

3.3 INSTRUMENTATION

3.3.1.1 Reactor Protection System (RPS) Instrumentation

LCO 3.3.1.1 The RPS instrumentation for each Function in Table 3.3.1.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1.1-1.

ACTIONS

.....NOTE.....
Separate Condition entry is allowed for each channel.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Place channel in trip.	12 hours
	<u>OR</u> A.2 Place associated trip system in trip.	12 hours
B. One or more Functions with one or more required channels inoperable in both trip systems.	B.1 Place channel in one trip system in trip.	6 hours
	<u>OR</u> B.2 Place one trip system in trip.	6 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more Functions with RPS trip capability not maintained.	C.1 Restore RPS trip capability.	1 hour
D. Required Action and associated Completion Time of Condition A, B, or C not met.	D.1 Enter the Condition referenced in Table 3.3.1.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	E.1 Reduce THERMAL POWER to < 29% RTP.	4 hours
F. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	F.1 Be in MODE 2.	8 hours
G. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	G.1 Be in MODE 3.	12 hours
H. As required by Required Action D.1 and referenced in Table 3.3.1.1-1.	H.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.1.1-1 to determine which SRs apply for each RPS 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 RPS trip capability.
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SURVEILLANCE		FREQUENCY
SR 3.3.1.1.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.1.1.2	<p>-----NOTE-----</p> <p>Not required to be performed until 12 hours after THERMAL POWER \geq 25% RTP.</p> <p>-----</p> <p>Verify the absolute difference between the average power range monitor (APRM) channels and the calculated power is \leq 2% RTP plus any gain adjustment required by LCO 3.2.3, "Average Power Range Monitor (APRM) Gain and Setpoint" while operating at \geq 25% RTP.</p>	7 days
SR 3.3.1.1.3	<p>-----NOTE-----</p> <p>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 FUNCTIONAL TEST.</p>	7 days
SR 3.3.1.1.4	Perform a functional test of each RPS automatic scram contactor.	7 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.5	Verify the source range monitor (SRM) and intermediate range monitor (IRM) channels overlap.	Prior to withdrawing SRMs from the fully inserted position
SR 3.3.1.1.6	<p>-----NOTE----- Only required to be met during entry into MODE 2 from MODE 1. -----</p> <p>Verify the IRM and APRM channels overlap.</p>	7 days
SR 3.3.1.1.7	Calibrate the local power range monitors.	1000 MWD/T average core exposure
SR 3.3.1.1.8	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.1.1.9	Perform a CHANNEL CALIBRATION.	92 days
SR 3.3.1.1.10	Calibrate the trip units.	184 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.1.11NOTES.....</p> <ol style="list-style-type: none"> 1. Neutron detectors are excluded. 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>Perform CHANNEL CALIBRATION.</p>	<p>184 days</p>
<p>SR 3.3.1.1.12 Perform CHANNEL FUNCTIONAL TEST.</p>	<p>24 months</p>
<p>SR 3.3.1.1.13NOTES.....</p> <ol style="list-style-type: none"> 1. Neutron detectors are excluded. 2. For Function 1.a, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. <p>.....</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>24 months</p>
<p>SR 3.3.1.1.14 Perform LOGIC SYSTEM FUNCTIONAL TEST.</p>	<p>24 months</p>
<p>SR 3.3.1.1.15 Verify Turbine Stop Valve-Closure and Turbine Control Valve Fast Closure, EHC Oil Pressure-Low Functions are not bypassed when THERMAL POWER is \geq 29% RTP.</p>	<p>24 months</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.1.16NOTES.....</p> <ol style="list-style-type: none"> 1. Neutron detectors are excluded. 2. "n" equals 2 channels for the purpose of determining the STAGGERED TEST BASIS Frequency. <p>.....</p> <p>Verify the RPS RESPONSE TIME is within limits.</p>	<p>24 months on a STAGGERED TEST BASIS</p>

Table 3.3.1.1-1 (page 1 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Intermediate Range Monitors					
a. Neutron Flux - High	2	3	G	SR 3.3.1.1.1 SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.6 SR 3.3.1.1.13 SR 3.3.1.1.14	≤ 120/125 divisions of full scale
	5(a)	3	H	SR 3.3.1.1.1 SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.13 SR 3.3.1.1.14	≤ 120/125 divisions of full scale
b. Inop	2	3	G	SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.14	NA
	5(a)	3	H	SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.14	NA
2. Average Power Range Monitors					
a. Neutron Flux - High, (Startup)	2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.3 SR 3.3.1.1.4 SR 3.3.1.1.5 SR 3.3.1.1.6 SR 3.3.1.1.11 SR 3.3.1.1.14	≤ 15% RTP
b. Neutron Flux-High (Flow Biased)	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.15	As specified in the COLR and ≤ 117% RTP
(continued)					

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

Table 3.3.1.1-1 (page 2 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Average Power Range Monitors (continued)					
c. Neutron Flux - High (Fixed)	1	2	F	SR 3.3.1.1.1 SR 3.3.1.1.2 SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.11 SR 3.3.1.1.14 SR 3.3.1.1.15	≤ 120% RTP
d. Inop	1.2	2	G	SR 3.3.1.1.4 SR 3.3.1.1.7 SR 3.3.1.1.8 SR 3.3.1.1.14	NA
3. Reactor Pressure - High	1.2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.16	≤ 1079 psig
4. Reactor Water Level - Low (Level 3)	1.2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.16	≥ 177 inches
5. Main Steam Isolation Valve - Closure	1	8	F	SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.16	≤ 15% closed
6. Drywell Pressure - High	1.2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.16	≤ 2.7 psig

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Table 3.3.1.1-1 (page 3 of 3)
Reactor Protection System Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION D.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Scram Discharge Instrument Volume Water Level - High					
a. Differential Pressure Transmitter/Trip Unit	1.2	2	G	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.9 SR 3.3.1.1.14	≤ 34.5 gallons
	5(a)	2	H	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.9 SR 3.3.1.1.14	≤ 34.5 gallons
b. Level Switch	1.2	2	G	SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.14	≤ 34.5 gallons
	5(a)	2	H	SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.13 SR 3.3.1.1.14	≤ 34.5 gallons
8. Turbine Stop Valve - Closure	≥ 29% RTP	4	E	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.16	≤ 15% closed
9. Turbine Control Valve Fast Closure. EHC Oil Pressure - Low	≥ 29% RTP	2	E	SR 3.3.1.1.1 SR 3.3.1.1.4 SR 3.3.1.1.8 SR 3.3.1.1.10 SR 3.3.1.1.13 SR 3.3.1.1.14 SR 3.3.1.1.15 SR 3.3.1.1.16	≥ 500 psig and ≤ 850 psig
10. Reactor Mode Switch - Shutdown Position	1.2	1	G	SR 3.3.1.1.12 SR 3.3.1.1.14	NA
	5(a)	1	H	SR 3.3.1.1.12 SR 3.3.1.1.14	NA
11. Manual Scram	1.2	1	G	SR 3.3.1.1.8 SR 3.3.1.1.14	NA
	5(a)	1	H	SR 3.3.1.1.8 SR 3.3.1.1.14	NA

(a) With any control rod withdrawn from a core cell containing one or more fuel assemblies.

3.3 INSTRUMENTATION

3.3.1.2 Source Range Monitor (SRM) Instrumentation

LCO 3.3.1.2 The SRM instrumentation in Table 3.3.1.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.1.2-1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required SRMs inoperable in MODE 2 with intermediate range monitors (IRMs) on Range 2 or below.	A.1 Restore required SRMs to OPERABLE status.	4 hours
B. Three required SRMs inoperable in MODE 2 with IRMs on Range 2 or below.	B.1 Suspend control rod withdrawal.	Immediately
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Be in MODE 3.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more required SRMs inoperable in MODE 3 or 4.	D.1 Fully insert all insertable control rods.	1 hour
	<u>AND</u> D.2 Place reactor mode switch in the shutdown position.	1 hour
E. One or more required SRMs inoperable in MODE 5.	E.1 Suspend CORE ALTERATIONS except for control rod insertion.	Immediately
	<u>AND</u> E.2 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.1.2-1 to determine which SRs apply for each applicable MODE or other specified condition.

SURVEILLANCE		FREQUENCY
SR 3.3.1.2.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.1.2.2	<p>-----NOTES-----</p> <p>1. Only required to be met during CORE ALTERATIONS.</p> <p>2. One SRM may be used to satisfy more than one of the following.</p> <p>-----</p> <p>Verify an OPERABLE SRM detector is located in:</p> <p>a. The fueled region;</p> <p>b. The core quadrant where CORE ALTERATIONS are being performed, when the associated SRM is included in the fueled region; and</p> <p>c. A core quadrant adjacent to where CORE ALTERATIONS are being performed, when the associated SRM is included in the fueled region.</p>	12 hours
SR 3.3.1.2.3	Perform CHANNEL CHECK.	24 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.2.4 -----NOTES----- 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 ≥ 3.0 cps with a signal to noise ratio $\geq 3:1$.</p>	<p>12 hours during CORE ALTERATIONS <u>AND</u> 24 hours</p>
<p>SR 3.3.1.2.5 Perform CHANNEL FUNCTIONAL TEST and determination of signal to noise ratio.</p>	<p>7 days</p>
<p>SR 3.3.1.2.6 -----NOTE----- Not required to be performed until 12 hours after IRMs on Range 2 or below. ----- Perform CHANNEL FUNCTIONAL TEST and determination of signal to noise ratio.</p>	<p>31 days</p>
<p>SR 3.3.1.2.7 -----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>

Table 3.3.1.2-1 (page 1 of 1)
Source Range Monitor Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS
1. Source Range Monitor	2(a)	3	SR 3.3.1.2.1 SR 3.3.1.2.4 SR 3.3.1.2.6 SR 3.3.1.2.7
	3,4	2	SR 3.3.1.2.3 SR 3.3.1.2.4 SR 3.3.1.2.6 SR 3.3.1.2.7
	5	2(b)(c)	SR 3.3.1.2.1 SR 3.3.1.2.2 SR 3.3.1.2.4 SR 3.3.1.2.5 SR 3.3.1.2.7

- (a) With IRMs on Range 2 or below.
- (b) Only one SRM channel is required to be OPERABLE during spiral offload or reload when the fueled region includes only that SRM detector.
- (c) Special movable detectors may be used in place of SRMs if connected to normal SRM circuits.

3.3 INSTRUMENTATION

3.3.2.1 Control Rod Block Instrumentation

LC0 3.3.2.1 The control rod block instrumentation for each Function in Table 3.3.2.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.2.1-1.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One rod block monitor (RBM) channel inoperable.	A.1 Restore RBM channel to OPERABLE status.	24 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Two RBM channels inoperable.	B.1 Place one RBM channel in trip.	1 hour
C. Rod worth minimizer (RWM) inoperable during reactor startup.	C.1 Suspend control rod movement except by scram. <u>OR</u>	Immediately (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2.1.1 Verify ≥ 12 rods withdrawn.	Immediately
	<u>OR</u>	
	C.2.1.2 Verify by administrative methods that startup with RWM inoperable has not been performed in the last calendar year.	Immediately
	<u>AND</u>	
	C.2.2 Verify movement of control rods is in compliance with banked position withdrawal sequence (BPWS) by a second licensed operator or by a reactor engineer.	During control rod movement
D. RWM inoperable during reactor shutdown.	D.1 Verify movement of control rods is in compliance with BPWS by a second licensed operator or by a reactor engineer.	During control rod movement

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. One or more Reactor Mode Switch-Shutdown Position channels inoperable.	E.1 Suspend control rod withdrawal.	Immediately
	<u>AND</u> E.2 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

-NOTES.....
1. Refer to Table 3.3.2.1-1 to determine which SRs apply for each Control Rod Block Function.
 2. When an RBM 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 rod block capability.
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SURVEILLANCE	FREQUENCY
SR 3.3.2.1.1 Perform CHANNEL FUNCTIONAL TEST.	92 days

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SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.2.1.2NOTE..... Not required to be performed until 1 hour after any control rod is withdrawn at $\leq 10\%$ RTP in MODE 2. Perform CHANNEL FUNCTIONAL TEST.</p>	<p>92 days</p>
<p>SR 3.3.2.1.3NOTE..... Not required to be performed until 1 hour after THERMAL POWER is $\leq 10\%$ RTP in MODE 1. Perform CHANNEL FUNCTIONAL TEST.</p>	<p>92 days</p>
<p>SR 3.3.2.1.4NOTE..... Neutron detectors are excluded. Verify the RBM is not bypassed: a. When THERMAL POWER is $\geq 30\%$ RTP; and b. When a peripheral control rod is not selected.</p>	<p>92 days</p>
<p>SR 3.3.2.1.5NOTE..... Neutron detectors are excluded. Perform CHANNEL CALIBRATION.</p>	<p>92 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.6	Verify the RWM is not bypassed when THERMAL POWER is \leq 10% RTP.	24 months
SR 3.3.2.1.7	<p>.....NOTE.....</p> <p>Not required to be performed until 1 hour after reactor mode switch is in the shutdown position.</p> <p>.....</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	24 months
SR 3.3.2.1.8	Verify control rod sequences input to the RWM are in conformance with BPWS.	Prior to declaring RWM OPERABLE following loading of sequence into RWM

Table 3.3.2.1-1 (page 1 of 1)
Control Rod Block Instrumentation

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Rod Block Monitor				
a. Upscale	(a)	2	SR 3.3.2.1.4 SR 3.3.2.1.5	As specified in the COLR
b. Inop	(a)	2	SR 3.3.2.1.1 SR 3.3.2.1.4	NA
c. Downscale	(a)	2	SR 3.3.2.1.4 SR 3.3.2.1.5	≥ 2.5/125 divisions of full scale
2. Rod Worth Minimizer	1(b), 2(b)	1	SR 3.3.2.1.2 SR 3.3.2.1.3 SR 3.3.2.1.6 SR 3.3.2.1.8	NA
3. Reactor Mode Switch - Shutdown Position	(c)	2	SR 3.3.2.1.7	NA

(a) THERMAL POWER ≥ 30% RTP and no peripheral control rod selected.

