

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Required Action and associated Completion Time of Condition A, C, or D not met. <u>OR</u> Nine or more control rods inoperable.	E.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.3.1 Determine the position of each control rod.	24 hours
SR 3.1.3.2 -----NOTE----- Not required to be performed until 7 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RPCS. ----- Insert each fully withdrawn control rod at least one notch.	18 hours Fully 7 days

(continued)

Control Rod OPERABILITY
3.1.3

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.1.3.3 -----NOTE----- Not required to be performed until 31 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RPCS. -----</p> <p>Insert each partially withdrawn control rod at least one notch.</p>	<p>30 18 hours 31 days</p>
<p>SR 3.1.3.4 Verify each control rod scram time from fully withdrawn to notch position 13 is ≤ 7 seconds.</p>	<p>In accordance with SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4</p>
<p>SR 3.1.3.5 Verify each control rod does not go to the withdrawn overtravel position.</p>	<p>Each time the control rod is withdrawn to "full out" position</p> <p><u>AND</u></p> <p>Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect coupling</p>

Table 3.3.3.1-1 (page 1 of 1)
 Post Accident Monitoring Instrumentation

FUNCTION	REQUIRED CHANNELS	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1
1. Reactor Steam Dome Pressure	2	E
2. Reactor Vessel Water Level	2	E
3. Suppression Pool Water Level		
a. High Range	2	E
b. Low Range	2	E
4. Drywell Pressure	2	E
5. Primary Containment Area Radiation	2	F
6. Drywell Area Radiation	2	F
7. Penetration Flow Path, ^{Automatic} PCIV Position	2 per penetration flow path (a)(b)	E
8. Drywell and Containment H ₂ & O ₂ Analyzer	2	E
9. Primary Containment Pressure		
a. High Range	2	E
b. Low Range	2	E
10. Suppression Pool Quadrant Water Temperature	2 ^(c)	E

- (a) Not required for isolation valves whose associated penetration flow path is isolated.
- (b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.
- (c) Monitoring each quadrant.

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: ≥ 465 psig.	18 months
SR 3.3.4.1.3 Perform LOGIC SYSTEM FUNCTIONAL TEST, including breaker actuation.	18 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 $\geq 40\%$ RTP.	18 months
SR 3.3.4.1.5 -----NOTES----- 1. Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.1.X6. 2. The STAGGERED TEST BASIS Frequency shall be determined on a per Function basis. ----- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	18 months on a STAGGERED TEST BASIS
SR 3.3.4.1.6 Determine RTP breaker interruption time.	60 months

Primary Containment and Drywell Isolation Instrumentation
 3.3.6.1

Table 3.3.6.1-1 (page 1 of 7)
 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 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	≥ -147.7 inches
b. Main Steam Line Pressure - Low	1	4	H	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 SR 3.3.6.1.7	≥ 837 psig
c. Main Steam Line Flow - High	1,2,3	4	G	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 SR 3.3.6.1.7	≤ 178 psid
d. Condenser Vacuum - Low	1,2 ^(a) , 3 ^(a)	4	G	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	≥ 7.6 inches Hg vacuum
e. Main Steam Tunnel Temperature - High	1,2,3	4	G	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. Main Steam Line Turbine Building Temperature - High	1,2,3	4	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.6	Modules 1-4 ≤ 142°F, Module 5 ≤ 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 9)
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(b)	K	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	≥ -47.7 inches
	(c)	4	O	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -47.7 inches
b. Drywell Pressure - High	1,2,3	4(b)	K	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
c. Reactor Vessel Water Level - Low Low, Level 2 (ECCS Divisions 1 and 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 3.3.6.1.5 SR 3.3.6.1.6	≥ -47.7 inches
d. Drywell Pressure - High (ECCS Divisions 1 and 2)	1,2,3	4(b)	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
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 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -47.7 inches
f. Drywell Pressure - High (HPCS NSPS Div 3 and 4)	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	≤ 1.88 psig

(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 7)
 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 ^(b)	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	
i. Containment Building Continuous Containment Purge (CCP) Exhaust Radiation - High	1,2,3	4 ^(b)	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	
j. Reactor Vessel Water Level - Low Low Low, Level 1	1,2,3	4 ^(b)	I	SR 3.3.6.1.1	≥ -147.7 inches
				SR 3.3.6.1.2	
				SR 3.3.6.1.3	
				SR 3.3.6.1.5	
	(c)	4	O	SR 3.3.6.1.1	≥ -147.7 inches
				SR 3.3.6.1.2	
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 ^(b)	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 CORE ALTERATIONS and during movement of 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 9)
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. 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. 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
i. RCIC/RHR 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 9)
 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	2	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 3.3.6.1.5 SR 3.3.6.1.6	≤ 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 3.3.6.1.5 SR 3.3.6.1.6	≥ -47.7 inches
	(c)	4	O	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5 SR 3.3.6.1.6	≥ -47.7 inches
g. Standby Liquid Control System Initiation	1,2	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 CORE ALTERATIONS and during movement of 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 7)
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 ^(f)	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 ^(g) ,4,5	4 ^(h)	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 3.3.6.1.5 SR 3.3.6.1.6	≥ -147.7 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	≤ 150 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.

