.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.2.1.4 -----NOTE----- Not required to be performed until 1 hour after THERMAL POWER is <math>\leq</math> 16.7% RTP in MODE 1. ----- Perform CHANNEL FUNCTIONAL TEST.</p>	92 days
<p>SR 3.3.2.1.5 Calibrate the low power setpoint analog trip modules. The Allowable Value shall be <math>&gt;</math> 16.7% RTP and <math>\leq</math> 29.2% RTP.</p>	92 days
<p>SR 3.3.2.1.6 Verify the RWL high power Function is not bypassed when THERMAL POWER is <math>&gt;</math> 70% RTP.</p>	92 days
<p>SR 3.3.2.1.7 Perform CHANNEL CALIBRATION.</p>	24 months
<p>SR 3.3.2.1.8 -----NOTE----- Not required to be performed until 1 hour after reactor mode switch is in the shutdown position. ----- Perform CHANNEL FUNCTIONAL TEST.</p>	24 months
<p>SR 3.3.2.1.9 Verify the bypassing and movement of control rods required to be bypassed in Rod Action Control System (RACS) is in conformance with applicable analyses by a second licensed operator or other qualified member of the technical staff.</p>	Prior to and during the movement of control rods bypassed in RACS

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.3.1.1	<p>-----NOTE----- Applicable for each Function in Table 3.3.3.1-1. -----</p> <p>Perform CHANNEL CHECK.</p>	31 days
SR 3.3.3.1.2	Deleted	
SR 3.3.3.1.3	<p>-----NOTE----- Applicable for each Function in Table 3.3.3.1-1. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	24 months



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.3.2.2	Verify each required control circuit and transfer switch is capable of performing the intended functions.	24 months
SR 3.3.3.2.3	Perform CHANNEL CALIBRATION for each required instrumentation channel.	24 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be:  a. TSV Closure: $\leq 7\%$ closed; and  b. TCV Fast Closure, Trip Oil Pressure-Low: $\geq 465$ psig.	24 months
SR 3.3.4.1.3	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	24 months
SR 3.3.4.1.4	Verify TSV Closure and TCV Fast Closure, Trip Oil Pressure-Low Functions are not bypassed when THERMAL POWER is $\geq 33.3\%$ RTP.	24 months
SR 3.3.4.1.5	<p>-----NOTE----- The STAGGERED TEST BASIS Frequency shall be determined on a per Function basis. -----</p> <p>Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.</p>	24 months on a STAGGERED TEST BASIS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Remove the associated recirculation pump from service.	6 hours
	<u>OR</u> C.2 Be in MODE 2.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.4.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.2.3	Calibrate the trip units.	92 days
SR 3.3.4.2.4	Perform CHANNEL CALIBRATION. The Allowable Values shall be:  a. Reactor Vessel Water Level-Low Low, Level 2: $\geq -50.0$ inches; and  b. Reactor Steam Dome Pressure-High: $\leq 1143$ psig.	24 months
SR 3.3.4.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker 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, 3.g, and 3.h; and (b) for up to 6 hours for Functions other than 3.c, 3.f, 3.g, and 3.h, 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 analog trip module.	92 days
SR 3.3.5.1.4	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.5.1.6	Perform CHANNEL CALIBRATION.	18 months

Table 3.3.5.1-1 (page 1 of 5)  
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. Low Pressure Coolant Injection-A (LPCI) and Low Pressure Core Spray (LPCS) Subsystems					
a. Reactor Vessel Water Level-Low Low Low, Level 1	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	2 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.5 SR 3.3.5.1.6 <sup>(e)</sup>	≥ -148.1 inches
b. Drywell Pressure-High	1,2,3	2 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. LPCI Pump A Start-Time Delay Logic Card	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 4.5 seconds and ≤ 5.5 seconds
d. Reactor Vessel Pressure-Low (Injection Permissive)	1,2,3  4 <sup>(a)</sup> , 5 <sup>(a)</sup>	4  4	C  B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.4 <sup>(e)</sup> SR 3.3.5.1.5  SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.4 <sup>(e)</sup> SR 3.3.5.1.5	≥ 454 psig and ≤ 494 psig  ≥ 454 psig and ≤ 494 psig
e. LPCS Pump Discharge Flow-Low (Bypass)	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 750 gpm
f. LPCI Pump A Discharge Flow-Low (Bypass)	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 900 gpm
g. Manual Initiation	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1	C	SR 3.3.5.1.5	NA

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

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

- (e) 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.
2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable.
3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM.

Table 3.3.5.1-1 (page 2 of 5)  
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 B and LPCI C Subsystems					
a. Reactor Vessel Water Level-Low Low Low, Level 1	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	2 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.5 SR 3.3.5.1.6 <sup>(a)</sup>	≥ -148.1 inches
b. Drywell Pressure-High	1,2,3	2 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. LPCI Pump B Start-Time Delay Logic Card	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 4.5 seconds and ≤ 5.5 seconds
d. Reactor Vessel Pressure-Low (Injection Permissive)	1,2,3  4 <sup>(a)</sup> , 5 <sup>(a)</sup>	4  4	C  B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.4 <sup>(a)</sup> SR 3.3.5.1.5  SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.4 <sup>(a)</sup> SR 3.3.5.1.5	≥ 454 psig and ≤ 494 psig  ≥ 454 psig and ≤ 494 psig
e. LPCI Pump B and LPCI Pump C Discharge Flow-Low (Bypass)	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1 per pump	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 900 gpm
f. Manual Initiation	1,2,3, 4 <sup>(a)</sup> , 5 <sup>(a)</sup>	1	C	SR 3.3.5.1.5	NA

(continued)

(a) When associated subsystem(s) are required to be OPERABLE.

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

- (e) 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.
2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable.
3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM.