(b) With THERMAL POWER ≤ 10% RTP.

(c) Reactor mode switch in the shutdown position.

3.3 INSTRUMENTATION

3.3.2.2 Feedwater and Main Turbine High Water Level Trip Instrumentation

LC0 3.3.2.2 Three channels of feedwater and main turbine high water level trip instrumentation shall be OPERABLE.

APPLICABILITY: THERMAL POWER \geq 25% RTP.

ACTIONS

.....NOTE.....
Separate Condition entry is allowed for each channel.
.....

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One feedwater and main turbine high water level trip channel inoperable.	A.1 Place channel in trip.	7 days
B. Two or more feedwater and main turbine high water level trip channels inoperable.	B.1 Restore feedwater and main turbine high water level trip capability.	2 hours
C. Required Action and associated Completion Time not met.	C.1 -----Note----- Only applicable if inoperable channel is the result of inoperable feedwater pump turbine or main turbine stop valve. -----	
	Remove affected stop valve(s) from service.	4 hours
	<u>OR</u> C.2 Reduce THERMAL POWER to < 25% RTP.	4 hours

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 feedwater and main turbine high water level trip capability is maintained.
.....

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	24 hours
SR 3.3.2.2.2-NOTE-..... Only required to be performed when in MODE 4 for > 24 hours. Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 222.4 inches.	24 months
SR 3.3.2.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including valve actuation.	24 months

3.3 INSTRUMENTATION

3.3.3.1 Post Accident Monitoring (PAM) Instrumentation

LC0 3.3.3.1 The PAM instrumentation for each Function in Table 3.3.3.1-1 shall be OPERABLE.

-----NOTE-----
Function 8 may be inoperable for up to 3 hours per 24 hour period during Post Accident Sampling System operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

- NOTES-----
1. LC0 3.0.4 is not applicable.
 2. Separate Condition entry is allowed for each Function.
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CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action in accordance with Specification 5.6.6.	Immediately
C. One or more Functions with two required channels inoperable.	C.1 Restore one required channel to OPERABLE status.	7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Enter the Condition referenced in Table 3.3.3.1-1 for the channel.	Immediately
E. As required by Required Action D.1 and referenced in Table 3.3.3.1-1.	E.1 Be in MODE 3.	12 hours
F. As required by Required Action D.1 and referenced in Table 3.3.3.1-1.	F.1 Initiate action in accordance with Specification 5.6.6.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.3.1.1	Perform CHANNEL CHECK of each required PAM instrument channel.	31 days
SR 3.3.3.1.2	Perform CHANNEL CALIBRATION of each required PAM Primary Containment H ₂ and O ₂ Concentration Function channel.	92 days
SR 3.3.3.1.3	Perform CHANNEL CALIBRATION of each required PAM instrumentation channel except for the Primary Containment H ₂ and O ₂ Concentration Function channels.	24 months

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 Vessel Pressure	2	E
2. Reactor Vessel Water Level		
a. Fuel Zone	2	E
b. Wide Range	2	E
3. Suppression Pool Water Level (Wide Range)	2	E
4. Drywell Pressure		
a. Narrow Range	2	E
b. Wide Range	2	E
5. Containment High Range Radiation	2	F
6. Drywell Temperature	2	E
7. Penetration Flow Path PCIV Position	2 per penetration flow path ^{(a)(b)}	E
8. Primary Containment H ₂ & O ₂ Concentration	2	E
9. Suppression Chamber Pressure	2	E
10. Suppression Pool Water Temperature	2	E
11. Drywell Water Level	2	E

(a) Not required for isolation valves whose associated penetration flow path is isolated by at least one closed and deactivated automatic valve, closed manual valve, blind flange, or check valve with flow through the valve secured.

(b) Only one position indication channel is required for penetration flow paths with only one installed control room indication channel.

3.3 INSTRUMENTATION

3.3.3.2 Remote Shutdown System

LCO 3.3.3.2 The Remote Shutdown System Functions shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

- NOTES-----
1. LCO 3.0.4 is not applicable.
 2. Separate Condition entry is allowed for each Function.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required Functions inoperable.	A.1 Restore required Function to OPERABLE status.	30 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.3.2.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	31 days
SR 3.3.3.2.2	Verify each required control circuit and transfer switch is capable of performing the intended function.	24 months
SR 3.3.3.2.3	Perform CHANNEL CALIBRATION for each required instrumentation channel.	24 months

3.3 INSTRUMENTATION

3.3.4.1 Anticipated Transient Without Scram Recirculation Pump Trip (ATWS-RPT) Instrumentation

LCO 3.3.4.1 Two channels per trip system for each ATWS-RPT instrumentation Function listed below shall be OPERABLE:

- a. Reactor Vessel Water Level - Low Low (Level 2); and
- b. Reactor Pressure - High.

APPLICABILITY: MODE 1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Restore channel to OPERABLE status.	14 days
	<p><u>OR</u></p> <p>A.2 -----NOTE----- Not applicable if inoperable channel is the result of an inoperable breaker. -----</p> <p>Place channel in trip.</p>	14 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One Function with ATWS-RPT trip capability not maintained.	B.1 Restore ATWS-RPT trip capability.	72 hours
C. Both Functions with ATWS-RPT trip capability not maintained.	C.1 Restore ATWS-RPT trip capability for one Function.	1 hour
D. Required Action and associated Completion Time not met.	D.1 -----Note----- Only applicable if inoperable channel is the result of an inoperable RPT breaker. ----- Remove the affected recirculation pump from service.	6 hours 6 hours
	<u>OR</u> D.2 Be in MODE 2.	

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 ATWS-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.4.1.2 Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.4.1.3 Calibrate the trip units.	184 days
SR 3.3.4.1.4 Perform CHANNEL CALIBRATION. The Allowable Values shall be: <ul style="list-style-type: none"> a. Reactor Vessel Water Level - Low Low (Level 2): ≥ 105.4 inches; and b. Reactor Pressure - High: <ul style="list-style-type: none"> 1. ≤ 1153 psig with ≥ 10 Safety/Relief Valves (S/RVs) OPERABLE; or 2. ≤ 1118 psig with < 10 S/RVs OPERABLE. 	24 months
SR 3.3.4.1.5 Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	24 months

3.3 INSTRUMENTATION

3.3.5.1 Emergency Core Cooling System (ECCS) Instrumentation

LCO 3.3.5.1 The ECCS instrumentation for each Function in Table 3.3.5.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5.1-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Enter the Condition referenced in Table 3.3.5.1-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	<p>B.1 -----NOTES----- 1. Only applicable in MODES 1, 2, and 3. 2. Only applicable for Functions 1.a, 1.b, 2.a, and 2.b. ----- Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.</p> <p><u>AND</u></p>	<p>1 hour from discovery of loss of initiation capability for feature(s) in both divisions</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	<p>B.2 -----NOTE----- Only applicable for Functions 3.a and 3.b. -----</p> <p>Declare High Pressure Coolant Injection (HPCI) System inoperable.</p>	1 hour from discovery of loss of HPCI initiation capability
	<p><u>AND</u></p> <p>B.3 Place channel in trip.</p>	24 hours
C. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	<p>C.1 -----NOTES----- 1. Only applicable in MODES 1, 2, and 3. 2. Only applicable for Functions 1.c, 1.d, 2.c, 2.d, and 2.f. -----</p> <p>Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.</p>	1 hour from discovery of loss of initiation capability for feature(s) in both divisions
	<p><u>AND</u></p> <p>C.2 Restore Channel to OPERABLE status.</p>	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	D.1NOTE..... Only applicable if HPCI pump suction is not aligned to the suppression pool. Declare HPCI System inoperable.	1 hour from discovery of loss of HPCI initiation capability
	<u>AND</u>	
	D.2.1 Place channel in trip.	24 hours
	<u>OR</u> D.2.2 Align the HPCI pump suction to the suppression pool.	24 hours
E. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	E.1NOTES..... 1. Only applicable in MODES 1, 2, and 3. 2. Only applicable for Functions 1.e, 1.f, and 2.g. Declare supported feature(s) inoperable when its redundant feature ECCS initiation capability is inoperable.	1 hour from discovery of loss of initiation capability for subsystems in both divisions
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. (continued)	E.2 Restore channel to OPERABLE status.	7 days
F. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	F.1 Declare Automatic Depressurization System (ADS) valves inoperable.	1 hour from discovery of loss of ADS initiation capability in both trip systems
	<p><u>AND</u></p> <p>F.2 Place channel in trip.</p>	<p>96 hours from discovery of inoperable channel concurrent with HPCI or reactor core isolation cooling (RCIC) inoperable</p> <p><u>AND</u></p> <p>8 days</p>
G. As required by Required Action A.1 and referenced in Table 3.3.5.1-1.	G.1 Declare ADS valves inoperable.	1 hour from discovery of loss of ADS initiation capability in both trip systems
	<u>AND</u>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
G. (continued)	G.2 Restore channel to OPERABLE status.	96 hours from discovery of inoperable channel concurrent with HPCI or RCIC inoperable <u>AND</u> 8 days
H. Required Action and associated Completion Time of Condition B, C, D, E, F, or G not met.	H.1 Declare associated supported feature(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.5.1-1 to determine which SRs apply for each ECCS Function.
 2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed as follows: (a) for up to 6 hours for Functions 3.c, 3.f, and 3.g; and (b) for up to 6 hours for Functions other than 3.c, 3.f, and 3.g provided the associated Function or the redundant Function maintains ECCS initiation capability.
-

SURVEILLANCE	FREQUENCY
SR 3.3.5.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.5.1.2 Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.5.1.3 Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.1.4 Calibrate the trip units.	184 days
SR 3.3.5.1.5 Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.1.6 Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 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. Core Spray System					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1.2.3, 4(a), 5(a)	4(b)	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 SR 3.3.5.1.6	≥ 18 inches
b. Drywell Pressure - High	1.2.3	4(b)	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 SR 3.3.5.1.6	≤ 2.7 psig
c. Reactor Pressure - Low (Injection Permissive)	1.2.3	4	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 SR 3.3.5.1.6	≥ 410 psig and ≤ 490 psig
	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 SR 3.3.5.1.6	≥ 410 psig and ≤ 490 psig
d. Core Spray Pump Start-Time Delay Relay	1.2.3, 4(a), 5(a)	1 per pump	C	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 12.34 seconds
e. Core Spray Pump Discharge Flow - Low (Bypass)	1.2.3, 4(a), 5(a)	1 per pump	E	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 510 gpm and ≤ 980 gpm
f. Core Spray Pump Discharge Pressure - High (Bypass)	1.2.3, 4(a), 5(a)	1 per pump	E	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 90 psig and ≤ 110 psig
2. Low Pressure Coolant Injection (LPCI) System					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1.2.3, 4(a), 5(a)	4(b)	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 SR 3.3.5.1.6	≥ 18 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 emergency diesel generator(s).

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 System (continued)					
b. Drywell Pressure - High	1.2.3	4(b)	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 SR 3.3.5.1.6	≤ 2.7 psig
c. Reactor Pressure - Low (Injection Permissive)	1.2.3	4	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 SR 3.3.5.1.6	≥ 410 psig and ≤ 490 psig
	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 SR 3.3.5.1.6	≥ 410 psig and ≤ 490 psig
d. Reactor Pressure - Low (Recirculation Discharge Valve Permissive)	1(c), 2(c), 3(c)	4	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 SR 3.3.5.1.6	≥ 295 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 SR 3.3.5.1.6	≥ 1.0 inches
f. Low Pressure Coolant Injection Pump Start-Time Delay Relay	1.2.3, 4(a), 5(a)	1 per pump	C	SR 3.3.5.1.5 SR 3.3.5.1.6	
Pumps A, D					≤ 1.51 seconds
Pumps B, C					≤ 6.73 seconds
(continued)					

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

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

(c) With associated recirculation pump discharge valve open.