3.3 INSTRUMENTATION

3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

LCO 3.3.8.2 One RPS electric power monitoring assembly shall be OPERABLE for each inservice RPS special solenoid power supply or alternate power supply.

APPLICABILITY: MODES 1, 2, and 3,
MODES 4 and 5 with any control rod withdrawn from a core
cell containing one or more fuel assemblies.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or both inservice power supplies with the electric power monitoring assembly inoperable.	A.1 Remove associated inservice power supply(s) from service.	1 hour
B. Required Action and associated Completion Time of Condition A not met in MODE 1, 2, or 3.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours
C. Required Action and associated Completion Time of Condition A not met in MODE 4 or 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.	C.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

3.6 CONTAINMENT SYSTEMS

3.6.5.2 Drywell Air Lock

LCO 3.6.5.2 The drywell air lock shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

- NOTES-----
1. Entry and exit is permissible to perform repairs of the affected air lock components.
 2. Enter applicable Conditions and Required Actions of LCO 3.6.5.1, "Drywell," when air lock leakage results in exceeding overall drywell bypass leakage rate acceptance criteria.
-

(continued)

Technical Specifications Bases Changes

BASES (continued)

SURVEILLANCE
REQUIREMENTS

SR 3.1.3.1

The position of each control rod must be determined, to ensure adequate information on control rod position is available to the operator for determining control rod OPERABILITY and controlling rod patterns. Control rod position may be determined by the use of OPERABLE position indicators, by moving control rods to a position with an OPERABLE indicator, or by the use of other appropriate methods. The 24 hour Frequency of this SR is based on operating experience related to expected changes in control rod position and the availability of control rod position indications in the control room.

(i.e., the associated
SR Frequency plus
the extension
allowed by SR 3.0.2)

SR 3.1.3.2 and SR 3.1.3.3

Control rod insertion capability is demonstrated by inserting each partially or fully withdrawn control rod at least one notch and observing that the control rod moves. The control rod may then be returned to its original position. This ensures the control rod is not stuck and is free to insert on a scram signal. These Surveillances are modified by notes identifying that the Surveillances are not required to be performed when THERMAL POWER is less than or equal to the actual LPSP of the RPC since the notch insertions may not be compatible with the requirements of BPWS (LCO 3.1.6) and the RPC (LCO 3.3.2.1). These notes also provide a time allowance such that the Surveillances are not required to be performed until the next scheduled control rod testing for control rods of the same category (i.e., fully withdrawn or partially withdrawn). These notes provide this allowance to prevent unnecessary perturbations in reactor operation to perform this testing on a control rod whose surveillance category (i.e., fully withdrawn or partially withdrawn) has changed. The 7 day Frequency of SR 3.1.3.2 is based on operating experience related to the changes in CRD performance and the ease of performing notch testing for fully withdrawn control rods. Partially withdrawn control rods are tested at a 31 day Frequency, based on the potential power reduction required to allow the control rod movement, and considering the large testing sample of SR 3.1.3.2. Furthermore, the 31 day Frequency takes into account operating experience related to changes in CRD performance. At any time, if a control rod is

(continued)

Control Rod OPERABILITY
B 3.1.3

No changes. This page provided for continuity.

BASES

SURVEILLANCE
REQUIREMENTS

SR 3.1.3.2 and SR 3.1.3.3 (continued)

immovable, a determination of that control rod's trippability (OPERABILITY) must be made and appropriate action taken.

SR 3.1.3.4

Verifying the scram time for each control rod to notch position 13 is ≤ 7 seconds provides reasonable assurance that the control rod will insert when required during a DBA or transient, thereby completing its shutdown functions. This SR is performed in conjunction with the control rod scram time testing of SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4. The LOGIC SYSTEM FUNCTIONAL TEST in LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," and the functional testing of SDV vent and drain valves in LCO 3.1.8, "Scram Discharge Volume (SDV) Vent and Drain Valves," overlap this Surveillance to provide complete testing of the assumed safety function. The associated Frequencies are acceptable, considering the more frequent testing performed to demonstrate other aspects of control rod OPERABILITY and operating experience, which shows scram times do not significantly change over an operating cycle.

SR 3.1.3.5

Coupling verification is performed to ensure the control rod is connected to the CRDM and will perform its intended function when necessary. The Surveillance requires verifying that a control rod does not go to the withdrawn overtravel position when it is fully withdrawn. The overtravel position feature provides a positive check on the coupling integrity, since only an uncoupled CRD can reach the overtravel position. If the control rod goes to the withdrawn overtravel position, the control rod drive mechanism can be inserted to attempt recoupling, within the limitations of Condition C. This verification is required to be performed anytime a control rod is withdrawn to the "full out" position (notch position 48) or prior to declaring the control rod OPERABLE after work on the control rod or CRD System that could affect coupling. This includes control rods inserted one notch and then returned to the

(continued)