UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 27, 2010

Mr. Michael J. Pacilio
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3 - ISSUANCE OF AMENDMENTS RE: ADOPTION OF TECHNICAL SPECIFICATION TASK FORCE (TSTF) TRAVELER 425, REVISION 3, RELOCATE SURVEILLANCE FREQUENCIES TO LICENSEE CONTROL (TAC NOS. ME2184 AND ME2185)

Dear Mr. Pacilio:

The Nuclear Regulatory Commission (NRC) has issued the enclosed Amendment Nos. 278 and 281 to Renewed Facility Operating License Nos. DPR-44 and DPR-56 for the Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated August 31, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092470153). The amendments issued with this letter revise the PBAPS Units 2 and 3 TSs to adopt approved Technical Specification Task Force (TSTF) Traveler 425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control - Risk-Informed Technical Specification Task Force Initiative 5b," (ADAMS Accession No. ML090850627).

When implemented, TSTF-425, relocates most periodic frequencies of TS surveillances to a licensee-controlled program, the "Surveillance Frequency Control Program" (SFCP), and provides requirements for the new program in the Administrative Controls section of the TS. The new SFCP is added to the Administrative Controls of TS Section 5 as Specification 5.5.14. The changes proposed by the licensee to the Administrative Controls of the TS to incorporate the SFCP include a specific reference to Nuclear Energy Institute (NEI) 04-10, "Risk-Informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies," Revision 1 (ADAMS Accession No. ML071360456), as the basis for making any changes to the surveillance frequencies once they are relocated out of the TS.

All work is complete on TAC Nos. ME2184 and ME2185. Accordingly, these TAC Nos. will be closed. A copy of our Safety Evaluation is enclosed and a Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

John D. Hughey

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosures:
1. Amendment No. 278 to Renewed DPR-44
2. Amendment No. 281 to Renewed DPR-56
3. Safety Evaluation

cc: Distribution via ListServ

UNITED STATES
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EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 278
License No. DPR-44

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company), and PSEG Nuclear LLC (the licensees), dated August 31, 2009, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Renewed Facility Operating License No. DPR-44 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 278 , are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

3. Implementation Requirements:

This license amendment is effective as of the date of issuance, and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Bobby Millar for HKC

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the License
and Technical Specifications

Date of Issuance: August 27, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 278