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
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 3.3.5.1.3 SR 3.3.5.1.6	≥ 1040 gpm and ≤ 1665 gpm
h. Containment Pressure - High	1.2.3	4	B	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 1 psig and ≤ 2.7 psig
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 SR 3.3.5.1.6	≥ 126.5 inches
b. Drywell Pressure - High	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 SR 3.3.5.1.6	≤ 2.7 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 SR 3.3.5.1.6	≤ 222.4 inches
d. Condensate Storage Tank Level - Low	1. 2(d), 3(d)	4	D	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 59.5 inches
e. Suppression Pool Water Level - High	1. 2(d), 3(d)	2	D	SR 3.3.5.1.3 SR 3.3.5.1.6	≤ 14.5 feet
(continued)					

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

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

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
3. HPCI System (continued)					
f. High Pressure Coolant Injection Pump Discharge Flow - Low (Bypass)	1. 2(d), 3(d)	1	E	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 475 gpm and ≤ 800 gpm
g. High Pressure Coolant Injection Pump Discharge Pressure - High (Bypass)	1. 2(d), 3(d)	1	E	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 25 psig and ≤ 80 psig
4. Automatic Depressurization System (ADS) Trip System A					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1. 2(d), 3(d)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 18 inches
b. Automatic Depressurization System Initiation Timer	1. 2(d), 3(d)	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 134 seconds
c. Reactor Vessel Water Level - Low (Level 3)	1. 2(d), 3(d)	1	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 177 inches
d. Core Spray Pump Discharge Pressure - High	1. 2(d), 3(d)	2	G	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 90 psig and ≤ 110 psig
(continued)					

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

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
4. ADS Trip System A (continued)					
e. Low Pressure Coolant Injection Pump Discharge Pressure - High	1. 2(d), 3(d)	4	G	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 105 psig and ≤ 145 psig
5. ADS Trip System B					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1. 2(d), 3(d)	2	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 18 inches
b. Automatic Depressurization System Initiation Timer	1. 2(d), 3(d)	1	G	SR 3.3.5.1.5 SR 3.3.5.1.6	≤ 134 seconds
c. Reactor Vessel Water Level - Low (Level 3)	1. 2(d), 3(d)	1	F	SR 3.3.5.1.1 SR 3.3.5.1.2 SR 3.3.5.1.4 SR 3.3.5.1.5 SR 3.3.5.1.6	≥ 177 inches
d. Core Spray Pump Discharge Pressure - High	1. 2(d), 3(d)	2	G	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 90 psig and ≤ 110 psig
e. Low Pressure Coolant Injection Pump Discharge Pressure - High	1. 2(d), 3(d)	4	G	SR 3.3.5.1.3 SR 3.3.5.1.6	≥ 105 psig and ≤ 145 psig

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

3.3 INSTRUMENTATION

3.3.5.2 Reactor Core Isolation Cooling (RCIC) System Instrumentation

LCO 3.3.5.2 The RCIC System instrumentation for each Function in Table 3.3.5.2-1 shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3 with reactor steam dome pressure > 150 psig.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Enter the Condition referenced in Table 3.3.5.2-1 for the channel.	Immediately
B. As required by Required Action A.1 and referenced in Table 3.3.5.2-1.	B.1 Declare RCIC System inoperable.	1 hour from discovery of loss of RCIC initiation capability
	<u>AND</u> B.2 Place channel in trip.	24 hours
C. As required by Required Action A.1 and referenced in Table 3.3.5.2-1.	C.1 Restore channel to OPERABLE status.	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. As required by Required Action A.1 and referenced in Table 3.3.5.2-1.	D.1NOTE..... Only applicable if RCIC pump suction is not aligned to the suppression pool.	1 hour from discovery of loss of automatic RCIC initiation capability
	Declare RCIC System inoperable.	
	<u>AND</u>	
	D.2.1 Place channel in trip.	24 hours
	<u>OR</u>	
	D.2.2 Align RCIC pump suction to the suppression pool.	24 hours
E. Required Action and associated Completion Time of Condition B, C, or D not met.	E.1 Declare RCIC System inoperable.	Immediately

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 4; and (b) for up to 6 hours for Functions 1 and 3 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 Perform CHANNEL CALIBRATION.	92 days
SR 3.3.5.2.4 Calibrate the trip units.	184 days
SR 3.3.5.2.5 Perform CHANNEL CALIBRATION.	24 months
SR 3.3.5.2.6 Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

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

FUNCTION	REQUIRED CHANNELS PER FUNCTION	CONDITIONS REFERENCED FROM REQUIRED ACTION A.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Reactor Vessel Water Level - Low Low (Level 2)	4	B	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.4 SR 3.3.5.2.5 SR 3.3.5.2.6	≥ 126.5 inches
2. Reactor Vessel Water Level - High (Level 8)	2	C	SR 3.3.5.2.1 SR 3.3.5.2.2 SR 3.3.5.2.4 SR 3.3.5.2.5 SR 3.3.5.2.6	≤ 222.4 inches
3. Condensate Storage Tank Level - Low	4	D	SR 3.3.5.2.3 SR 3.3.5.2.6	≥ 59.5 inches
4. Manual Initiation	1	C	SR 3.3.5.2.6	NA

IA

3.3 INSTRUMENTATION

3.3.6.1 Primary Containment Isolation Instrumentation

LCO 3.3.6.1 The primary containment isolation instrumentation for each Function in Table 3.3.6.1-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6.1-1.

ACTIONS

NOTES

1. Penetration flow paths may be unisolated intermittently under administrative controls.
2. Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Place channel in trip.	12 hours for Functions 2.a, 2.b, 2.g, 2.h, 5.e, 5.f, 6.b, 7.a and 7.b <u>AND</u> 24 hours for Functions other than Functions 2.a, 2.b, 2.g, 2.h, 5.e, 5.f, 6.b, 7.a and 7.b
B. One or more Functions with isolation capability not maintained.	B.1 Restore isolation capability.	1 hour

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Enter the Condition referenced in Table 3.3.6.1-1 for the channel.	Immediately
D. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	D.1 Isolate associated main steam line (MSL). <u>OR</u> D.2.1 Be in MODE 3. <u>AND</u> D.2.2 Be in MODE 4.	12 hours 12 hours 36 hours
E. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	E.1 Be in MODE 2.	8 hours
F. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	F.1 Isolate the affected penetration flow path(s).	1 hour
G. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	G.1 Isolate the affected penetration flow path(s).	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. As required by Required Action C.1 and referenced in Table 3.3.6.1-1. <u>OR</u> Required Action and associated Completion Time for Condition F or G not met.	H.1 Be in MODE 3.	12 hours
	<u>AND</u> H.2 Be in MODE 4.	36 hours
I. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	I.1 Declare associated standby liquid control subsystem (SLC) inoperable.	1 hour
	<u>OR</u> I.2 Isolate the Reactor Water Cleanup System.	1 hour
J. As required by Required Action C.1 and referenced in Table 3.3.6.1-1.	J.1 Initiate action to restore channel to OPERABLE status.	Immediately
	<u>OR</u> J.2 Initiate action to isolate the Residual Heat Removal (RHR) Shutdown Cooling System.	Immediately

SURVEILLANCE REQUIREMENTS

- NOTES-----
1. Refer to Table 3.3.6.1-1 to determine which SRs apply for each Primary 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 as follows: (a) for up to 6 hours provided the associated Function maintains isolation capability; and (b) 6 hours for Functions 2.g, 2.h, 2.i, 7.a, and 7.b.
-

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	-----NOTE----- For Functions 1.f and 2.f, radiation detectors are excluded. ----- Perform CHANNEL CALIBRATION.	92 days
SR 3.3.6.1.4	Calibrate the trip units.	184 days
SR 3.3.6.1.5	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.1.6	Calibrate the radiation detectors.	24 months
SR 3.3.6.1.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.6.1.8 -NOTE-..... "n" equals 2 channels for the purpose of determining the STAGGERED TEST BASIS Frequency. </p> <p>Verify the ISOLATION INSTRUMENTATION RESPONSE TIME is within limits.</p>	<p>24 months on a STAGGERED TEST BASIS</p>

Primary Containment Isolation Instrumentation 3.3.6.1

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Main Steam Line Isolation					
a. Reactor Vessel Water Level - Low Low Low (Level 1)	1.2.3	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7 SR 3.3.6.1.8	≥ 18 inches
b. Main Steam Line Pressure - Low	1	2	E	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7 SR 3.3.6.1.8	≥ 825 psig
c. Main Steam Line Flow - High	1.2.3	2 per MSL	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7 SR 3.3.6.1.8	≤ 125.9 psid
d. Condenser Vacuum - Low	1. 2(a), 3(a)	2	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 8 inches Hg vacuum
e. Main Steam Tunnel Area Temperature - High	1.2.3	8	D	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 195°F
f. Main Steam Tunnel Radiation - High	1(e), 2(e)	2	F	SR 3.3.6.1.1 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 3 times Normal Full Power Background

(continued)

(a) With any turbine stop valve not closed.
(e) With THERMAL POWER ≤ 10% RTP.

Primary Containment Isolation Instrumentation
3.3.6.1

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
2. Primary Containment Isolation					
a. Reactor Vessel Water Level - Low (Level 3)	1,2,3	2	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 177 inches
b. Drywell Pressure - High	1,2,3	2	H	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 2.7 psig
c. Containment Radiation - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 450 R/hr
d. Reactor Building (RB) Exhaust Radiation - High	1,2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 24,800 cpm
e. Reactor Vessel Water Level - Low Low Low (Level 1)	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 18 inches
f. Main Steam Tunnel Radiation - High	1(e), 2(e)	2	F	SR 3.3.6.1.1 SR 3.3.6.1.3 SR 3.3.6.1.6 SR 3.3.6.1.7	≤ 3 times Normal Full Power Background
g. Reactor Vessel Water Level - Low (Level 3)	1,2,3	2(b)	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 177 inches
h. Drywell Pressure - High	1,2,3	2(b)	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 2.7 psig
i. RB Exhaust Radiation - High	1,2,3	1(b)	F	SR 3.3.6.1.1 SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 24,800 cpm

(continued)

(b) Only one trip system provided for each associated penetration.

(e) With THERMAL POWER ≤ 10% RTP.

Primary Containment Isolation Instrumentation
3.3.6.1

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. High Pressure Coolant Injection (HPCI) System Isolation					
a. HPCI Steam Line Flow - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 168.24 inches of water dP
b. HPCI Steam Supply Line Pressure - Low	1.2.3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 61 psig and ≤ 90 psig
c. HPCI Turbine Exhaust Diaphragm Pressure - High	1.2.3	2	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 9.9 psig
d. HPCI Steam Line Penetration (Drywell Entrance) Area Temperature - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 160°F
e. HPCI Steam Line Torus Room Area Temperature - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 160°F
f. RHR Heat Exchanger A Area Temperature - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 170°F
g. RHR Heat Exchanger B Area Temperature - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 170°F
h. RB Southwest Area of Elevation 272' Temperature - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 144°F
i. RB Southeast Area of Elevation 272' Temperature - High	1.2.3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 144°F

(continued)

Primary Containment Isolation Instrumentation 3.3.6.1

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. HPCI System Isolation (continued)					
j. HPCI Equipment Area Temperature - High	1.2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 144°F
4. Reactor Core Isolation Cooling (RCIC) System Isolation					
a. RCIC Steam Line Flow - High	1.2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 272.26 inches of water dp
b. RCIC Steam Supply Line Pressure - Low	1.2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 58 psig and ≤ 93 psig
c. RCIC Turbine Exhaust Diaphragm Pressure - High	1.2,3	2	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 5 psig
d. RCIC Steam Line Penetration (Drywell Entrance) Area Temperature - High	1.2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 160°F
e. RCIC Steam Line Torus Room Area Temperature - High	1.2,3	1	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 160°F
f. RCIC Equipment Area Temperature - High	1.2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 144°F

(continued)

Primary Containment Isolation Instrumentation 3.3.6.1

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. Reactor Water Cleanup (RWCU) System Isolation					
a. RWCU Suction Line Penetration Area Temperature - High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 143.98°F
b. RWCU Pump Area Temperature - High					
Pump A	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 164.98°F
Pump B	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 174.98°F
c. RWCU Heat Exchanger Room Area Temperature - High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 154.98°F
d. SLC System Initiation	1,2	2 ^(c)	I	SR 3.3.6.1.7	NA
e. Reactor Vessel Water Level - Low (Level 3)	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 177 inches
f. Drywell Pressure - High	1,2,3	2	F	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 2.7 psig
6. Shutdown Cooling System Isolation					
a. Reactor Pressure - High	1,2,3	1	F	SR 3.3.6.1.3 SR 3.3.6.1.7	≤ 74 psig
b. Reactor Vessel Water Level - Low (Level 3)	3,4,5	2 ^(d)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 177 inches

(continued)

(c) SLC System Initiation only inputs into one of the two trip systems and only isolates one valve in the RWCU suction and return line.

