

3.1 REACTIVITY CONTROL SYSTEMS

3.1.4 Control Rod Scram Times

- LCO 3.1.4
- a. No more than 10 OPERABLE control rods shall be "slow," in accordance with Table 3.1.4-1; and
  - b. No more than 2 OPERABLE control rods that are "slow" shall occupy adjacent locations.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of the LCO not met.	A.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----  
 During single control rod scram time Surveillances, the control rod drive (CRD) pumps shall be isolated from the associated scram accumulator.  
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SURVEILLANCE	FREQUENCY
SR 3.1.4.1 Verify each control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure $\geq$ 800 psig.	Prior to exceeding 40% RTP after each reactor shutdown > 120 days
SR 3.1.4.2 Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure $\geq$ 800 psig.	200 days cumulative operation in MODE 1

**SURVEILLANCE REQUIREMENTS**

SURVEILLANCE		FREQUENCY
SR 3.1.4.3	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with any reactor steam dome pressure.	Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect scram time
SR 3.1.4.4	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure $\geq$ 800 psig.	<p>Prior to exceeding 40% RTP after fuel movement within the affected core cell</p> <p>AND</p> <p>Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time</p>

Table 3.3.5.1-1 (page 1 of 6)  
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
<b>1. Core Spray System</b>					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1,2,3, 4(a), 5(a)	4 <sup>(b)</sup>	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -113 inches
b. Drywell Pressure- High	1,2,3	4 <sup>(b)</sup>	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.84 psig
c. Reactor Pressure- Low (Injection Permissive)	1,2,3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 291 psig and ≤ 436 psig
	4(a), 5(a)	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 291 psig and ≤ 436 psig
d. Core Spray Pump Discharge Flow - Low (Bypass)	1,2,3, 4(a), 5(a)	1 per pump	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 1370 gpm
e. Core Spray Pump Start-Time Delay Relay	1,2,3, 4(a), 5(a)	1 per pump	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 9 seconds and ≤ 11 seconds
<b>2. Low Pressure Coolant Injection (LPCI) System</b>					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1,2,3, 4(a), 5(a)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -113 inches

(continued)

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

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

Table 3.3.5.1-1 (page 2 of 6)  
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
b. Drywell Pressure - High	1,2,3	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.84 psig
c. Reactor Pressure - Low (Injection Permissive)	1,2,3	4	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 291 psig and ≤ 436 psig
	4(a), 5(a)	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 291 psig and ≤ 436 psig
d. Reactor Pressure - Low (Recirculation Discharge Valve Permissive)	1(c), 2(c), 3(c)	4	C	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 199 psig and ≤ 221 psig
e. Reactor Vessel Shroud Level - Level 0	1,2,3	2	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -193.19 inches
f. Low Pressure Coolant Injection Pump Start - Time Delay Relay	1,2,3, 4(a), 5(a)	1 per pump	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
					Pumps B,C
					Pumps A,D
					≤ 0.5 second
(continued)					

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

(c) With associated recirculation pump discharge valve open.

Table 3.3.5.1-1 (page 3 of 6)  
Emergency Core Cooling System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. LPCI System (continued)					
g. Low Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	1,2,3, 4(a), 5(a)	1 per subsystem	E	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ 2107 gpm
3. High Pressure Coolant Injection (HPCI) System					
a. Reactor Vessel Water Level - Low Low (Level 2)	1, 2(d), 3(d)	4	B	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≥ -42 inches
b. Drywell Pressure - High	1, 2(d), 3(d)	4	B	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 1.84 psig
c. Reactor Vessel Water Level - High (Level 8)	1, 2(d), 3(d)	2	C	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 54 inches
d. Emergency Condensate Storage Tank (ECST) Level - Low	1, 2(d), 3(d)	2	D	SR 3.3.5.1.2 SR 3.3.5.1.3 SR 3.3.5.1.5	≥ 23 inches
e. Suppression Pool Water Level - High	1, 2(d), 3(d)	2	D	SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5	≤ 4 inches
(continued)					

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

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

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required DG inoperable.	B.1 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u> B.2 Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u> B.3 Initiate action to suspend OPDRVs.	Immediately
	<u>AND</u> B.4 Initiate action to restore required DG to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.2.1 -----NOTES----- 1. The following SRs are not required to be performed: SR 3.8.1.3, and SR 3.8.1.9 through SR 3.8.1.11.  2. SR 3.8.1.11 is considered to be met without the ECCS initiation signals OPERABLE when the ECCS initiation signals are not required to be OPERABLE per Table 3.3.5.1-1.  -----  For AC sources required to be OPERABLE the SRs of Specification 3.8.1, except SR 3.8.1.8, are applicable.	In accordance with applicable SRs

3.9 REFUELING OPERATIONS

3.9.1 Refueling Equipment Interlocks

LCO 3.9.1            The refueling equipment interlocks associated with the reactor mode switch refuel position shall be OPERABLE.

APPLICABILITY:    During in-vessel fuel movement with equipment associated with the interlocks when the reactor mode switch is in the refuel position.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. One or more required refueling equipment interlocks inoperable.</p>	<p>A.1 Suspend in-vessel fuel movement with equipment associated with the inoperable interlocks(s).</p>	<p>Immediately</p>
	<p style="text-align: center;"><u>OR</u></p> <p>A.2.1 Insert a control rod withdrawal block</p>	<p>Immediately</p>
	<p style="text-align: center;"><u>AND</u></p> <p>A.2.2 Verify all control rods are fully inserted</p>	<p>Immediately</p>