RENEWED FACILITY OPERATING LICENSE NO. DPR-44

DOCKET NO. 50-277

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
Page 3	Page 3

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert	Remove	Insert	Remove	Insert	Remove	Insert
3.1-10	3.1-10	3.3-46	3.3-46	3.6-13	3.6-13	3.8-14	3.8-14
3.1-13	3.1-13	3.3.51	3.3-51	3.6-14	3.6-14	3.8-15	3.8-15
3.1-17	3.1-17	n/a	3.3-51a	3.6-15	3.6-15	3.8-16	3.8-16
3.1-19	3.1-19	3.3-57	3.3-57	3.6-16	3.6-16	3.8-17	3.8-17
3.1-21	3.1-21	3.3-60	3.3-60	3.6-17	3.6-17	3.8-18	3.8-18
3.1-22	3.1-22	3.3-64	3.3-64	3.6-19	3.6-19	3.8-19	3.8-19
3.1-23	3.1-23	3.3-67	3.3-67	3.6-20	3.6-20	3.8-27	3.8-27
3.1-27	3.1-27	3.3-68	3.3-68	3.6-22	3.6-22	3.8-30	3.8-30
3.2-1	3.2-1	3.4-4	3.4-4	3.6-25	3.6-25	3.8-31	3.8-31
3.2-2	3.2-2	3.4-7	3.4-7	3.6-26	3.6-26	3.8-32	3.8-32
3.2-4	3.2-4	3.4-9	3.4-9	3.6-28	3.6-28	3.8-39	3.8-39
3.3-3a	3.3-3a	3.4-11	3.4-11	3.6-30	3.6-30	3.8-43	3.8-43
3.3-4	3.3-4	3.4-13	3.4-13	3.6-33	3.6-33	3.8-46	3.8-46
3.3-5	3.3-5	3.4-15	3.4-15	3.6-35	3.6-35	3.9-2	3.9-2
3.3-6	3.3-6	3.4-18	3.4-18	3.6-39	3.6-39	3.9-3	3.9-3
n/a	3.3-6a	3.4-20	3.4-20	3.6-42	3.6-42	3.9-4	3.9-4
3.3-11	3.3-11	3.4-22	3.4-22	3.7-2	3.7-2	3.9-5	3.9-5
3.3-12	3.3-12	3.4-24	3.4-24	3.7-4	3.7-4	3.9-8	3.9-8
3.3-13	3.3-13	3.4-28	3.4-28	3.7-6	3.7-6	3.9-9	3.9-9
3.3-18	3.3-18	3.5-4	3.5-4	3.7-9	3.7-9	3.9-12	3.9-12
3.3-19	3.3-19	3.5-5	3.5-5	3.7-11	3.7-11	3.9-15	3.9-15
3.3-20	3.3-20	3.5-6	3.5-6	3.7-13	3.7-13	3.10-5	3.10-5
3.3-23	3.3-23	3.5-7	3.5-7	3.7-14	3.7-14	3.10-8	3.10-8
3.3-25	3.3-25	3.5-9	3.5-9	3.8-6	3.8-6	3.10-11	3.10-11
3.3-27	3.3-27	3.5-10	3.5-10	3.8-7	3.8-7	3.10-12	3.10-12
3.3-28	3.3-28	3.5-11	3.5-11	3.8-8	3.8-8	3.10-14	3.10-14
3.3-30	3.3-30	3.5-13	3.5-13	3.8-9	3.8-9	3.10-15	3.10-15
3.3-31	3.3-31	3.5-14	3.5-14	3.8-10	3.8-10	3.10-17	3.10-17
3.3-31b	3.3-31b	3.6-2	3.6-2	3.8-11	3.8-11	3.10-22	3.10-22
3.3-31c	3.3-31c	3.6-7	3.6-7	33.8-12	3.8-12	3.10-23	3.10-23
3.3-38	3.3-38	3.6-12	3.6-12	3.8-13	3.8-13	5.0-18a	5.0-18a

(5) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the Peach Bottom Atomic Power Station, Unit 2, at steady state reactor core power levels not in excess of 3514 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 278 , are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

(3) Physical Protection

Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans[1], submitted by letter dated May 17, 2006, is entitled: "Peach Bottom Atomic Power Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security Program, Revision 3." The set contains Safeguards Information protected under 10 CFR 73.21.

(4) Fire Protection

The Exelon Generation Company shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility, and as approved in the NRC Safety Evaluation Report (SER) dated May 23, 1979, and Supplements dated August 14, September 15, October 10 and November 24, 1980, and in the NRC SERs dated September 16, 1993, and August 24, 1994, subject to the following provision:

The Exelon Generation Company may make changes to the approved

[1] The Training and Qualification Plan and Safeguards Contingency Plan are Appendices to the Security Plan.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.3.1	Determine the position of each control rod.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.3.2	Deleted	
SR 3.1.3.3	----------NOTE---------- Not required to be performed until 31 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RWM. ---------- Insert each withdrawn control rod at least one notch.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.3.4	Verify each control rod scram time from fully withdrawn to notch position 06 is ≤ 7 seconds.	In accordance with SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.4.2	Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 800 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.4.3	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with any reactor steam dome pressure.	Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect scram time
SR 3.1.4.4	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 800 psig.	Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time AND Prior to exceeding 40% RTP after fuel movement within the affected core cell