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

Primary Containment Isolation Instrumentation 3.3.6.1

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

FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
7. Traversing Incore Probe System Isolation					
a. Reactor Vessel Water Level - Low (Level 3)	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≥ 177 inches
b. Drywell Pressure - High	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5 SR 3.3.6.1.7	≤ 2.7 psig

3.3 INSTRUMENTATION

3.3.6.2 Secondary Containment Isolation Instrumentation

LC0 3.3.6.2 The secondary containment isolation instrumentation for each Function in Table 3.3.6.2-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.6.2-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	12 hours for Functions 1 and 2 <u>AND</u> 24 hours for Functions 3 and 4
B. One or more Functions with secondary containment isolation capability not maintained.	B.1 Restore secondary containment isolation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1.1 Isolate the associated secondary containment penetration flow path(s). <u>OR</u>	1 hour (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.1.2 Declare associated secondary containment isolation valves inoperable.	1 hour
	<u>AND</u>	
	C.2.1 Place the associated standby gas treatment (SGT) subsystem(s) in operation.	1 hour
	<u>OR</u>	
	C.2.2 Declare associated SGT subsystem(s) inoperable.	1 hour

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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	92 days
SR 3.3.6.2.3	Perform CHANNEL CALIBRATION	92 day
SR 3.3.6.2.4	Calibrate the trip units.	184 days
SR 3.3.6.2.5	Perform CHANNEL CALIBRATION.	24 months
SR 3.3.6.2.6	Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 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 (Level 3)	1,2,3. (a)	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 SR 3.3.6.2.6	≥ 177 inches
2. Drywell Pressure - High	1,2,3	2	SR 3.3.6.2.1 SR 3.3.6.2.2 SR 3.3.6.2.4 SR 3.3.6.2.5 SR 3.3.6.2.6	≤ 2.7 psig
3. Reactor Building Exhaust Radiation - High	1,2,3. (a),(b)	1	SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.6	$\leq 24,800$ cpm
4. Refueling Floor Exhaust Radiation - High	1,2,3. (a),(b)	1	SR 3.3.6.2.1 SR 3.3.6.2.3 SR 3.3.6.2.6	$\leq 24,800$ cpm

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

(b) During CORE ALTERATIONS and during movement of irradiated fuel assemblies in secondary containment.

3.3 INSTRUMENTATION

3.3.7.1 Control Room Emergency Ventilation Air Supply (CREVAS) System Instrumentation

LCO 3.3.7.1 The Control Room Air Inlet Radiation-High channel shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3,
During movement of irradiated fuel assemblies in the
secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor
vessel.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Channel inoperable.	A.1 Place the CREVAS System in the isolate mode of operation.	1 hour
	<u>OR</u> A.2 Declare both CREVAS subsystems inoperable.	1 hour

SURVEILLANCE REQUIREMENTS

-----NOTES-----
When the channel is placed in an inoperable status solely for performance of required Surveillances, entry into the Condition and Required Actions may be delayed for up to 6 hours.

SURVEILLANCE	FREQUENCY
SR 3.3.7.1.1 Perform CHANNEL CHECK.	12 hours
SR 3.3.7.1.2 Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 4000 cpm.	92 days

3.3 INSTRUMENTATION

3.3.7.2 Condenser Air Removal Pump Isolation Instrumentation

LCO 3.3.7.2 Four channels of the Main Steam Tunnel Radiation-High Function for the condenser air removal pump isolation shall be OPERABLE.

APPLICABILITY: MODES 1 and 2 with any condenser air removal pump in service.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required channels inoperable.	A.1 Restore channel to OPERABLE status.	24 hours
	<p><u>OR</u></p> <p>A.2 -----NOTE----- Not applicable if inoperable channel is the result of an inoperable isolation valve. -----</p> <p>Place channel or associated trip system in trip.</p>	24 hours

(continued)

Condenser Air Removal Pump Isolation Instrumentation
3.3.7.2

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Condenser air removal pump isolation capability not maintained.	B.1 Restore isolation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Isolate condenser air removal pump.	12 hours
	<u>OR</u>	
	C.2 Isolate main steam lines.	12 hours
	<u>OR</u>	
	C.3 Be in MODE 3.	12 hours

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 condenser vacuum pump isolation capability.
.....

SURVEILLANCE	FREQUENCY
SR 3.3.7.2.1 Perform CHANNEL CHECK.	12 hours

(continued)

Condenser Air Removal Pump Isolation Instrumentation
3.3.7.2

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.7.2.2 NOTE..... Radiation detectors are excluded. Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 3 times Normal Full Power Background.</p>	<p>92 days</p>
<p>SR 3.3.7.2.3 Calibrate each radiation detector.</p>	<p>24 months</p>
<p>SR 3.3.7.2.4 Perform LOGIC SYSTEM FUNCTIONAL TEST including isolation valve actuation.</p>	<p>24 months</p>

1 A

3.3 INSTRUMENTATION

3.3.7.3 Emergency Service Water (ESW) System Instrumentation

LCO 3.3.7.3 Four channels of ESW pressure instrumentation shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	24 hours
B. Initiation capability not maintained in both logic systems.	B.1 Restore initiation capability.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met.	C.1 Declare associated ESW subsystem(s) inoperable.	Immediately

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 ESW pressure instrumentation maintains initiation capability.

SURVEILLANCE	FREQUENCY
SR 3.3.7.3.1 Perform CHANNEL CALIBRATION. The Allowable Value shall be ≥ 40 psig and ≤ 50 psig.	92 days
SR 3.3.7.3.2 Perform LOGIC SYSTEM FUNCTIONAL TEST.	24 months

3.3 INSTRUMENTATION

3.3.8.1 Loss of Power (LOP) Instrumentation

LCO 3.3.8.1 The LOP instrumentation for each Function in Table 3.3.8.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
When the associated emergency diesel generator (EDG) is
required to be OPERABLE by LCO 3.8.2, "AC
Sources - Shutdown."

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more channels inoperable.	A.1 Place channel in trip.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Declare associated EDG(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.8.1-1 to determine which SRs apply for each LOP Function.

SURVEILLANCE	FREQUENCY
SR 3.3.8.1.1 Perform CHANNEL CALIBRATION.	24 months
SR 3.3.8.1.2 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 BUS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. 4.16 kV Emergency Bus Undervoltage (Loss of Voltage)			
a. Bus Undervoltage	2	SR 3.3.8.1.1 SR 3.3.8.1.2	$\geq 80.2 \text{ V}$ and $\leq 89.8 \text{ V}$
b. Time Delay	1	SR 3.3.8.1.1 SR 3.3.8.1.2	≥ 2.4 seconds and ≤ 2.6 seconds
2. 4.16 kV Emergency Bus Undervoltage (Degraded Voltage)			
a. Bus Undervoltage	2	SR 3.3.8.1.1 SR 3.3.8.1.2	$\geq 109.8 \text{ V}$ and $\leq 111.4 \text{ V}$
b. Time Delay (LOCA)	1	SR 3.3.8.1.1 SR 3.3.8.1.2	≥ 8.4 seconds and ≤ 9.5 seconds
c. Time Delay (non-LOCA)	1	SR 3.3.8.1.1 SR 3.3.8.1.2	≥ 41.0 seconds and ≤ 46.6 seconds

3.3 INSTRUMENTATION

3.3.8.2 Reactor Protection System (RPS) Electric Power Monitoring

LC0 3.3.8.2 Two RPS electric power monitoring assemblies shall be OPERABLE for each inservice RPS motor generator set or alternate power supply.

APPLICABILITY: MODES 1 and 2,
MODES 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 one electric power monitoring assembly inoperable.	A.1 Remove associated inservice power supply(s) from service.	72 hours
B. One or both inservice power supplies with both electric power monitoring assemblies inoperable.	B.1 Remove associated inservice power supply(s) from service.	1 hour
C. Required Action and associated Completion Time of Condition A or B not met in MODE 1 or 2.	C.1 Be in MODE 3.	12 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met in MODE 5 with any control rod withdrawn from a core cell containing one or more fuel assemblies.	D.1 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.8.2.1NOTE..... Only required to be performed prior to entering MODE 2 from MODE 3 or 4, when in MODE 4 for ≥ 24 hours. Perform CHANNEL FUNCTIONAL TEST.	184 days

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.8.2.2 Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice RPS motor generator sets. The Allowable Values shall be:</p> <p>a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds.</p> <p>b. Undervoltage with time delay set to ≤ 4 seconds.</p> <p>Channel "A" ≥ 112.5 V Channel "B" ≥ 113.9 V</p> <p>c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 seconds.</p>	24 months
<p>SR 3.3.8.2.3 Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice alternate power supplies. The Allowable Values shall be:</p> <p>a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds.</p> <p>b. Undervoltage ≥ 109.9 V, with time delay set to ≤ 4 seconds.</p> <p>c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 seconds.</p>	24 months
<p>SR 3.3.8.2.4 Perform a system functional test.</p>	24 months

RAI 3.3.6.1-Y
RAE 3.3.6.1-Y

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.1 Recirculation Loops Operating

LCO 3.4.1 Two recirculation loops with matched flows shall be in operation and the reactor operating at core flow and THERMAL POWER conditions outside the Exclusion Region of the power-to-flow map specified in the COLR.

OR

One recirculation loop shall be in operation and the reactor operating at core flow and THERMAL POWER conditions outside the Exclusion Region of the power-to-flow map specified in the COLR with the following limits applied when the associated LCO is applicable:

- a. LCO 3.2.1, "AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)," single loop operation limits specified in the COLR;
- b. LCO 3.2.2, "MINIMUM CRITICAL POWER RATIO (MCPR)," single loop operation limits specified in the COLR; and
- c. LCO 3.3.1.1, "Reactor Protection System (RPS) Instrumentation," Function 2.b (Average Power Range Monitors Neutron Flux-High (Flow Biased)), Allowable Value of Table 3.3.1.1-1 is reset for single loop operation; and
- d. LCO 3.3.2.1, "Control Rod Block Instrumentation," Function 1.a (Rod Block Monitor-Upscale), Allowable Value of Table 3.3.2.1-1 is reset for single loop operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two recirculation loop(s) in operation with core flow and THERMAL POWER conditions within the Exclusion Region of the power-to-flow map.	A.1 Initiate action to exit the Exclusion Region.	Immediately
B. Requirements of the LCO not met for reasons other than Condition A.	B.1 Satisfy the requirements of the LCO.	24 hours
C. Required Action and associated Completion Time of Condition A or B not met. <u>OR</u> No recirculation loops in operation.	C.1 Be in MODE 3.	12 hours

RAI 3.4.1-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	<p>-----NOTE----- Only required to be performed in MODE 1. -----</p> <p>Verify reactor operating at core flow and THERMAL POWER conditions outside the Exclusion Region of the power-to-flow map specified in the COLR.</p>	12 hours
SR 3.4.1.2	<p>-----NOTE----- Not required to be performed until 24 hours after both recirculation loops are in operation. -----</p> <p>Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is:</p> <ul style="list-style-type: none"> a. $\leq 10\%$ of rated core flow when operating at $< 70\%$ of rated core flow; and b. $\leq 5\%$ of rated core flow when operating at $\geq 70\%$ of rated core flow. 	24 hours

RA1 3.4-GEN

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.2 Jet Pumps

LC0 3.4.2 All jet pumps shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more jet pumps inoperable.	A.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.2.1 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed until 4 hours after associated recirculation loop is in operation. 2. Not required to be performed until 24 hours after > 25% RTP. <p>-----</p> <p>Verify at least one of the following criteria (a or b) is satisfied for each operating recirculation loop:</p> <ol style="list-style-type: none"> a. Recirculation pump flow to speed ratio differs by $\leq 5\%$ from established patterns, and recirculation loop jet pump flow to recirculation pump speed ratio differs by $\leq 5\%$ from established patterns. b. Each jet pump diffuser to lower plenum differential pressure differs by $\leq 20\%$ from established patterns. 	<p>24 hours</p>

RAI 34-GEN

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.3 Safety/Relief Valves (S/RVs)

LC0 3.4.3 The safety function of 9 S/RVs shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required S/RVs inoperable.	A.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	A.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.3.1 Verify the safety function lift setpoint of the required S/RVs is 1145 ± 34.3 psig. Following testing, lift settings shall be within ± 1%.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.4.3.2 -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify each required S/RV opens when manually actuated.</p>	<p>24 months on a STAGGERED TEST BASIS for each valve solenoid</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 RCS Operational LEAKAGE

LC0 3.4.4 RCS operational LEAKAGE shall be limited to:

- a. No pressure boundary LEAKAGE;
- b. ≤ 5 gpm unidentified LEAKAGE;
- c. ≤ 25 gpm total LEAKAGE averaged over the previous 24 hour period; and
- d. ≤ 2 gpm increase in unidentified LEAKAGE within the previous 24 hour period in MODE 1.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Unidentified LEAKAGE not within limit. <u>OR</u> Total LEAKAGE not within limit.	A.1 Reduce LEAKAGE to within limits.	4 hours
B. Unidentified LEAKAGE increase not within limit.	B.1 Reduce unidentified LEAKAGE increase to within limits. <u>OR</u>	4 hours (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Verify source of unidentified LEAKAGE increase is not service sensitive type 304 or type 316 austenitic stainless steel.	4 hours
C. Required Action and associated Completion Time of Condition A or B not met. <u>OR</u> Pressure boundary LEAKAGE exists.	C.1 Be in MODE 3. <u>AND</u> C.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.4.1 Verify RCS unidentified and total LEAKAGE and unidentified LEAKAGE increase are within limits.	4 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.5 RCS Leakage Detection Instrumentation

LCO 3.4.5 The following RCS leakage detection instrumentation shall be OPERABLE:

- Drywell floor drain sump monitoring system; and
- One channel of either the drywell continuous atmospheric particulate or atmospheric gaseous monitoring system.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell floor drain sump monitoring system inoperable.	<p align="center">-----NOTE----- LCO 3.0.4 is not applicable. -----</p> <p>A.1 Restore drywell floor drain sump monitoring system to OPERABLE status.</p>	30 days
B. Required drywell continuous atmospheric monitoring system inoperable.	<p align="center">-----NOTE----- LCO 3.0.4 is not applicable. -----</p> <p>B.1 Analyze grab samples of drywell atmosphere.</p> <p><u>AND</u></p> <p>B.2 Restore required drywell continuous atmospheric monitoring system to OPERABLE status.</p>	Once per 24 hours 30 days

(continued)

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
D. All required leakage detection systems inoperable.	D.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.5.1 Perform a CHANNEL CHECK of required drywell continuous atmospheric monitoring system.	12 hours
SR 3.4.5.2 Perform a CHANNEL FUNCTIONAL TEST of required leakage detection instrumentation.	31 days
SR 3.4.5.3 Perform a CHANNEL CALIBRATION of required leakage detection instrumentation.	92 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.6 RCS Specific Activity

LCO 3.4.6 The reactor coolant DOSE EQUIVALENT I-131 specific activity shall be limited to $\leq 0.2 \mu\text{Ci/gm}$.

APPLICABILITY: MODE 1,
MODES 2 and 3 with any main steam line not isolated.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>A. Reactor coolant DOSE EQUIVALENT I-131 specific activity $> 0.2 \mu\text{Ci/gm}$ and $\leq 2.0 \mu\text{Ci/gm}$.</p>	<p>-----NOTE----- LCO 3.0.4 is not applicable. -----</p> <p>A.1 Determine reactor coolant DOSE EQUIVALENT I-131 specific activity.</p>	Once per 4 hours
	<p><u>AND</u></p> <p>A.2 Restore reactor coolant DOSE EQUIVALENT I-131 specific activity to within limits.</p>	48 hours
<p>B. Required Action and associated Completion Time of Condition A not met.</p> <p><u>OR</u></p> <p>Reactor coolant DOSE EQUIVALENT I-131 specific activity $> 2.0 \mu\text{Ci/gm}$.</p>	<p>B.1 Determine reactor coolant DOSE EQUIVALENT I-131 specific activity.</p>	Once per 4 hours
	<p><u>AND</u></p> <p>B.2.1 Isolate all main steam lines.</p> <p><u>OR</u></p>	12 hours
		(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2.2.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2.2.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.6.1-NOTE..... Only required to be performed in MODE 1. Verify reactor coolant DOSE EQUIVALENT I-131 specific activity is $\leq 0.2 \mu\text{Ci/gm.}$	7 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.7 Residual Heat Removal (RHR) Shutdown Cooling System—Hot Shutdown

LCO 3.4.7 Two RHR shutdown cooling subsystems shall be OPERABLE.

-----NOTE-----
One RHR shutdown cooling subsystem may be inoperable for up to 2 hours for the performance of Surveillances.

APPLICABILITY: MODE 3, with reactor steam dome pressure less than the RHR cut in permissive pressure.

ACTIONS

- NOTES-----
1. LCO 3.0.4 is not applicable.
 2. Separate Condition entry is allowed for each RHR shutdown cooling subsystem.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two RHR shutdown cooling subsystems inoperable.	A.1 Initiate action to restore RHR shutdown cooling subsystem(s) to OPERABLE status.	Immediately
	<u>AND</u>	
	A.2 Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem.	1 hour
	<u>AND</u>	
	A.3 Be in MODE 4.	24 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.7.1 -----NOTE----- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR cut in permissive pressure. ----- Verify each required RHR shutdown cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is aligned or can be aligned to its correct position.</p>	<p>31 days</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.8 Residual Heat Removal (RHR) Shutdown Cooling System—Cold Shutdown

LCO 3.4.8 Two RHR shutdown cooling subsystems shall be OPERABLE.

-----NOTE-----
One RHR shutdown cooling subsystem may be inoperable for up to 2 hours for the performance of Surveillances.

APPLICABILITY: MODE 4.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each shutdown cooling subsystem.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or two RHR shutdown cooling subsystems inoperable.	A.1 Verify an alternate method of decay heat removal is available for each inoperable RHR shutdown cooling subsystem.	1 hour <u>AND</u> Once per 24 hours thereafter

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.8.1	Verify each RHR shutdown cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is aligned or can be aligned to its correct position.	31 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.9 RCS Pressure and Temperature (P/T) Limits

LCO 3.4.9 RCS pressure, RCS temperature, RCS heatup and cooldown rates, and the recirculation pump starting temperature requirements shall be maintained within limits.

APPLICABILITY: At all times.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A.NOTE..... Required Action A.2 shall be completed if this Condition is entered. Requirements of the LCO not met in MODE 1, 2, or 3.	A.1 Restore parameter(s) to within limits.	30 minutes
	<u>AND</u> A.2 Determine RCS is acceptable for continued operation.	72 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

(continued)

RAI 3.4.9-2

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. -----NOTE----- Required Action C.2 shall be completed if this Condition is entered. ----- Requirements of the LCO not met in other than MODES 1, 2, and 3.	C.1 Initiate action to restore parameter(s) to within limits. <u>AND</u> C.2 Determine RCS is acceptable for operation.	Immediately Prior to entering MODE 2 or 3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.1NOTE.....</p> <p>Only required to be performed during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing.</p> <p>Verify:</p> <ol style="list-style-type: none"> RCS pressure and temperature are within the limits specified in Figure 3.4.9-1 or Figure 3.4.9-2, as applicable. RCS temperature change averaged over a one hour period is: <ol style="list-style-type: none"> < 100°F when the RCS pressure and temperature are on or to the right of curve C of Figure 3.4.9-1 or Figure 3.4.9-2, as applicable, during inservice leak and hydrostatic testing; < 20°F when the RCS pressure and temperature are to the left of curve C of Figure 3.4.9-1 or Figure 3.4.9-2, as applicable, during inservice leak and hydrostatic testing; and < 100°F during other heatup and cooldown operations. 	<p>30 minutes</p>

(continued)

Amendment 258

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.2 Verify RCS pressure and temperature are within the criticality limits specified in Figure 3.4.9-1 or Figure 3.4.9-2, as applicable.</p>	<p>Once within 15 minutes prior to control rod withdrawal for the purpose of achieving criticality</p>
<p>SR 3.4.9.3 NOTES.....</p> <ol style="list-style-type: none"> 1. Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup. 2. Not required to be performed if SR 3.4.9.4 is satisfied. <p>.....</p> <p>Verify the difference between the bottom head coolant temperature and the reactor pressure vessel (RPV) coolant temperature is $\leq 145^{\circ}\text{F}$.</p>	<p>Once within 15 minutes prior to each startup of a recirculation pump</p>
<p>SR 3.4.9.4 NOTES.....</p> <ol style="list-style-type: none"> 1. Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup. 2. Not required to be met if SR 3.4.9.3 is satisfied. <p>.....</p> <p>Verify the active recirculation pump flow exceeds 40% of rated pump flow or the active recirculation pump has been operating below 40% rated flow for a period no longer than 30 minutes.</p>	<p>Once within 15 minutes prior to each startup of a recirculation pump</p>

(continued)

AMD 25B

RAI 3.4-6EN

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.2 Verify RCS pressure and temperature are within the criticality limits specified in Figure 3.4.9-1 or Figure 3.4.9-2, as applicable.</p>	<p>Once within 15 minutes prior to control rod withdrawal for the purpose of achieving criticality</p>
<p>SR 3.4.9.3 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup. 2. Not required to be performed if SR 3.4.9.4 is satisfied. <p>-----</p> <p>Verify the difference between the bottom head coolant temperature and the reactor pressure vessel (RPV) coolant temperature is $\leq 145^{\circ}\text{F}$.</p>	<p>Once within 15 minutes prior to each startup of a recirculation pump</p>
<p>SR 3.4.9.4 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup. 2. Not required to be met if SR 3.4.9.3 is satisfied. <p>-----</p> <p>Verify the active recirculation drive flow exceeds 40% of rated drive flow or the active loop has been operating below 40% rated flow for a period no longer than 30 minutes.</p>	<p>Once within 15 minutes prior to each startup of a recirculation pump</p>

(continued)

Add 258

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.5NOTE..... Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup.</p> <p>Verify the difference between the reactor coolant temperature in the recirculation loop to be started and the RPV coolant temperature $\leq 50^{\circ}\text{F}$.</p>	<p>Once within 15 minutes prior to each startup of a recirculation pump</p>
<p>SR 3.4.9.6NOTE..... Only required to be performed when tensioning the reactor vessel head bolting studs.</p> <p>Verify reactor vessel flange and head flange temperatures are $\geq 90^{\circ}\text{F}$.</p>	<p>30 minutes</p>
<p>SR 3.4.9.7NOTE..... Not required to be performed until 30 minutes after RCS temperature $\leq 100^{\circ}\text{F}$ with any reactor vessel stud tensioned.</p> <p>Verify reactor vessel flange and head flange temperatures are $\geq 90^{\circ}\text{F}$.</p>	<p>30 minutes</p>
<p>SR 3.4.9.8NOTE..... Not required to be performed until 12 hours after RCS temperature $\leq 120^{\circ}\text{F}$ with any reactor vessel stud tensioned.</p> <p>Verify reactor vessel flange and head flange temperatures are $\geq 90^{\circ}\text{F}$.</p>	<p>12 hours</p>