Table 3.3.5.1-1 (page 3 of 5)  
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 Core Spray (HPCS) System					
a. Reactor Vessel Water Level-Low Low, Level 2	1,2,3, 4 <sup>(a)</sup> ,5 <sup>(a)</sup>	4 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.5 SR 3.3.5.1.6 <sup>(a)</sup>	≥ -48.1 inches
b. Drywell Pressure - High	1,2,3	4 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. Reactor Vessel Water Level-High, Level 8	1,2,3, 4 <sup>(a)</sup> ,5 <sup>(a)</sup>	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.5 SR 3.3.5.1.6 <sup>(a)</sup>	≤ 54.6 inches
d. RCIC Storage Tank Level- Low	1,2,3, 4 <sup>(c)</sup> ,5 <sup>(c)</sup>	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.4 <sup>(a)</sup> SR 3.3.5.1.5	≥ 3.0 inches
e. Suppression Pool Water Level-High	1,2,3	2	D	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(a)</sup> SR 3.3.5.1.4 <sup>(a)</sup> SR 3.3.5.1.5	≤ 11 inches
f. HPCS Pump Discharge Pressure-High (Bypass)	1,2,3, 4 <sup>(a)</sup> ,5 <sup>(a)</sup>	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 120 psig
g. HPCS System Flow Rate- Low (Bypass)	1,2,3, 4 <sup>(a)</sup> ,5 <sup>(a)</sup>	1	E	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 500 gpm
h. Manual Initiation	1,2,3, 4 <sup>(a)</sup> ,5 <sup>(a)</sup>	1	C	SR 3.3.5.1.5	NA

(continued)

- (a) When associated subsystem(s) are required to be OPERABLE.  
(b) Also required to initiate the associated diesel generator.  
(c) When HPCS is OPERABLE for compliance with LCO 3.5.2, "ECCS-Shutdown," and aligned to the RCIC storage tank while tank water level is not within the limits of SR 3.5.2.2.  
(e) 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.  
2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable.  
3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM.

Table 3.3.5.1-1 (page 4 of 5)  
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. Automatic Depressurization System (ADS) Trip System 1 (Logic A and E)					
a. Reactor Vessel Water Level-Low Low Low, Level 1	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.5 SR 3.3.5.1.6 <sup>(e)</sup>	≥ -148.1 inches
b. Drywell Pressure-High	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. ADS Initiation Timer	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	1	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 117 seconds
d. Reactor Vessel Water Level-Low, Level 3 (Confirmatory)	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	1	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 8.3 inches
e. LPCS Pump Discharge Pressure-High	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	G	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.4 <sup>(e)</sup> SR 3.3.5.1.5	≥ 125 psig and ≤ 176.3 psig
f. LPCI Pump A Discharge Pressure- High	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	G	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.4 <sup>(e)</sup> SR 3.3.5.1.5	≥ 115 psig and ≤ 135 psig
g. ADS Drywell Pressure Bypass Timer	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 6.5 minutes
h. Manual Initiation	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	G	SR 3.3.5.1.5	NA

(continued)

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

- (e) 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.
2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable.
3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM.



Table 3.3.5.1-1 (page 5 of 5)  
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
5. ADS Trip System 2 (Logic B and F)					
a. Reactor Vessel Water Level-Low Low, Level 1	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.5 SR 3.3.5.1.6 <sup>(e)</sup>	≥ -148.1 inches
b. Drywell Pressure-High	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.88 psig
c. ADS Initiation Timer	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	1	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 117 seconds
d. Reactor Vessel Water Level-Low, Level 3 (Confirmatory)	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	1	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 8.3 inches
e. LPCI Pumps B & C Discharge Pressure-High	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2 per pump	G	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.3 <sup>(e)</sup> SR 3.3.5.1.4 <sup>(e)</sup> SR 3.3.5.1.5	≥ 115 psig and ≤ 135 psig
f. ADS Drywell Pressure Bypass Timer	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	G	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 6.5 minutes
g. Manual Initiation	1,2 <sup>(d)</sup> ,3 <sup>(d)</sup>	2	G	SR 3.3.5.1.5	NA

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

- (e) 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable.
2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable.
3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM.

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	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.2.3	Calibrate the analog trip module.	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
SR 3.3.5.2.6	Perform CHANNEL CALIBRATION.	18 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, Level 2	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.3 SR 3.3.5.2.5 SR 3.3.5.2.6	≥ -48.1 inches
2. Reactor Vessel Water Level-High, Level 8	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	≤ 52.6 inches
3. RCIC Storage Tank Level-Low	2	D	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	≥ 3.0 inches
4. Suppression Pool Water Level-High	2	D	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	≤ -5 inches
5. Manual Initiation	1	C	SR 3.3.5.2.5	NA

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.6.1-1 to determine which SRs apply for each Primary Containment and Drywell Isolation 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 for up to 6 hours, provided the associated Function maintains isolation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.1.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.1.3	Calibrate the analog trip module.	92 days
SR 3.3.6.1.4	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.1.5	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.1.6	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.6.1.7	<p>-----NOTE-----</p> <p>1. Channel sensors are excluded.</p> <p>2. The STAGGERED TEST BASIS Frequency for each Function shall be determined on a per channel basis.</p> <p>-----</p> <p>Verify the ISOLATION SYSTEM RESPONSE TIME for the main steam isolation valves is within limits.</p>	24 months on a STAGGERED TEST BASIS
SR 3.3.6.1.8	Perform CHANNEL CALIBRATION.	18 months

Primary Containment and Drywell Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 1 of 6)  
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION F.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level-Low Low Low, Level 1	1,2,3	4	G	SR 3.3.6.1.1	≥ -148.1 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.6	
				SR 3.3.6.1.7	
				SR 3.3.6.1.8	
b. Main Steam Line Pressure-Low	1	4	H	SR 3.3.6.1.1	≥ 841 psig
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
				SR 3.3.6.1.7	
c. Main Steam Line Flow-High	1,2,3	4	G	SR 3.3.6.1.1	≤ 284 psid
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
				SR 3.3.6.1.7	
d. Condenser Vacuum-Low	1,2 <sup>(a)</sup> , 3 <sup>(a)</sup>	4	G	SR 3.3.6.1.1	≥ 7.6 inches Hg vacuum
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
e. Main Steam Tunnel Temperature-High	1,2,3	4	G	SR 3.3.6.1.1	≤ 171°F
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
f. Main Steam Line Turbine Building Temperature-High	1,2,3	4	G	SR 3.3.6.1.1	Modules 1-4
				SR 3.3.6.1.2	≤ 142°F,
				SR 3.3.6.1.5	Module 5
				SR 3.3.6.1.6	≤ 150°F
g. Manual Initiation	1,2,3	4	J	SR 3.3.6.1.6	NA

(continued)

(a) With any turbine stop valve not closed.

Primary Containment and Drywell Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 2 of 6)  
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION F.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment and Drywell Isolation					
a. Reactor Vessel Water Level-Low Low, Level 2	1,2,3	4 <sup>(b)</sup>	K	SR 3.3.6.1.1	≥ -48.1 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.6	
				SR 3.3.6.1.8	
	1 <sup>(c)</sup>	4	O	SR 3.3.6.1.1	≥ -48.1 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.6	
				SR 3.3.6.1.8	
b. Drywell Pressure-High	1,2,3	4 <sup>(b)</sup>	K	SR 3.3.6.1.1	≤ 1.88 psig
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
c. Deleted					
d. Drywell Pressure-High (ECCS Divisions 1 and 2)	1,2,3	4 <sup>(b)</sup>	I	SR 3.3.6.1.1	≤ 1.88 psig
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
e. Reactor Vessel Water Level-Low Low, Level 2 (HPCS NSPS Div 3 and 4)	1,2,3	4	I	SR 3.3.6.1.1	≥ -48.1 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.6	
				SR 3.3.6.1.8	
f. Drywell Pressure-High (HPCS NSPS Div 3 and 4)	1,2,3	4	I	SR 3.3.6.1.1	≤ 1.88 psig
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	

(continued)

(continued)

(b) Also required to initiate the associated drywell isolation function.