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more control rod scram accumulators inoperable with reactor steam dome pressure < 900 psig.	C.1 Verify all control rods associated with inoperable accumulators are fully inserted.	Immediately upon discovery of charging water header pressure < 940 psig
	AND	
	C.2 Declare the associated control rod inoperable.	1 hour
D. Required Action B.1 or C.1 and associated Completion Time not met.	D.1 --------NOTE--------- Not applicable if all inoperable control rod scram accumulators are associated with fully inserted control rods. ---------- Place the reactor mode switch in the shutdown position.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.5.1	Verify each control rod scram accumulator pressure is ≥ 940 psig.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
B. Nine or more OPERABLE control rods not in compliance with the analyzed rod position sequence.	B.1	--------NOTE--------- RWM may be bypassed as allowed by LCO 3.3.2.1. ----------	
		Suspend withdrawal of control rods.	Immediately
	AND		
	B.2	Place the reactor mode switch in the shutdown position.	1 hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.6.1	Verify all OPERABLE control rods comply with the analyzed rod position sequence.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two SLC subsystems inoperable for reasons other than Condition A.	C.1 Restore one SLC subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.7.1	Verify level of sodium pentaborate solution in the SLC tank is ≥ 46%.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.2	Verify temperature of sodium pentaborate solution is ≥ 53°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.3	Verify temperature of pump suction piping is ≥ 53°F.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.4	Verify continuity of explosive charge.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.5	Verify the concentration of boron in solution is ≤ 9.82% weight and within the limits of Table 3.1.7-1.	In accordance with the Surveillance Frequency Control Program. AND Once within 24 hours after water or boron is added to solution AND Once within 24 hours after solution temperature is restored within limits
SR 3.1.7.6	Verify each SLC subsystem manual and power operated 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.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.7	Verify the quantity of B-10 stored in the SLC tank is ≥ 162.7 lbm.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.8	Verify each pump develops a flow rate ≥ 43.0 gpm at a discharge pressure ≥ 1255 psig.	In accordance with the Inservice Testing Program
SR 3.1.7.9	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.10	Verify sodium pentaborate atom percent B-10 enrichment is within the limits of Table 3.1.7-1.	Once within 8 hours after addition to SLC tank

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.8.1	----------NOTE---------- Not required to be met on vent and drain valves closed during performance of SR 3.1.8.2 or SR 3.3.1.1.9 for Function 13 of Table 3.3.1.1-1. ---------- Verify each SDV vent and drain valve is open.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.8.2	Cycle each SDV vent and drain valve to the fully closed and fully open position.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.8.3	Verify each SDV vent and drain valve closes in ≤ 15 seconds after receipt of an actual or simulated scram signal.	In accordance with the Surveillance Frequency Control Program.

3.2 POWER DISTRIBUTION LIMITS

3.2.1 AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)

LCO 3.2.1 All APLHGRs shall be less than or equal to the limits specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any APLHGR not within limits.	A.1 Restore APLHGR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify all APLHGRs are less than or equal to the limits specified in the COLR.	Once within 12 hours after ≥ 25% RTP <u>AND</u> In accordance with the Surveillance Frequency Control Program.

3.2 POWER DISTRIBUTION LIMITS

3.2.2 MINIMUM CRITICAL POWER RATIO (MCPR)

LCO 3.2.2 All MCPRs shall be greater than or equal to the MCPR operating limits specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any MCPR not within limits.	A.1 Restore MCPR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.2.1 Verify all MCPRs are greater than or equal to the limits specified in the COLR.	Once within 12 hours after ≥ 25% RTP AND In accordance with the Surveillance Frequency Control Program.

(continued)

3.2 POWER DISTRIBUTION LIMITS

3.2.3 LINEAR HEAT GENERATION RATE (LHGR)

LCO 3.2.3 All LHGRs shall be less than or equal to the limits specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any LHGR not within limits.	A.1 Restore LHGR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.3.1 Verify all LHGRs are less than or equal to the limits specified in the COLR.	Once within 12 hours after ≥ 25% RTP AND In accordance with the Surveillance Frequency Control Program.

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.