RAI 3.4.9-5

RAI 3.4.9-5

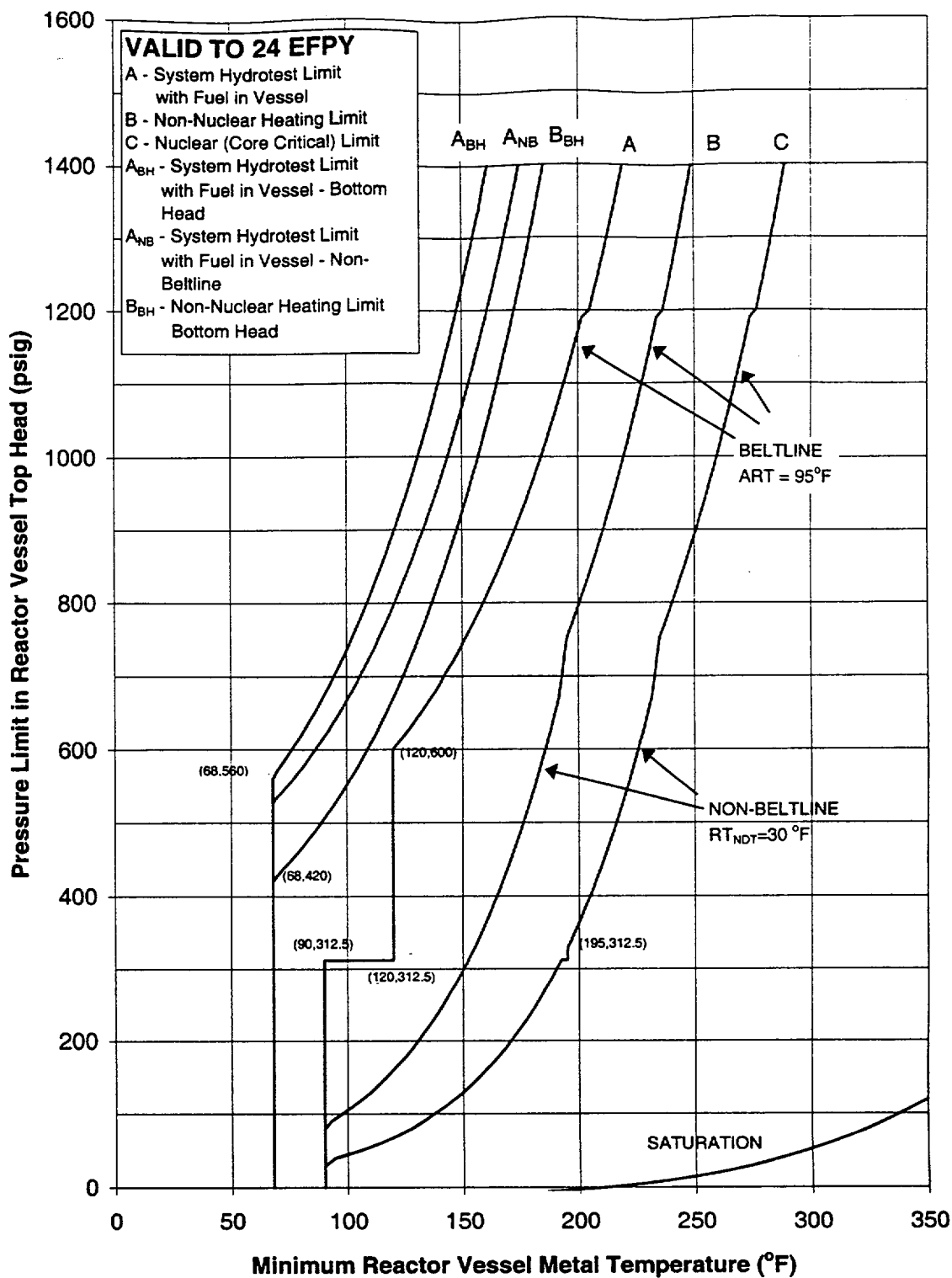


Figure 3.4.9-1 (page 1 of 1)
Reactor Coolant System Pressure and
Temperature Limits through 24 Effective Full Power Years (EFY)

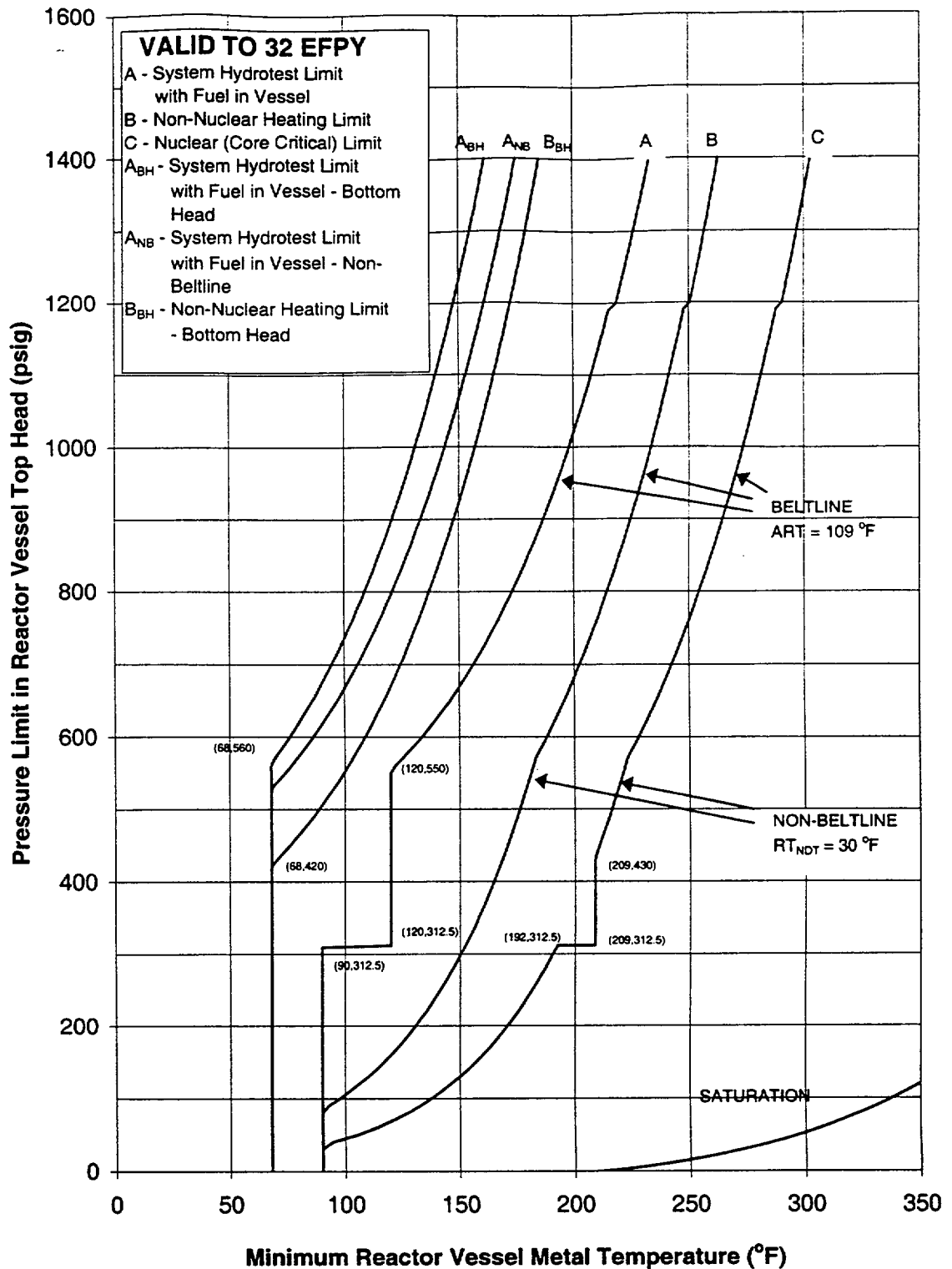


Figure 3.4.9-2 (page 1 of 1)
Reactor Coolant System Pressure and
Temperature Limits through 32 Effective Full Power Years (EFY)

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.1 ECCS - Operating

LCO 3.5.1 Each ECCS injection/spray subsystem and the Automatic Depressurization System (ADS) function of six safety/relief valves shall be OPERABLE.

APPLICABILITY: MODE 1,
MODES 2 and 3, except high pressure coolant injection (HPCI) and ADS valves are not required to be OPERABLE with reactor steam dome pressure \leq 150 psig.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One low pressure ECCS injection/spray subsystem inoperable. <u>OR</u> One low pressure coolant injection (LPCI) pump in both LPCI subsystems inoperable.	A.1 Restore low pressure ECCS injection/spray subsystem(s) to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3. <u>AND</u>	12 hours
	B.2 Be in MODE 4.	36 hours

(continued)

TSVF-318 d
RAI 3.5.1 - B21

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. HPCI System inoperable.	C.1 Verify by administrative means RCIC System is OPERABLE.	Immediately
	<u>AND</u> C.2 Restore HPCI System to OPERABLE status.	14 days
D. HPCI System inoperable. <u>AND</u> Condition A entered.	D.1 Restore HPCI System to OPERABLE status.	72 hours
	<u>OR</u> D.2 Restore low pressure ECCS injection/spray subsystem(s) to OPERABLE status.	72 hours
E. One required ADS valve inoperable.	E.1 Restore ADS valve to OPERABLE status.	14 days
F. One required ADS valve inoperable. <u>AND</u> Condition A entered.	F.1 Restore ADS valve to OPERABLE status.	72 hours
	<u>OR</u> F.2 Restore low pressure ECCS injection/spray subsystem(s) to OPERABLE status.	72 hours

(continued)

TSIF 301

TSIF-301
RAI 3.5.1-051

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>G. Required Action and associated Completion Time of Condition C, D, E, or F not met.</p> <p><u>OR</u></p> <p>Two or more required ADS valves inoperable.</p>	G.1 Be in MODE 3.	12 hours
	<p><u>AND</u></p> <p>G.2 Reduce reactor steam dome pressure to ≤ 150 psig.</p>	36 hours
<p>H. Two or more low pressure ECCS injection/spray subsystems inoperable for reasons other than Condition A.</p> <p><u>OR</u></p> <p>HPCI System and one or more required ADS valves inoperable.</p>	H.1 Enter LCO 3.0.3.	Immediately

RAI 3.5.1-B&I

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.1 Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.</p>	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.2 -----NOTE----- Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) cut in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable. -----</p> <p>Verify each ECCS injection/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>	31 days
<p>SR 3.5.1.3 Verify ADS pneumatic supply header pressure is ≥ 95 psig.</p>	31 days
<p>SR 3.5.1.4 Verify the RHR System cross tie valves are closed and power is removed from the electrical valve operator.</p>	31 days
<p>SR 3.5.1.5 Cycle open and closed each LPCI motor operated valve independent power supply battery charger AC input breaker and verify each LPCI inverter output voltage is ≥ 576 V and ≤ 624 V while supplying the respective bus.</p>	31 days

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE				FREQUENCY																
SR 3.5.1.6	-----NOTE----- Not required to be performed if performed within the previous 31 days. ----- Verify each recirculation pump discharge valve cycles through one complete cycle of full travel or is de-energized in the closed position.			Once each startup prior to exceeding 25% RTP																
SR 3.5.1.7	<div>Verify the following ECCS pumps develop the specified flow rate against a system head corresponding to the specified reactor pressure above primary containment pressure.</div> <table><thead><tr><th>SYSTEM</th><th>FLOW RATE</th><th>NO. OF PUMPS</th><th>SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF</th></tr></thead><tbody><tr><td>Core</td><td></td><td></td><td></td></tr><tr><td>Spray</td><td>≥ 4265 gpm</td><td>1</td><td>≥ 113 psi</td></tr><tr><td>LPCI</td><td>≥ 7700 gpm</td><td>1</td><td>≥ 20 psi</td></tr></tbody></table>			SYSTEM	FLOW RATE	NO. OF PUMPS	SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF	Core				Spray	≥ 4265 gpm	1	≥ 113 psi	LPCI	≥ 7700 gpm	1	≥ 20 psi	In accordance with the Inservice Testing Program
SYSTEM	FLOW RATE	NO. OF PUMPS	SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF																	
Core																				
Spray	≥ 4265 gpm	1	≥ 113 psi																	
LPCI	≥ 7700 gpm	1	≥ 20 psi																	
SR 3.5.1.8	-----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify, with reactor pressure ≤ 1040 and ≥ 970 psig, the HPCI pump can develop a flow rate ≥ 3400 gpm against a system head corresponding to reactor pressure.			In accordance with the Inservice Testing Program																

RA 3.5.3-1

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.9NOTE..... Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Verify, with reactor pressure \leq 165 psig, the HPCI pump can develop a flow rate \geq 3400 gpm against a system head corresponding to reactor pressure.</p>	<p>24 months</p>
<p>SR 3.5.1.10NOTES..... 1. For the HPCI System, not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform test. 2. Vessel injection/spray may be excluded. Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>
<p>SR 3.5.1.11NOTE..... Valve actuation may be excluded. Verify the ADS actuates on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>
<p>SR 3.5.1.12 Verify each LPCI motor operated valve independent power supply inverter capacity is adequate to supply and maintain in OPERABLE status the required emergency loads for the design duty cycle.</p>	<p>24 months</p>

(continued)

RAI 3.5.3-1

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.13 -----NOTE----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ----- Verify each required ADS valve opens when manually actuated.</p>	<p>24 months on a STAGGERED TEST BASIS for each valve solenoid</p>

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.2 ECCS – Shutdown

LCO 3.5.2 Two low pressure ECCS injection/spray subsystems shall be OPERABLE.

APPLICABILITY: MODE 4.
MODE 5, except with the spent fuel storage pool gates removed and water level \geq 22 ft 2 inches over the top of the reactor pressure vessel flange.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required low pressure ECCS injection/spray subsystem inoperable.	A.1 Restore required ECCS injection/spray subsystem to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to suspend operations with a potential for draining the reactor vessel (OPDRVs).	Immediately
C. Two required ECCS injection/spray subsystems inoperable.	C.1 Initiate action to suspend OPDRVs.	Immediately
	<u>AND</u> C.2 Restore one ECCS injection/spray subsystem to OPERABLE status.	4 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action C.2 and associated Completion Time not met.	D.1 Initiate action to restore secondary containment to OPERABLE status.	Immediately
	<u>AND</u>	
	D.2 Initiate action to restore one standby gas treatment subsystem to OPERABLE status.	Immediately
	<u>AND</u>	
	D.3 Initiate action to restore isolation capability in each required secondary containment penetration flow path not isolated.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.5.2.1 Verify, for each required low pressure coolant injection (LPCI) subsystem, the suppression pool water level is ≥ 10.33 ft.	12 hours

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.2.2 Verify, for each required core spray (CS) subsystem, the:</p> <p> a. Suppression pool water level is ≥ 10.33 ft; or</p> <p> b. NOTE..... Only one required CS subsystem may take credit for this option during OPDRVs. The water level in each condensate storage tank is ≥ 324 inches.</p>	<p>12 hours</p>
<p>SR 3.5.2.3 Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.</p>	<p>31 days</p>
<p>SR 3.5.2.4 NOTE..... One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable. Verify each required ECCS injection/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>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE REQUIREMENTS (continued)					FREQUENCY
SURVEILLANCE					FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure above primary containment pressure.				In accordance with the Inservice Testing Program
				SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF	
			NO. OF PUMPS		
	<u>SYSTEM</u>	<u>FLOW RATE</u>			
	CS	≥ 4265 gpm	1	≥ 113 psi	
	LPCI	≥ 7700 gpm	1	≥ 20 psi	
SR 3.5.2.6	-----NOTE-----				24 months
	Vessel injection/spray may be excluded.				

	Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.				

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS) AND REACTOR CORE ISOLATION COOLING (RCIC) SYSTEM

3.5.3 RCIC System

LC0 3.5.3 The RCIC System shall be OPERABLE.

APPLICABILITY: MODE 1.
MODES 2 and 3 with reactor steam dome pressure > 150 psig.

ACTIONS

TSTF-301

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RCIC System inoperable.	A.1 Verify by administrative means High Pressure Coolant Injection System is OPERABLE.	Immediately
	<u>AND</u> A.2 Restore RCIC System to OPERABLE status.	14 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Reduce reactor steam dome pressure to ≤ 150 psig.	36 hours

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
RAI 3.5.3-B51	SR 3.5.3.3 Cycle each RCIC System motor operated valve fully closed and fully open.	92 days
RAI 3.5.3-1	SR 3.5.3.4NOTE..... Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Verify, with reactor pressure \leq 1040 psig and \geq 970 psig, the RCIC pump can develop a flow rate \geq 400 gpm against a system head corresponding to reactor pressure.	92 days
RAI 3.5.3-B51	SR 3.5.3.5NOTE..... Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. Verify, with reactor pressure \leq 165 psig, the RCIC pump can develop a flow rate \geq 400 gpm against a system head corresponding to reactor pressure.	24 months
RAI 3.5.3-1		

(continued)

SURVEILLANCE REQUIREMENTS (continued)

RAI
3.5.3.BSI

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.6 NOTES.....</p> <p>1. Not required to be performed until 12 hours after reactor steam dome pressure and flow are adequate to perform the test.</p> <p>2. Vessel injection may be excluded.</p> <p>.....</p> <p>Verify the RCIC System actuates on an actual or simulated automatic initiation signal.</p>	<p>24 months</p>

3.6 CONTAINMENT SYSTEMS

3.6.1.1 Primary Containment

LCO 3.6.1.1 Primary containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Primary containment inoperable.	A.1 Restore primary containment to OPERABLE status.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.1.1 Perform required visual examinations and leakage rate testing except for primary containment air lock and Low Pressure Coolant Injection and Core Spray System injection line air operated testable check valve testing, in accordance with the Primary Containment Leakage Rate Testing Program.</p>	<p>In accordance with the Primary Containment Leakage Rate Testing Program</p>
<p>SR 3.6.1.1.2 Verify suppression chamber pressure increase is ≤ 0.25 in. water guage/minute over a 10 minute period with a drywell to suppression chamber differential pressure of ≥ 1 psi.</p>	<p>24 months</p> <p><u>AND</u></p> <p>-----NOTE----- Only required after two consecutive tests fail and continues until two consecutive tests pass -----</p> <p>12 months</p>

RAI 3.6.1.1-4/TSIF-52, R3
RAI 3.6.1.1-6

RAI 3.6.1.1-3

3.6 CONTAINMENT SYSTEMS

3.6.1.2 Primary Containment Air Locks

LCO 3.6.1.2 Two primary containment air locks shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

RAI 3.6.1.2-3

ACTIONS

- NOTES-----
1. Entry and exit is permissible to perform repairs of the affected air lock components.
 2. Separate Condition entry is allowed for each air lock.
 3. Enter applicable Conditions and Required Actions of LCO 3.6.1.1, "Primary Containment," when air lock leakage results in exceeding overall containment leakage rate acceptance criteria.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more primary containment air locks with one primary containment air lock door inoperable.	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Required Actions A.1, A.2, and A.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered. 2. Entry and exit is permissible for 7 days under administrative controls. <p>-----</p>	
	<p>A.1 Verify the OPERABLE door is closed in the affected air lock.</p> <p><u>AND</u></p>	<p>1 hour</p> <p>(continued)</p>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2 Lock the OPERABLE door closed in the affected air lock.	24 hours
	<p><u>AND</u></p> <p>A.3NOTE..... Air lock doors in high radiation areas or areas with limited access due to inerting may be verified locked closed by administrative means.</p> <p>Verify the OPERABLE door is locked closed in the affected air lock.</p>	Once per 31 days
B. One or more primary containment air locks with primary containment air lock interlock mechanism inoperable.	<p>-----NOTES-----</p> <p>1. Required Actions B.1, B.2, and B.3 are not applicable if both doors in the same air lock are inoperable and Condition C is entered.</p> <p>2. Entry into and exit from primary containment is permissible under the control of a dedicated individual.</p> <p>-----</p> <p>B.1 Verify an OPERABLE door is closed in the affected air lock.</p>	1 hour
	<p><u>AND</u></p>	(continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2 Lock an OPERABLE door closed in the affected air lock.	24 hours
	<p><u>AND</u></p> <p>B.3NOTE..... Air lock doors in high radiation areas or areas with limited access due to inerting may be verified locked closed by administrative means.</p> <p>Verify an OPERABLE door is locked closed in the affected air lock.</p>	Once per 31 days
C. One or more primary containment air locks inoperable for reasons other than Condition A or B.	C.1 Initiate action to evaluate primary containment overall leakage rate per LCO 3.6.1.1, using current air lock test results.	Immediately
	<p><u>AND</u></p> <p>C.2 Verify a door is closed in the affected air lock.</p>	1 hour
	<p><u>AND</u></p> <p>C.3 Restore air lock to OPERABLE status.</p>	24 hours

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	12 hours
	<u>AND</u> D.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.2.1NOTE.....</p> <ol style="list-style-type: none"> 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against criteria applicable to SR 3.6.1.1.1. <p>.....</p> <p>Perform required primary containment air lock leakage rate testing in accordance with the Primary Containment Leakage Rate Testing Program.</p>	In accordance with the Primary Containment Leakage Rate Testing Program
<p>SR 3.6.1.2.2 Verify only one door in the primary containment air lock can be opened at a time.</p>	24 months

3.6 CONTAINMENT SYSTEMS

3.6.1.3 Primary Containment Isolation Valves (PCIVs)

LCO 3.6.1.3 Each PCIV, except reactor building-to-suppression chamber vacuum breakers, shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.
When associated instrumentation is required to be OPERABLE per LCO 3.3.6.1, "Primary Containment Isolation Instrumentation."

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	<p>A.2</p> <p>-----NOTES-----</p> <p>1. Isolation devices in high radiation areas may be verified by use of administrative means.</p> <p>2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.</p> <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days for isolation devices outside primary containment</p> <p><u>AND</u></p> <p>Prior to entering MODE 2 or 3 from MODE 4, if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days, for isolation devices inside primary containment</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two PCIVs.</p> <p>-----</p> <p>One or more penetration flow paths with two PCIVs inoperable for reasons other than Conditions D and E.</p>	<p>B.1</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>1 hour</p>

TSTF-269, R2

RAI 3.6.1.3-4
RAI 3.6.1.3-B
TSTF-207, R5

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C.NOTE..... Only applicable to penetration flow paths with only one PCIV.</p> <p>One or more penetration flow paths with one PCIV inoperable for reasons other than Conditions D and E.</p>	<p>C.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	72 hours
	<p><u>AND</u></p> <p>C.2NOTES..... 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means.</p> <p>Verify the affected penetration flow path is isolated.</p>	Once per 31 days

TSTF-30, R3
TSTF-207, R5

TSTF-269, R2

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more penetration flow paths with one or more MSIVs not within leakage rate limit.	D.1 Restore leakage rate to within limit.	8 hours
E. One or more penetration flow paths with LPCI or CS System testable check valve leakage limit not met.	E.1 Restore leakage rate to within limit.	72 hours
F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met in MODE 1, 2, or 3.	F.1 Be in MODE 3.	12 hours
	<u>AND</u> F.2 Be in MODE 4.	36 hours
G. Required Action and associated Completion Time of Condition A or B not met for PCIV(s) required to be OPERABLE during MODE 4 or 5.	G.1 Initiate action to suspend operations with a potential for draining the reactor vessel.	Immediately
	<u>OR</u> G.2 Initiate action to restore valve(s) to OPERABLE status.	Immediately

TS7F-207, RS

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.1NOTE.....</p> <p>Not required to be met when the 20 and 24 inch primary containment vent and purge valves are open for inerting, de-inerting, pressure control, ALARA or air quality considerations for personnel entry, or Surveillances that require the valves to be open as long as the full-flow line to Standby Gas Treatment (SGT) System is closed.</p> <p>.....</p> <p>Verify each 20 and 24 inch primary containment vent and purge valve is closed.</p>	<p>31 days</p>
<p>SR 3.6.1.3.2NOTES.....</p> <ol style="list-style-type: none"> 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. <p>.....</p> <p>Verify each primary containment isolation manual valve and blind flange that is located outside primary containment and not locked, sealed or otherwise secured and is required to be closed during accident conditions is closed.</p>	<p>31 days</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.3.3</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. <p>-----</p> <p>Verify each primary containment manual isolation valve and blind flange that is located inside primary containment and not locked, sealed or otherwise secured and is required to be closed during accident conditions is closed.</p>	<p>Prior to entering MODE 2 or 3 from MODE 4 if primary containment was de-inerted while in MODE 4, if not performed within the previous 92 days</p>
<p>SR 3.6.1.3.4</p> <p>Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.</p>	<p>31 days</p>
<p>SR 3.6.1.3.5</p> <p>Verify the isolation time of each power operated automatic PCIV, except for MSIVs, is within limits.</p>	<p>In accordance with the Inservice Testing Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.6.1.3.6 Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 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
SR 3.6.1.3.8 Verify each reactor instrumentation line EFCV actuates to the isolation position on a simulated instrument line break.	In accordance with the Inservice Testing Program
SR 3.6.1.3.9 Remove and test the explosive squib from each shear isolation valve of the TIP System.	24 months on a STAGGERED TEST BASIS
SR 3.6.1.3.10 Verify leakage rate through each MSIV is within limits of the Primary Containment Leakage Rate Testing Program.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.11 Verify the leakage rate of each air operated testable check valve associated with the LPCI and CS System vessel injection penetrations is < 10 gpm when hydrostatically tested at ≥ 1035 psig or < 11 scfm when pneumatically tested at ≥ 45 psig, at ambient temperature.	In accordance with the Primary Containment Leakage Rate Testing Program.