(c) During operations with a potential for draining the reactor vessel.

Primary Containment and Drywell Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 3 of 6)  
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION F.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment and Drywell Isolation (continued)					
g. Containment Building Fuel Transfer Pool Ventilation Plenum Radiation-High	(c), (d)	4	N	SR 3.3.6.1.1	≤ 500 mR/hr
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
h. Containment Building Exhaust Radiation-High	1, 2, 3	4 <sup>(b)</sup>	I	SR 3.3.6.1.1	≤ 400 mR/hr
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
	(c), (d)	4	N	SR 3.3.6.1.1	≤ 400 mR/hr
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
i. Containment Building Continuous Containment Purge (CCP) Exhaust Radiation-High	1, 2, 3	4 <sup>(b)</sup>	I	SR 3.3.6.1.1	≤ 400 mR/hr
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
	(c), (d)	4	N	SR 3.3.6.1.1	≤ 400 mR/hr
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
j. Reactor Vessel Water Level-Low Low Low, Level 1	1, 2, 3	4 <sup>(b)</sup>	I	SR 3.3.6.1.1	≥ -148.1 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.6	
	(c)	4	O	SR 3.3.6.1.1	≥ -148.1 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.6	
k. Containment Pressure-High	(e)	2	I	SR 3.3.6.1.1	≤ 3.0 psid
				SR 3.3.6.1.2	
				SR 3.3.6.1.5	
				SR 3.3.6.1.6	
l. Manual Initiation	1, 2, 3	2 <sup>(b)</sup>	J	SR 3.3.6.1.6	NA
	(c), (d)	2	N	SR 3.3.6.1.6	NA

(continued)

(b) Also required to initiate the associated drywell isolation function.

(c) During operations with a potential for draining the reactor vessel.

(d) During movement of recently irradiated fuel assemblies in the primary or secondary containment.

(e) MODES 1, 2, and 3 with the associated PCIVs not closed.

Primary Containment and Drywell Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 4 of 6)  
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION F.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. Auxiliary Building RCIC Steam Line Flow-High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 118.5 inches water
b. RCIC Steam Line Flow-High, Time Delay	1,2,3	2	I	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 13 seconds
c. RCIC Steam Supply Line Pressure-Low	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 52 psig
d. RCIC Turbine Exhaust Diaphragm Pressure-High	1,2,3	4	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 20 psig
e. RCIC Equipment Room Ambient Temperature-High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 207°F
f. Main Steam Line Tunnel Ambient Temperature-High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 171°F
g. Main Steam Line Tunnel Temperature Timer	1,2,3	2	I	SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 28 minutes
h. Reactor Vessel Water Level-Low Low, Level 2	1,2,3	4	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.8	≥ -48.1 inches
i. Drywell RCIC Steam Line Flow - High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 188 inches water

(continued)



Primary Containment and Drywell Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 5 of 6)  
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION F.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. RCIC System Isolation (continued)					
j. Drywell Pressure - High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 1.88 psig
k. Manual Initiation	1,2,3	1	J	SR 3.3.6.1.6	NA
4. Reactor Water Cleanup (RWCU) System Isolation					
a. Differential Flow - High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.6 SR 3.3.6.1.8	≤ 66.1 gpm
b. Differential Flow-Timer	1,2,3	2	I	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.6	≤ 47 seconds
c. RWCU Heat Exchanger Equipment Room Temperature-High	1,2,3	2 per room	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 205°F
d. RWCU Pump Rooms Temperature-High	1,2,3	2 per room	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 202°F
e. Main Steam Line Tunnel Ambient Temperature- High	1,2,3	2	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 171°F
f. Reactor Vessel Water Level-Low Low, Level 2	1,2,3	4	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.8	≥ -48.1 inches
	(c)	4	O	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.8	≥ -48.1 inches
g. Standby Liquid Control System Initiation	1,2,3	2	L	SR 3.3.6.1.6	NA
h. Manual Initiation	1,2,3	2	J	SR 3.3.6.1.6	NA
	(c), (d)	2	N	SR 3.3.6.1.6	NA

(continued)

(c) During operations with a potential for draining the reactor vessel.

(d) During movement of recently irradiated fuel assemblies in the primary or secondary containment.

Primary Containment and Drywell Isolation Instrumentation  
3.3.6.1

Table 3.3.6.1-1 (page 6 of 6)  
Primary Containment and Drywell Isolation Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION F.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. RHR System Isolation					
a. RHR Heat Exchanger Ambient Temperature-High	1,2,3	2 per room	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 160°F
b. Reactor Vessel Water Level - Low, Level 3	1,2,3 <sup>(f)</sup>	4	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 8.3 inches
c. Reactor Vessel Water Level - Low, Level 3	3 <sup>(g)</sup> , 4, 5	4 <sup>(h)</sup>	M	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ 8.3 inches
d. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3	4	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.8	≥ -148.1 inches
e. Reactor Vessel Pressure-High	1,2,3	4	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 113 psig
f. Drywell Pressure-High	1,2,3	8	I	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≤ 1.88 psig
g. Manual Initiation	1,2,3	2	J	SR 3.3.6.1.6	NA

(f) With reactor steam dome pressure greater than or equal to the RHR cut in permissive pressure.

(g) With reactor steam dome pressure less than the RHR cut in permissive pressure.

(h) Only one trip system required in MODES 4 and 5 with RHR Shutdown Cooling System integrity maintained.

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.6.2-1 to determine which SRs apply for each Secondary Containment Isolation 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 for up to 6 hours, provided the associated Function maintains secondary containment isolation capability.
- 

SURVEILLANCE		FREQUENCY
SR 3.3.6.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.2.3	Calibrate the analog trip module.	92 days
SR 3.3.6.2.4	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.6.2.6	Perform CHANNEL CALIBRATION.	18 months

Secondary Containment Isolation Instrumentation  
3.3.6.2

Table 3.3.6.2-1 (page 1 of 1)  
Secondary Containment Isolation Instrumentation

FUNCTION		APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1.	Reactor Vessel Water Level-Low Low, Level 2	1,2,3, (a)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.5 SR 3.3.6.2.6	≥ -48.1 inches
2.	Drywell Pressure-High	1,2,3	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.3 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 1.88 psig
3.	Containment Building Fuel Transfer Pool Ventilation Plenum Exhaust Radiation-High	(a), (b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 500 mR/hr
4.	Containment Building Exhaust Radiation-High	1,2,3, (a), (b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 400 mR/hr
5.	Containment Building Continuous Containment Purge (CCP) Exhaust Radiation-High	1,2,3, (a), (b)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 400 mR/hr
6.	Fuel Building Exhaust Radiation-High	1,2,3, (c)	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5	≤ 17 mR/hr
7.	Manual Initiation	1,2,3, (a), (b)	1	SR 3.3.6.2.5	NA

(a) During operations with a potential for draining the reactor vessel.