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.2	----------NOTE---------- Not required to be performed until 12 hours after THERMAL POWER ≥ 25% RTP. ----------	
	Verify the absolute difference between the average power range monitor (APRM) channels and the calculated power is ≤ 2% RTP while operating at ≥ 25% RTP.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.3	(Not Used.)	
SR 3.3.1.1.4	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.5	----------NOTE---------- Not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.6	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.7	(Not Used.)	
SR 3.3.1.1.8	Calibrate the local power range monitors.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.9	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.10	----------NOTE---------- Radiation detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.11	----------NOTES---------- 1. For Function 2.a, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. 2. For Functions 2.b and 2.f, the CHANNEL FUNCTIONAL TEST includes the recirculation flow input processing, excluding the flow transmitters. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.12	----------NOTES---------- 1. Neutron detectors are excluded. 2. For Function 1, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. 3. For Functions 2.b and 2.f, the recirculation flow transmitters that feed the APRMs are included. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.13	Verify Turbine Stop Valve–Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure–Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.14	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.15	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.16	Calibrate each radiation detector.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.17	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.18	Verify the RPS RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.19	Verify OPRM is not bypassed when APRM Simulated Thermal Power is ≥29.5% and recirculation drive flow is <60%.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more required WRNMs inoperable in MODE 3 or 4.	D.1 Fully insert all insertable control rods.	1 hour
	AND	
	D.2 Place reactor mode switch in the shutdown position.	1 hour
E. One or more required WRNMs inoperable in MODE 5.	E.1 Suspend CORE ALTERATIONS except for control rod insertion.	Immediately
	AND	
	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 conditions.

SURVEILLANCE	FREQUENCY
SR 3.3.1.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.2.2	----------NOTES---------- 1. Only required to be met during CORE ALTERATIONS. 2. One WRNM may be used to satisfy more than one of the following. ---------- Verify an OPERABLE WRNM detector is located in: a. The fueled region; b. The core quadrant where CORE ALTERATIONS are being performed, when the associated WRNM is included in the fueled region; and c. A core quadrant adjacent to where CORE ALTERATIONS are being performed, when the associated WRNM is included in the fueled region.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.2.3	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.2.4	----------NOTES---------- 1. Not required to be met with less than or equal to four fuel assemblies adjacent to the WRNM and no other fuel assemblies in the associated core quadrant. 2. Not required to be met during spiral unloading. ---------- Verify count rate is: a. ≥ 3.0 cps; or b. Within the limits of Figure 3.3.1.2-1.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.2.5	----------NOTE---------- Not required to be performed until 12 hours after WRNMs indicate 125E-5 % power or below. ---------- Perform CHANNEL FUNCTIONAL TEST and determination of signal to noise ratio.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.2.6	----------NOTES---------- 1. Neutron detectors are excluded. 2. Not required to be performed until 12 hours after WRNMs indicate 125E-5 % power or below. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.

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
	AND	
	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.

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.1	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.2	----------NOTE---------- Not required to be performed until 1 hour after any control rod is withdrawn at ≤ 10% RTP in MODE 2. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.3	----------NOTE---------- Not required to be performed until 1 hour after THERMAL POWER is ≤ 10% RTP in MODE 1. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.4	----------NOTE---------- Neutron detectors are excluded. ---------- Verify the RBM: a. Low Power Range—Upscale Function is not bypassed when THERMAL POWER is ≥ 28.4% RTP. b. Intermediate Power Range—Upscale Function is not bypassed when THERMAL POWER is ≥ 63.4% RTP. c. High Power Range—Upscale Function is not bypassed when THERMAL POWER is ≥ 83.4% RTP.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.5	----------NOTE---------- Neutron detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.6	Verify the RWM is not bypassed when THERMAL POWER is ≤ 10% RTP.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.7	----------NOTE---------- Not required to be performed until 1 hour after reactor mode switch is in the shutdown position. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.8	Verify control rod sequences input to the RWM are in conformance with the analyzed rod position sequence.	Prior to declaring RWM OPERABLE following loading of sequence into RWM

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 DFCS high water level trip capability is maintained.