RAI 3.6.1.3-3

RAI 3.6.1.3-7

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Pressure

LC0 3.6.1.4 Drywell pressure shall be ≤ 1.95 psig.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell pressure not within limit.	A.1 Restore drywell pressure to within limit.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.4.1 Verify drywell pressure is within limit.	12 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.5 Drywell Air Temperature

LC0 3.6.1.5 Drywell average air temperature shall be $\leq 135^{\circ}\text{F}$.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell average air temperature not within limit.	A.1 Restore drywell average air temperature to within limit.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.5.1 Verify drywell average air temperature is within limit.	24 hours

3.6 CONTAINMENT SYSTEMS

3.6.1.6 Reactor Building-to-Suppression Chamber Vacuum Breakers

LC0 3.6.1.6 Each reactor building-to-suppression chamber vacuum breaker shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more lines with one reactor building-to-suppression chamber vacuum breaker not closed.	A.1 Close the open vacuum breaker.	72 hours
B. One or more lines with two reactor building-to-suppression chamber vacuum breakers not closed.	B.1 Close one open vacuum breaker.	1 hour
C. One line with one or more reactor building-to-suppression chamber vacuum breakers inoperable for opening.	C.1 Restore the vacuum breaker(s) to OPERABLE status.	72 hours

(continued)

Reactor Building-to-Suppression Chamber Vacuum Breakers
3.6.1.6

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two lines with one or more reactor building-to-suppression chamber vacuum breakers inoperable for opening.	D.1 Restore all vacuum breakers in one line to OPERABLE status.	1 hour
E. Required Action and Associated Completion Time not met.	E.1 Be in MODE 3.	12 hours
	<u>AND</u> E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.6.1NOTES..... 1. Not required to be met for vacuum breakers that are open during Surveillances. 2. Not required to be met for vacuum breakers open when performing their intended function. Verify each vacuum breaker is closed.	14 days
SR 3.6.1.6.2 Perform a functional test of each vacuum breaker.	In accordance with the Inservice Testing Program

(continued)

Reactor Building-to-Suppression Chamber Vacuum Breakers
3.6.1.6

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.3	Perform a CHANNEL CALIBRATION of each air operated vacuum breaker differential pressure instrument channel and verify the setpoint is ≤ 0.5 psid.	92 days
SR 3.6.1.6.4	Verify the full open setpoint of each self actuating vacuum breaker is ≤ 0.5 psid.	24 months

3.6 CONTAINMENT SYSTEMS

3.6.1.7 Suppression Chamber-to-Drywell Vacuum Breakers

LC0 3.6.1.7 Five suppression chamber-to-drywell vacuum breakers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One suppression chamber-to-drywell vacuum breaker inoperable for opening.	A.1 Restore the vacuum breaker to OPERABLE status.	72 hours
B. One suppression chamber-to-drywell vacuum breaker not closed.	B.1 Close the open vacuum breaker.	2 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

RAI 3.6.1.7-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.7.1 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be met for vacuum breakers that are open during Surveillances. 2. Not required to be met for vacuum breakers open when performing their intended function. <p>-----</p> <p>Verify each vacuum breaker is closed.</p>	<p>14 days</p>
<p>SR 3.6.1.7.2 Perform a functional test of each required vacuum breaker.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.1.7.3 Verify the opening setpoint of each required vacuum breaker is ≤ 0.5 psid.</p>	<p>24 months</p>

E

RAI 3.6.1.7-4

3.6 CONTAINMENT SYSTEMS

3.6.1.8 Main Steam Leakage Collection (MSLC) System

LCO 3.6.1.8 Two MSLC subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.8.1	Verify each MSLC 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 or can be aligned to the correct position.	31 days
SR 3.6.1.8.2	Perform a system functional test of each MSLC subsystem.	24 months

3.6 CONTAINMENT SYSTEMS

3.6.1.9 Residual Heat Removal (RHR) Containment Spray System

LCO 3.6.1.9 Two RHR containment spray subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR containment spray subsystem inoperable.	A.1 Restore RHR containment spray subsystem to OPERABLE status.	7 days
B. Two RHR containment spray subsystems inoperable.	B.1 Restore one RHR containment spray subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.9.1 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 or can be aligned to the correct position.	31 days
SR 3.6.1.9.2 Verify each required RHR pump develops a flow rate of \geq 7750 gpm on recirculation flow through the associated heat exchanger to the suppression pool.	In accordance with the Inservice Testing Program
SR 3.6.1.9.3 Verify each spray nozzle is unobstructed.	10 years

3.6 CONTAINMENT SYSTEMS

3.6.2.1 Suppression Pool Average Temperature

LC0 3.6.2.1 Suppression pool average temperature shall be:

- a. $\leq 95^{\circ}\text{F}$ with THERMAL POWER $> 1\%$ RTP and no testing that adds heat to the suppression pool is being performed.
- b. $\leq 105^{\circ}\text{F}$ with THERMAL POWER $> 1\%$ RTP and testing that adds heat to the suppression pool is being performed;
and
- c. $\leq 110^{\circ}\text{F}$ with THERMAL POWER $\leq 1\%$ RTP.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Suppression pool average temperature $> 95^{\circ}\text{F}$ but $\leq 110^{\circ}\text{F}$. <u>AND</u> THERMAL POWER $> 1\%$ RTP. <u>AND</u> Not performing testing that adds heat to the suppression pool.	A.1 Verify suppression pool average temperature $\leq 110^{\circ}\text{F}$. <u>AND</u> A.2 Restore suppression pool average temperature to $\leq 95^{\circ}\text{F}$.	Once per hour 24 hours

(continued)

TSTF-206-RO

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time of Condition A not met.	B.1 Reduce THERMAL POWER to $\leq 1\%$ RTP.	12 hours
C. Suppression pool average temperature $> 105^{\circ}\text{F}$. <u>AND</u> THERMAL POWER $> 1\%$ RTP. <u>AND</u> Performing testing that adds heat to the suppression pool.	C.1 Suspend all testing that adds heat to the suppression pool.	Immediately
D. Suppression pool average temperature $> 110^{\circ}\text{F}$ but $\leq 120^{\circ}\text{F}$.	D.1 Place the reactor mode switch in the shutdown position. <u>AND</u> D.2 Verify suppression pool average temperature $\leq 120^{\circ}\text{F}$. <u>AND</u> D.3 Be in MODE 4.	Immediately Once per 30 minutes 36 hours

TSTF-206, R0

Suppression Pool Average Temperature
3.6.2.1

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
(continued)		
E. Suppression pool average temperature > 120°F.	E.1 Depressurize the reactor vessel to < 200 psig.	12 hours
	<u>AND</u>	
	E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.1.1 Verify suppression pool average temperature is within the applicable limits.	24 hours <u>AND</u> 5 minutes when performing testing that adds heat to the suppression pool

3.6 CONTAINMENT SYSTEMS

3.6.2.2 Suppression Pool Water Level

LCO 3.6.2.2 Suppression pool water level shall be ≥ 13.88 ft and ≤ 14 ft.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Suppression pool water level not within limits.	A.1 Restore suppression pool water level to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.2.1 NOTE..... Not required to be met for up to 4 hours during Surveillances that cause suppression pool water level to be outside the limit. Verify suppression pool water level is within limits.	24 hours

3.6 CONTAINMENT SYSTEMS

3.6.2.3 Residual Heat Removal (RHR) Suppression Pool Cooling

LCO 3.6.2.3 Two RHR suppression pool cooling subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR suppression pool cooling subsystem inoperable.	A.1 Restore RHR suppression pool cooling subsystem to OPERABLE status.	7 days
B. Two RHR suppression pool cooling subsystems inoperable.	B.1 Restore one RHR suppression pool cooling subsystem to OPERABLE status.	8 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3.	12 hours
	<u>AND</u> C.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.2.3.1 Verify each RHR suppression pool cooling 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 or can be aligned to the correct position.</p>	<p>31 days</p>
<p>SR 3.6.2.3.2 Verify each required RHR pump develops a flow rate \geq 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.</p>	<p>In accordance with the Inservice Testing Program</p>

3.6 CONTAINMENT SYSTEMS

3.6.2.4 Drywell-to-Suppression Chamber Differential Pressure

LCO 3.6.2.4 The drywell pressure shall be maintained ≥ 1.7 psi above the pressure of the suppression chamber.

APPLICABILITY: MODE 1 during the time period:

- a. From 24 hours after THERMAL POWER is $> 15\%$ RTP following startup, to
- b. 24 hours prior to reducing THERMAL POWER to $< 15\%$ RTP prior to the next scheduled reactor shutdown.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Drywell-to-suppression chamber differential pressure not within limit.	A.1 Restore differential pressure to within limit.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to $\leq 15\%$ RTP.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.2.4.1NOTE..... Not required to be met for 4 hours during Surveillances that cause or require the drywell-to-suppression chamber differential pressure to be outside the limit. Verify drywell-to-suppression chamber differential pressure is within limit.</p>	<p>12 hours</p>

3.6 CONTAINMENT SYSTEMS

3.6.3.1 Primary Containment Oxygen Concentration

LC0 3.6.3.1 The primary containment oxygen concentration shall be < 4.0 volume percent.

APPLICABILITY: MODE 1 during the time period:

- a. From 24 hours after THERMAL POWER is > 15% RTP following startup, to
- b. 24 hours prior to reducing THERMAL POWER to < 15% RTP prior to the next scheduled reactor shutdown.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Primary containment oxygen concentration not within limit.	A.1 Restore oxygen concentration to within limit.	24 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to \leq 15% RTP.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.1.1 Verify primary containment oxygen concentration is within limits.	7 days

3.6 CONTAINMENT SYSTEMS

3.6.3.2 Containment Atmosphere Dilution (CAD) System

LCO 3.6.3.2 Two CAD subsystems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One CAD subsystem inoperable.	<p>A.1NOTE..... LCO 3.0.4 is not applicable.</p> <p>Restore CAD subsystem to OPERABLE status.</p>	30 days
B. Two CAD subsystems inoperable.	<p>B.1 Verify by administrative means that the hydrogen control function is maintained.</p> <p><u>AND</u></p> <p>B.2 Restore one CAD subsystem to OPERABLE status.</p>	<p>1 hour</p> <p><u>AND</u></p> <p>Once per 12 hours thereafter</p> <p>7 days</p>
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	Verify ≥ 1400 gal of liquid nitrogen are contained in each CAD subsystem.	31 days
SR 3.6.3.2.2	Verify each CAD 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 or can be aligned to the correct position.	31 days

3.6 CONTAINMENT SYSTEMS

3.6.4.1 Secondary Containment

LCO 3.6.4.1 The secondary containment shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the
secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor
vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Secondary containment inoperable in MODE 1, 2, or 3.	A.1 Restore secondary containment to OPERABLE status.	4 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 Be in MODE 3.	12 hours
	<u>AND</u> B.2 Be in MODE 4.	36 hours
C. Secondary containment inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	C.1NOTE..... LCO 3.0.3 is not applicable. Suspend movement of irradiated fuel assemblies in the secondary containment. <u>AND</u>	Immediately (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2 Suspend CORE ALTERATIONS.	Immediately
	AND C.3 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify secondary containment vacuum is ≥ 0.25 inch of vacuum water gauge.	24 hours
SR 3.6.4.1.2	Verify all secondary containment equipment hatches are closed and sealed.	31 days
SR 3.6.4.1.3	Verify one secondary containment access door in each access opening is closed.	31 days
SR 3.6.4.1.4	Verify the secondary containment can be maintained ≥ 0.25 inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate ≤ 6000 cfm.	24 months on a STAGGERED TEST BASIS for each SGT subsystem

TSTF-322, R2

3.6 CONTAINMENT SYSTEMS

3.6.4.2 Secondary Containment Isolation Valves (SCIVs)

LCO 3.6.4.2 Each SCIV shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the
secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor
vessel (OPDRVs).

ACTIONS

- NOTES-----
1. Penetration flow paths may be unisolated intermittently under administrative controls.
 2. Separate Condition entry is allowed for each penetration flow path.
 3. Enter applicable Conditions and Required Actions for systems made inoperable by SCIVs.
-

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more penetration flow paths with one SCIV inoperable.	A.1 Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange. <u>AND</u>	8 hours (continued)

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	<p>A.2</p> <p>-----NOTE-----</p> <ol style="list-style-type: none"> 1. Isolation devices in high radiation areas may be verified by use of administrative means. 2. Isolation devices that are locked, sealed, or otherwise secured may be verified by use of administrative means. <p>-----</p> <p>Verify the affected penetration flow path is isolated.</p>	<p>Once per 31 days</p>
<p>B. -----NOTE-----</p> <p>Only applicable to penetration flow paths with two isolation valves.</p> <p>-----</p> <p>One or more penetration flow paths with two SCIVs inoperable.</p>	<p>B.1</p> <p>Isolate the affected penetration flow path by use of at least one closed and de-activated automatic valve, closed manual valve, or blind flange.</p>	<p>4 hours</p>
<p>C. Required Action and associated Completion Time of Condition A or B not met in MODE 1, 2, or 3.</p>	<p>C.1 Be in MODE 3.</p> <p><u>AND</u></p> <p>C.2 Be in MODE 4.</p>	<p>12 hours</p> <p>36 hours</p>

TSTF-267, R2

(continued)

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

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

TSIF-45, R2
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3.6 CONTAINMENT SYSTEMS

3.6.4.3 Standby Gas Treatment (SGT) System

LCO 3.6.4.3 Two SGT subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
During movement of irradiated fuel assemblies in the
secondary containment,
During CORE ALTERATIONS,
During operations with a potential for draining the reactor
vessel (OPDRVs).

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One SGT subsystem inoperable.	A.1 Restore SGT subsystem to OPERABLE status.	7 days
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 during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.NOTE..... LCO 3.0.3 is not applicable.	Immediately (continued)
	C.1 Place OPERABLE SGT subsystem in operation. <u>OR</u>	

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2.1 Suspend movement of irradiated fuel assemblies in secondary containment.	Immediately
	<u>AND</u>	
	C.2.2 Suspend CORE ALTERATIONS.	Immediately
	<u>AND</u>	
	C.2.3 Initiate action to suspend OPDRVs.	Immediately
D. Two SGT subsystems inoperable in MODE 1, 2, or 3.	D.1 Enter LCO 3.0.3	Immediately
E. Two SGT subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs.	E.1 -----NOTE----- LCO 3.0.3 is not applicable. -----	
	Suspend movement of irradiated fuel assemblies in 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 3.6.4.3.1	Operate each SGT subsystem for ≥ 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	Manually cycle each SGT subsystem filter cooling cross-tie valve.	24 months

RAI 3.6.4.3-2, RAI 3.6.4.3-3