(b) During movement of recently irradiated fuel assemblies in the primary or secondary containment.

(c) During movement of recently irradiated fuel assemblies in the fuel building.

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.6.3-1 to determine which SRs apply for each RHR Containment Spray System 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 for up to 6 hours, provided the associated Function maintains RHR containment spray initiation capability.
- 

SURVEILLANCE		FREQUENCY
SR 3.3.6.3.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.3.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.3.3	Calibrate the analog trip module.	92 days
SR 3.3.6.3.4	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.3.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.6.3.6	Perform CHANNEL CALIBRATION.	18 months

RHR Containment Spray System Instrumentation  
3.3.6.3

Table 3.3.6.3-1 (page 1 of 1)  
RHR Containment Spray System Instrumentation

FUNCTION	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Drywell Pressure-High	2	B	SR 3.3.6.3.1 SR 3.3.6.3.2 SR 3.3.6.3.3 SR 3.3.6.3.4 SR 3.3.6.3.5	≤ 1.88 psig
2. Containment Pressure-High	2	B	SR 3.3.6.3.1 SR 3.3.6.3.2 SR 3.3.6.3.3 SR 3.3.6.3.4 SR 3.3.6.3.5	≤ 22.4 psia
3. Reactor Vessel Water Level-Low Low Low, Level 1	2	B	SR 3.3.6.3.1 SR 3.3.6.3.2 SR 3.3.6.3.3 SR 3.3.6.3.5 SR 3.3.6.3.6	≥ -148.1 inches
4. Timers, System A and System B	1	C	SR 3.3.6.3.2 SR 3.3.6.3.4 SR 3.3.6.3.5	≥ 606 seconds and ≤ 614 seconds
5. Timer, System B Only	1	C	SR 3.3.6.3.2 SR 3.3.6.3.4 SR 3.3.6.3.5	≤ 90.6 seconds
6. Manual Initiation	1	C	SR 3.3.6.3.5	NA

SURVEILLANCE REQUIREMENTS

-----NOTES-----

1. Refer to Table 3.3.6.4-1 to determine which SRs apply for each SPMU 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 for up to 6 hours, provided the associated Function maintains SPMU initiation capability.
- 

SURVEILLANCE		FREQUENCY
SR 3.3.6.4.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.4.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.4.3	Calibrate the analog trip module.	92 days
SR 3.3.6.4.4	Calibrate the analog comparator unit.	92 days
SR 3.3.6.4.5	Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.4.6	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.4.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months
SR 3.3.6.4.8	Perform CHANNEL CALIBRATION.	18 months

Table 3.3.6.4-1 (page 1 of 1)  
Suppression Pool Makeup System Instrumentation

FUNCTION	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Drywell Pressure-High	2	B	SR 3.3.6.4.1 SR 3.3.6.4.2 SR 3.3.6.4.3 SR 3.3.6.4.6 SR 3.3.6.4.7	≤ 1.88 psig
2. Reactor Vessel Water Level-Low Low Low, Level 1	2	B	SR 3.3.6.4.1 SR 3.3.6.4.2 SR 3.3.6.4.3 SR 3.3.6.4.7 SR 3.3.6.4.8	≥ -148.1 inches
3. Suppression Pool Water Level-Low Low	2	B	SR 3.3.6.4.1 SR 3.3.6.4.2 SR 3.3.6.4.4 SR 3.3.6.4.6 SR 3.3.6.4.7	≥ 29 inches
4. Timer	1	C	SR 3.3.6.4.2 SR 3.3.6.4.5 SR 3.3.6.4.7	≤ 30 minutes
5. Manual Initiation	2	C	SR 3.3.6.4.7	NA



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 6 hours, provided the associated Function maintains LLS or relief initiation capability, as applicable.  
-----

SURVEILLANCE		FREQUENCY
SR 3.3.6.5.1	Perform CHANNEL FUNCTIONAL TEST.	92 days
-----NOTE----- 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable. 2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable. 3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM. -----		92 days
SR 3.3.6.5.2	Calibrate the analog trip module.	92 days
-----NOTE----- 1. If the as-found channel setpoint is conservative with respect to the Allowable Value but outside its predefined As-Found Tolerance band, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service. If the as-found instrument channel setpoint is not conservative with respect to the Allowable Value, the channel shall be declared inoperable. 2. The instrument channel setpoint shall be reset to a value within the As-Left Tolerance of the Actual Trip Setpoint; otherwise, the channel shall be declared inoperable. 3. The Nominal Trip Setpoint and the methodology used to determine the Nominal Trip Setpoint, the predefined As-Found Tolerance and As-Left Tolerance bands shall be specified in the ORM. -----		24 months
SR 3.3.6.5.3	Perform CHANNEL CALIBRATION. The Allowable Values shall be:  a. Relief Function  Low:               ≤ 1118 psig Medium:           ≤ 1128 psig High:             ≤ 1138 psig  b. LLS Function  Low       open: ≤ 1044 psig close: ≤ 937 psig Medium   open: ≤ 1084 psig close: ≤ 947 psig High     open: ≤ 1124 psig close: ≤ 957 psig	24 months
SR 3.3.6.5.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Place one Control Room Ventilation subsystem in the high radiation mode of operation.	1 hour
	<u>OR</u> B.2 Declare associated Control Room Ventilation subsystem inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.7.1-1 to determine which SRs apply for each 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 for up to 6 hours provided the associated Function maintains Control Room Ventilation initiation capability.
- 

SURVEILLANCE	FREQUENCY
SR 3.3.7.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.7.1.2 Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.7.1.3 Perform CHANNEL CALIBRATION.	24 months

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.8.1-1 to determine which SRs apply for each LOP 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 for up to 2 hours provided the associated Function maintains DG initiation capability.
- 

SURVEILLANCE		FREQUENCY
SR 3.3.8.1.1	Deleted	
SR 3.3.8.1.2	Perform CHANNEL FUNCTIONAL TEST.	31 days
SR 3.3.8.1.3	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.8.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

Table 3.3.8.1-1 (page 1 of 1)  
Loss of Power Instrumentation

FUNCTION	REQUIRED CHANNELS PER DIVISION	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Divisions 1 and 2 - 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage - 4.16 kV basis	6	SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 2345 \text{ V}$ and $\leq 3395 \text{ V}$
b. Loss of Voltage - Time Delay	6	SR 3.3.8.1.3 SR 3.3.8.1.4	$\leq 5.0 \text{ seconds}$
c. Degraded Voltage Reset - 4.16 kV basis	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 4102.2 \text{ V}$ and $\leq 4109.3 \text{ V}$
d. Degraded Voltage Drop-out - 4.16 kV basis	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 4051 \text{ V}$
e. Degraded Voltage-Time Delay	1	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 14 \text{ seconds}$ and $\leq 16 \text{ seconds}$
2. Division 3 - 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage - 4.16 kV basis	4	SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 2345 \text{ V}$ and $\leq 2730 \text{ V}$
b. Loss of Voltage - Time Delay	1	SR 3.3.8.1.3 SR 3.3.8.1.4	$\leq 3.0 \text{ seconds}$
c. Degraded Voltage Reset - 4.16 kV basis	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 4102.2 \text{ V}$ and $\leq 4109.3 \text{ V}$
d. Degraded Voltage Drop-out - 4.16 kV basis	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 4051 \text{ V}$
e. Degraded Voltage - Time Delay	1	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	$\geq 13.2 \text{ seconds}$ and $\leq 16.8 \text{ seconds}$

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.3.8.2.1 -----NOTE----- Only required to be performed prior to entering MODE 2 or 3 from MODE 4, when in MODE 4 for <math>\geq 24</math> hours. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	184 days
<p>SR 3.3.8.2.2 Perform CHANNEL CALIBRATION. The Allowable Values shall be:</p> <p>a. Overvoltage</p> <p>Bus A <math>\leq 127.3</math> V Bus B <math>\leq 126.7</math> V</p> <p>b. Undervoltage</p> <p>Bus A <math>\geq 115.0</math> V Bus B <math>\geq 114.7</math> V</p> <p>c. Underfrequency (with time delay <math>\leq 4.0</math> seconds)</p> <p>Bus A <math>\geq 57</math> Hz Bus B <math>\geq 57</math> Hz</p>	24 months
<p>SR 3.3.8.2.3 Perform a system functional test.</p>	24 months

### 3.4 REACTOR COOLANT SYSTEM (RCS)

#### 3.4.2 Flow Control Valves (FCVs)

LCO 3.4.2 A recirculation loop FCV shall be OPERABLE in each operating recirculation loop.

APPLICABILITY: MODES 1 and 2.

#### ACTIONS

-----NOTE-----  
Separate Condition entry is allowed for each FCV.  
-----

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two required FCVs inoperable.	A.1 Lock up the FCV.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.2.1 Verify each FCV fails "as is" on loss of hydraulic pressure at the hydraulic unit.	24 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY								
SR 3.4.4.1	<p>Verify the safety function lift setpoints of the required S/RVs are as follows:</p> <table><thead><tr><th><u>Number of S/RVs</u></th><th><u>Setpoint (psig)</u></th></tr></thead><tbody><tr><td>7</td><td>1165 ± 34.9</td></tr><tr><td>5</td><td>1180 ± 35.4</td></tr><tr><td>4</td><td>1190 ± 35.7</td></tr></tbody></table> <p>Following testing, lift settings shall be within ± 1%.</p>	<u>Number of S/RVs</u>	<u>Setpoint (psig)</u>	7	1165 ± 34.9	5	1180 ± 35.4	4	1190 ± 35.7	In accordance with the Inservice Testing Program
<u>Number of S/RVs</u>	<u>Setpoint (psig)</u>									
7	1165 ± 34.9									
5	1180 ± 35.4									
4	1190 ± 35.7									
SR 3.4.4.2	<p>-----NOTE----- Valve actuation may be excluded. -----</p> <p>Verify each required relief function S/RV actuates on an actual or simulated automatic initiation signal.</p>	24 months								
SR 3.4.4.3	<p>-----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify each required S/RV actuator strokes when manually actuated.</p>	24 months								

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	Perform CHANNEL CHECK of required drywell atmospheric monitoring system.	12 hours
SR 3.4.7.2	Perform CHANNEL FUNCTIONAL TEST of required leakage detection instrumentation.	31 days
SR 3.4.7.3	Perform CHANNEL CALIBRATION of required leakage detection instrumentation.	24 months



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.5 -----NOTE----- Vessel injection/spray may be excluded. -----</p> <p>Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>
<p>SR 3.5.1.6 -----NOTE----- Valve actuation may be excluded. -----</p> <p>Verify the ADS actuates on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>
<p>SR 3.5.1.7 -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify each ADS valve actuator strokes when manually actuated.</p>	<p>24 months</p>
<p>SR 3.5.1.8 -----NOTE----- ECCS actuation instrumentation is excluded. -----</p> <p>Verify the ECCS RESPONSE TIME for each ECCS injection/spray subsystem is within limits.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE			FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate with the specified pump differential pressure.		In accordance with the Inservice Testing Program
	<u>SYSTEM</u>	<u>FLOW RATE</u>	
		<u>PUMP DIFFERENTIAL PRESSURE</u>	
	LPCS	≥ 5010 gpm	
	LPCI	≥ 5050 gpm	
	HPCS	≥ 5010 gpm	
SR 3.5.2.6	-----NOTE----- Vessel injection/spray may be excluded. -----		24 months
	Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.		

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.5.3.1      Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve.	31 days
SR 3.5.3.2      Verify each RCIC System manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.5.3.3      -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify, with RCIC steam supply pressure $\leq 1020$ psig and $\geq 920$ psig, the RCIC pump can develop a flow rate $\geq 600$ gpm against a system head corresponding to reactor pressure.	92 days
SR 3.5.3.4      -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify, with RCIC steam supply pressure $\leq 150$ psig and $\geq 135$ psig, the RCIC pump can develop a flow rate $\geq 600$ gpm against a system head corresponding to reactor pressure.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.5 -----NOTE-----  Vessel injection may be excluded.  -----    Verify the RCIC System actuates on an  actual or simulated automatic initiation  signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.6.1.3.4      Verify the isolation time of each power operated and each automatic PCIV, except MSIVs, is within limits.	In accordance with the Inservice Testing Program
SR 3.6.1.3.5      -----NOTE----- Only required to be met in MODES 1, 2, and 3. ----- Perform leakage rate testing for each primary containment purge valve with resilient seals.	Once within 92 days after opening the valve  <u>AND</u>  In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.6      Verify the isolation time of each MSIV is $\geq 3$ seconds and $\leq 5$ seconds.	In accordance with the Inservice Testing Program
SR 3.6.1.3.7      Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	24 months

(continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.11	<p>-----NOTE----- Only required to be met in MODES 1, 2, and 3. -----</p> <p>Verify that the combined leakage rate for both primary containment feedwater penetrations is <math>\leq 2</math> gpm when pressurized to <math>\geq 1.1 P_a</math>.</p>	In accordance with the Primary Containment Leakage Rate Testing Program.
SR 3.6.1.3.12	Verify each instrumentation line excess flow check primary containment isolation valve actuates within the required range.	24 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.6.1 -----NOTE-----            Not required to be performed until            12 hours after reactor steam pressure and            flow are adequate to perform the test.            -----</p> <p>Verify each LLS valve actuator strokes            when manually actuated.</p>	<p>24 months</p>
<p>SR 3.6.1.6.2 -----NOTE-----            Valve actuation may be excluded.            -----</p> <p>Verify the LLS System actuates on an            actual or simulated automatic initiation            signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.7.1 -----NOTE-----  RHR containment spray subsystems may be considered OPERABLE during alignment and operation for decay heat removal when below the RHR cut in permissive pressure in MODE 3 if capable of being manually realigned and not otherwise inoperable.  -----  Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	<p>31 days</p>
<p>SR 3.6.1.7.2 Verify each RHR pump develops a flow rate of <math>\geq 3800</math> gpm on recirculation flow through the associated heat exchanger to the suppression pool.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.1.7.3 Verify each RHR containment spray subsystem automatic valve in the flow path actuates to its correct position on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>
<p>SR 3.6.1.7.4 Verify each spray nozzle is unobstructed.</p>	<p>Following activities that could result in nozzle blockage</p>



### 3.6 CONTAINMENT SYSTEMS

#### 3.6.1.9 Feedwater Leakage Control System (FWLCS)

LCO 3.6.1.9 Two FWLCS subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One FWLCS subsystem inoperable.	A.1 Restore FWLCS subsystem to OPERABLE status.	30 days
B. Two FWLCS subsystems inoperable.	B.1 Restore one FWLCS subsystem to OPERABLE status.	7 days
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	12 hours  36 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.9.1 Perform a system functional test of each FWLCS subsystem.	24 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.2.4.1 Verify upper containment pool water level is:</p> <p>a. <math>\geq</math> el. 825 ft 6 inches;</p> <p>b. <math>\geq</math> el. 825 ft 10 inches when the inclined fuel transfer pool to steam dryer storage pool gate is not open; and</p> <p>c. <math>\geq</math> el. 827 ft 1 inch when the reactor cavity to steam dryer storage pool gate is not open.</p> <p><u>OR</u></p> <p>d. Reactor cavity pool level <math>\geq</math> el. 824 ft 7 inches in MODE 3 with reactor pressure less than 235 psig.</p> <p><u>OR</u></p> <p>e. Suppression pool water level <math>\geq</math> 19 ft 9 inches in MODE 3 with reactor pressure less than 235 psig.</p>	24 hours
<p>SR 3.6.2.4.2 Verify upper containment pool water temperature is <math>\leq 120^{\circ}\text{F}</math>.</p>	24 hours
<p>SR 3.6.2.4.3 Verify each SPMU subsystem manual, power operated, and automatic valve that is not locked, sealed, or otherwise secured in position is in the correct position.</p>	31 days
<p>SR 3.6.2.4.4 -----NOTE----- Actual makeup to the suppression pool may be excluded. -----</p> <p>Verify each SPMU subsystem automatic valve actuates to the correct position on an actual or simulated automatic initiation signal.</p>	24 months

Primary Containment and Drywell Hydrogen Igniters  
3.6.3.2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.2.1	Energize each primary containment and drywell hydrogen igniter division and perform current versus voltage measurements to verify required igniters in service.	184 days
SR 3.6.3.2.2	<p>-----NOTE-----            Not required to be performed until 92 days after discovery of four or more igniters in the division inoperable.            -----</p> <p>Energize each primary containment and drywell hydrogen igniter division and perform current versus voltage measurements to verify required igniters in service.</p>	92 days
SR 3.6.3.2.3	Verify each required igniter in inaccessible areas develops sufficient current draw for a $\geq 1700^{\circ}\text{F}$ surface temperature.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.3.2.4	Verify each required igniter in accessible areas develops a surface temperature of $\geq 1700^{\circ}\text{F}$ .	24 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.3.1	Operate each Containment/Drywell Hydrogen Mixing System.	92 days
SR 3.6.3.3.2	Verify each Containment/Drywell Hydrogen Mixing System flow rate is $\geq 800$ scfm.	24 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.3	Verify one door in each access to secondary containment is closed, except during normal entry and exit.	31 days
SR 3.6.4.1.4	Verify each standby gas treatment (SGT) subsystem will draw down the secondary containment to $\geq 0.25$ inch of vacuum water gauge within the time required.	24 months on a STAGGERED TEST BASIS
SR 3.6.4.1.5	Verify each SGT subsystem can maintain $\geq 0.25$ inch of vacuum water gauge in the secondary containment for 1 hour at a flow rate $\leq 4400$ cfm.	24 months on a STAGGERED TEST BASIS

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.2.1	<p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Valves, dampers, and blind flanges in high radiation areas may be verified by use of administrative means.</li> <li>2. Not required to be met for SCIDs that are open under administrative controls.</li> </ol> <p>-----</p> <p>Verify each secondary containment isolation manual valve, damper, and blind flange that is required to be closed during accident conditions is closed.</p>	31 days
SR 3.6.4.2.2	Verify the isolation time of each power operated and each automatic SCID is within limits.	92 days
SR 3.6.4.2.3	Verify each automatic SCID actuates to the isolation position on an actual or simulated automatic isolation signal.	24 months

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Two SGT subsystems inoperable during movement of recently irradiated fuel assemblies in the primary or secondary containment, or during OPDRVs.	E.1 Suspend movement of recently irradiated fuel assemblies in the primary and secondary containment.	Immediately
	<u>AND</u> E.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for $\geq 10$ continuous hours with heaters operating.	31 days
SR 3.6.4.3.2	Perform required SGT filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.6.4.3.3	Verify each SGT subsystem actuates on an actual or simulated initiation signal.	24 months
SR 3.6.4.3.4	Verify each SGT filter cooling bypass damper can be opened and the fan started.	24 months



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.5.3.3 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Valves and blind flanges in high radiation areas may be verified by use of administrative means.</li> <li>2. Not required to be met for drywell isolation valves that are open under administrative controls.</li> </ol> <p>-----</p> <p>Verify each required drywell isolation manual valve and blind flange that is required to be closed during accident conditions is closed.</p>	<p>Prior to entering MODE 2 or 3 from MODE 4, if not performed in the previous 92 days</p>
<p>SR 3.6.5.3.4 Verify the isolation time of each required power operated and each required automatic drywell isolation valve is within limits.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.5.3.5 Verify each required automatic drywell isolation valve actuates to the isolation position on an actual or simulated isolation signal.</p>	<p>24 months</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.5.6.1	<p>-----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Not required to be met for drywell post-LOCA vacuum relief valves open during Surveillances.</li> <li>2. Not required to be met for drywell post-LOCA vacuum relief valves open when performing their intended function.</li> </ol> <p>-----</p> <p>Verify each drywell post-LOCA vacuum relief valve is closed.</p>	7 days
SR 3.6.5.6.2	Perform a functional test of each drywell post-LOCA vacuum relief valve.	31 days
SR 3.6.5.6.3	Verify the opening pressure differential of each drywell post-LOCA vacuum relief valve is $\leq 0.2$ psid.	24 months

Actions (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	C.2 Be in MODE 4.	36 hours
<u>OR</u>		
Division 1 and 2 SX subsystems inoperable.		

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.1.1 Verify UHS water volume is $\geq$ 593 acre-ft.	In accordance with UHS Erosion, Sediment Monitoring, and Dredging Program
SR 3.7.1.2 Verify each required SX subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.1.3 Verify each SX subsystem actuates on an actual or simulated initiation signal.	24 months

3.7 PLANT SYSTEMS

3.7.2 Division 3 Shutdown Service Water (SX) Subsystem

LCO 3.7.2 The Division 3 SX subsystem shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Division 3 SX subsystem inoperable.	A.1 Declare High Pressure Core Spray System inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify each required Division 3 SX subsystem manual, power operated, and automatic valve in the flow path servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	31 days
SR 3.7.2.2	Verify the Division 3 SX subsystem actuates on an actual or simulated initiation signal.	24 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.3.4	Verify each Control Room Ventilation subsystem actuates on an actual or simulated initiation signal.	24 months
SR 3.7.3.5	Verify the air inleakage rate of the negative pressure portions of the Control Room Ventilation System is $\leq 650$ cfm.	24 months
SR 3.7.3.6	Verify each Control Room Ventilation subsystem can maintain a positive pressure of $\geq 1/8$ inch water gauge relative to adjacent areas during the high radiation mode of operation at a flow rate of $\leq 3000$ cfm.	24 months on a STAGGERED TEST BASIS

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition B not met during movement of irradiated fuel assemblies in the primary or secondary containment, during CORE ALTERATIONS, or during OPDRVs.	-----NOTE----- LCO 3.0.3 is not applicable. -----	
	E.1 Suspend movement of irradiated fuel assemblies in the primary and secondary containment.	Immediately
	<u>AND</u>	
	E.2 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	E.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.4.1 Verify each control room AC subsystem has the capability to remove the assumed heat load.	24 months

### 3.7 PLANT SYSTEMS

#### 3.7.6 Main Turbine Bypass System

LCO 3.7.6 The Main Turbine Bypass System shall be OPERABLE.

APPLICABILITY: THERMAL POWER  $\geq$  21.6% RTP.

#### ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Main Turbine Bypass System inoperable.	A.1 Restore Main Turbine Bypass System to OPERABLE status.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 21.6% RTP.	4 hours

#### SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.6.1 Verify one complete cycle of each main turbine bypass valve.	31 days
SR 3.7.6.2 Perform a system functional test.	24 months
SR 3.7.6.3 Verify the TURBINE BYPASS SYSTEM RESPONSE TIME is within limits.	24 months

SURVEILLANCE REQUIREMENTS (continued)		
SURVEILLANCE		FREQUENCY
SR 3.8.1.7	<p>-----NOTE----- All DG starts may be preceded by an engine prelube period. -----</p> <p>Verify each DG starts from standby condition and achieves:</p> <p>a. In <math>\leq 12</math> seconds, voltage <math>\geq 4084</math> V and frequency <math>\geq 58.8</math> Hz; and</p> <p>b. Steady state voltage <math>\geq 4084</math> V and <math>\leq 4580</math> V and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz.</p>	184 days
SR 3.8.1.8	<p>-----NOTE----- This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. -----</p> <p>Verify automatic and manual transfer of unit power supply from the normal offsite circuit to the alternate offsite circuit.</p>	24 months
		(continued)



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9 -----NOTE-----</p> <ol style="list-style-type: none"> <li>1. Credit may be taken for unplanned events that satisfy this SR.</li> <li>2. If performed with DG synchronized with offsite power, it shall be performed at a power factor <math>\leq 0.9</math>.</li> </ol> <p>-----</p> <p>Verify each DG rejects a load greater than or equal to its associated single largest post accident load and following load rejection, the engine speed is maintained less than nominal plus 75% of the difference between nominal speed and the overspeed trip setpoint or 15% above nominal, whichever is lower.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10 -----NOTE-----            Credit may be taken for unplanned events            that satisfy this SR.            -----</p> <p>Verify each DG operating at a power factor  <math>\leq 0.9</math> does not trip and voltage is            maintained <math>\leq 5000</math> V for DG 1A and DG 1B and  <math>\leq 5824</math> V for DG 1C during and following a            load rejection of a load <math>\geq 3482</math> kW for DG            1A, <math>\geq 3488</math> kW for DG 1B, and <math>\geq 1980</math> kW for            DG 1C.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. All DG starts may be preceded by an engine prelube period.</li> <li>2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>-----</p> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> <li>a. De-energization of emergency buses;</li> <li>b. Load shedding from emergency buses for Divisions 1 and 2; and</li> <li>c. DG auto-starts from standby condition and:               <ol style="list-style-type: none"> <li>1. energizes permanently connected loads in <math>\leq 12</math> seconds,</li> <li>2. energizes auto-connected shutdown loads,</li> <li>3. maintains steady state voltage <math>\geq 4084</math> V and <math>\leq 4580</math> V,</li> <li>4. maintains steady state frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz, and</li> <li>5. supplies permanently connected and auto-connected shutdown loads for <math>\geq 5</math> minutes.</li> </ol> </li> </ol>	<p>24 months  </p> <p>(continued)</p>

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. All DG starts may be preceded by an engine prelube period.</li> <li>2. This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>-----</p> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and:</p> <ol style="list-style-type: none"> <li>a. In <math>\leq 12</math> seconds after auto-start and during tests, achieves voltage <math>\geq 4084</math> V and frequency <math>\geq 58.8</math> Hz;</li> <li>b. Achieves steady state voltage <math>\geq 4084</math> V and <math>\leq 4580</math> V and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz; and</li> <li>c. Operates for <math>\geq 5</math> minutes.</li> </ol>	<p>24 months</p>
<p>SR 3.8.1.13 -----NOTE-----</p> <p>Credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify each DG's automatic trips are bypassed on an actual or simulated ECCS initiation signal except:</p> <ol style="list-style-type: none"> <li>a. Engine overspeed;</li> <li>b. Generator differential current; and</li> <li>c. Overcrank for DG 1A and DG 1B.</li> </ol>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.14 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. Momentary transients outside the load and power factor ranges do not invalidate this test.</li> <li>2. Credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>-----</p> <p>Verify each DG operating at a power factor <math>\leq 0.9</math> operates for <math>\geq 24</math> hours:</p> <ol style="list-style-type: none"> <li>a. For <math>\geq 2</math> hours loaded <math>\geq 4062</math> kW for DG 1A, <math>\geq 4069</math> kW for DG 1B, and <math>\geq 2310</math> kW for DG 1C; and</li> <li>b. For the remaining hours of the test loaded <math>\geq 3482</math> kW for DG 1A, <math>\geq 3488</math> kW for DG 1B, and <math>\geq 1980</math> kW for DG 1C.</li> </ol>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.15 -----NOTE-----</p> <p>1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated <math>\geq 2</math> hours loaded <math>\geq 3482</math> kW for DG 1A, <math>\geq 3488</math> kW for DG 1B, and <math>\geq 1980</math> kW for DG 1C.</p> <p>Momentary transients outside of the load range do not invalidate this test.</p> <p>2. All DG starts may be preceded by an engine prelube period.</p> <p>-----</p> <p>Verify each DG starts and achieves:</p> <p>a. In <math>\leq 12</math> seconds, voltage <math>\geq 4084</math> V and frequency <math>\geq 58.8</math> Hz and</p> <p>b. Steady state voltage <math>\geq 4084</math> V and <math>\leq 4580</math> V and frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.16 -----NOTE-----  This Surveillance shall not be performed in  MODE 1, 2, or 3. However, credit may be  taken for unplanned events that satisfy  this SR.  -----  Verify each DG:    a. Synchronizes with offsite power source  while loaded with emergency loads upon  a simulated restoration of offsite  power;    b. Transfers loads to offsite power  source; and    c. Returns to ready-to-load operation.</p>	<p>24 months</p>
<p>SR 3.8.1.17 -----NOTE-----  Credit may be taken for unplanned events  that satisfy this SR.  -----  Verify, with a DG operating in test mode  and connected to its bus, an actual or  simulated ECCS initiation signal overrides  the test mode by:    a. Returning DG to ready-to-load  operation; and    b. Automatically energizing the emergency  loads from offsite power.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.18 -----NOTE-----  This Surveillance shall not be performed in  MODE 1, 2, or 3. However, credit may be  taken for unplanned events that satisfy  this SR.  -----    Verify the sequence time is within <math>\pm 10\%</math> of  design for each load sequence timer.</p>	<p>24 months</p>

(continued)



SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.19 -----NOTES-----</p> <ol style="list-style-type: none"> <li>1. All DG starts may be preceded by an engine prelube period.</li> <li>2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR.</li> </ol> <p>-----</p> <p>Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> <li>a. De-energization of emergency buses;</li> <li>b. Load shedding from emergency buses for Divisions 1 and 2; and</li> <li>c. DG auto-starts from standby condition and:               <ol style="list-style-type: none"> <li>1. energizes permanently connected loads in <math>\leq 12</math> seconds,</li> <li>2. energizes auto-connected emergency loads,</li> <li>3. achieves steady state voltage <math>\geq 4084</math> V and <math>\leq 4580</math> V,</li> <li>4. achieves steady state frequency <math>\geq 58.8</math> Hz and <math>\leq 61.2</math> Hz, and</li> <li>5. supplies permanently connected and auto-connected emergency loads for <math>\geq 5</math> minutes.</li> </ol> </li> </ol>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1    Verify battery terminal voltage is greater than or equal to the minimum established float voltage.	7 days
SR 3.8.4.2    Verify each Division 1 and 2 battery charger supplies $\geq 300$ amps at greater than or equal to the minimum established float voltage for $\geq 4$ hours and each Division 3 and 4 battery charger supplies $\geq 100$ amps at greater than or equal to the minimum established float voltage for $\geq 4$ hours.  <u>OR</u>  Verify each battery charger can recharge the battery to the fully charged state within 12 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.	24 months
SR 3.8.4.3    -----NOTES----- 1.    The modified performance discharge test in SR 3.8.6.6 may be performed in lieu of SR 3.8.4.3.  2.    This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. -----  Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	24 months

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.11.1	For each required SVC Protection System, perform a local, visual check of the SVC system control and status panel to confirm satisfactory operation.	24 hours
SR 3.8.11.2	Perform a system functional test of each SVC protection subsystem, including breaker actuation.	24 months

5.5 Programs and Manuals (continued)

5.5.7 Ventilation Filter Testing Program (VFTP)

A program shall be established to implement the following required testing of Engineered Safety Feature (ESF) filter ventilation systems at the frequencies specified in Regulatory Guide 1.52, Revision 2, except that testing specified at a frequency of 18 months is required at a frequency of 24 months.

- a. Demonstrate for each of the ESF systems that an inplace test of the high efficiency particulate air (HEPA) filters shows a penetration and system bypass < 0.05% when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the system flowrate specified below  $\pm 10\%$ :

<u>ESF Ventilation System</u>	<u>Flowrate</u>
SGTS	4,000 cfm
Control Room Ventilation (CRV) Makeup Filter	3,000 cfm

- b. Demonstrate for each of the ESF systems that an inplace test of the charcoal adsorber shows a penetration and system bypass less than specified below when tested in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1980 at the system flowrate specified below  $\pm 10\%$ :

<u>ESF Ventilation System</u>	<u>Flowrate</u>	<u>Penetration and Bypass</u>
SGTS	4,000 cfm	0.05%
CRV Makeup Filter	3,000 cfm	0.05%
CRV Recirculation Filter	64,000 cfm	2%

- c. Demonstrate for each of the ESF systems that a laboratory test of a sample of the charcoal adsorber, when obtained as described in Regulatory Guide 1.52, Revision 2, shows the methyl iodide penetration less than the value specified below when tested in accordance with ASTM D3803-1989 at a temperature of 30 °C and a relative humidity of 70%:

<u>ESF Ventilation System</u>	<u>Penetration</u>
SGTS	0.175%
CRV Makeup Filter	0.175%
CRV Recirculation Filter	6%

(continued)