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.2.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 49.0 inches.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including valve actuation.	In accordance with the Surveillance Frequency Control Program.

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 for each required PAM instrumentation channel.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.3.1.2	Deleted	
SR 3.3.3.1.3	Perform CHANNEL CALIBRATION for each required PAM instrumentation channel.	In accordance with the Surveillance Frequency Control Program.

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

----------NOTE----------
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 REQUIREMENTS		FREQUENCY
SR 3.3.3.2.1	Verify each required control circuit and transfer switch is capable of performing the intended function.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE REQUIREMENTS		FREQUENCY
SR 3.3.3.2.2	Perform CHANNEL CALIBRATION for each required instrumentation channel.	In accordance with the Surveillance Frequency Control Program.

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
	OR		
	D.2	Be in MODE 2.	6 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 ATWS-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.1.3	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low (Level 2): ≥ -48.0 inches; and b. Reactor Pressure—High: ≤ 1106.0 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained.	B.1 Restore EOC-RPT 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 an inoperable RPT breaker. ---------- Remove the affected recirculation pump from service.	4 hours
	OR	
	C.2 Reduce THERMAL POWER to < 29.5% 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 the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.1	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV–Closure: ≤ 10% closed; and TCV Fast Closure, Trip Oil Pressure–Low: ≥ 500 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.4	Verify TSV–Closure and TCV Fast Closure, Trip Oil Pressure–Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.5	----------NOTE---------- Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.2.6. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.6	Determine RPT breaker interruption time.	In accordance with the Surveillance Frequency Control Program.

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 and 3.f; and (b) for up to 6 hours for Functions other than 3.c and 3.f provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.4	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

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 Function 2; 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.2.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.2.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

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 for up to 6 hours provided the associated Function maintains primary containment isolation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.3	----------NOTE---------- For Function 1.d, radiation detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.4	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.6.1.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.6	Calibrate each radiation detector.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

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.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.4	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Place the associated MCREV subsystem(s) in operation.	1 hour
	OR	
	B.2 Declare associated MCREV subsystem(s) inoperable.	1 hour

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 MCREV System initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.7.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.7.1.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 400 cpm.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.7.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

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

1. Refer to Table 3.3.8.1-1 to determine which SRs apply for each Unit 2 LOP Function. SR 3.3.8.1.5 is applicable only to the Unit 3 LOP instrumentation.

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

SURVEILLANCE		FREQUENCY
SR 3.3.8.1.1	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.2	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.3	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.5	For required Unit 3 LOP instrumentation Functions, the SRs of Unit 3 Specification 3.3.8.1 are applicable.	In accordance with applicable SRs

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met in MODE 3, 4, or 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 3.3.8.2.1	----------NOTE---------- Only required to be performed prior to entering MODE 2 or 3 from MODE 4, when in MODE 4 for ≥ 24 hours. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.2.2	Perform CHANNEL CALIBRATION for each RPS motor generator set electric power monitoring assembly. The Allowable Values shall be: a. Overvoltage ≤ 133 V, with time delay set to ≤ 1.5 seconds. b. Undervoltage ≥ 111 V, with time delay set to ≤ 1.5 seconds. c. Underfrequency ≥ 56.8 Hz, with time delay set to ≤ 7.0 seconds.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.3	Perform CHANNEL CALIBRATION for each RPS alternate power supply electric power monitoring assembly. The Allowable Values shall be: a. Overvoltage ≤ 133 V, with time delay set to ≤ 1.5 seconds. b. Undervoltage ≥ 111 V, with time delay set to ≤ 4.0 seconds. c. Underfrequency ≥ 56.8 Hz, with time delay set to ≤ 1.5 seconds.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.2.4	Perform a system functional test.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	----------NOTE---------- Not required to be performed until 24 hours after both recirculation loops are in operation. ---------- Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is: a. $\leq 10.25 \times 10^6$ lbm/hr when operating at $< 71.75 \times 10^6$ lbm/hr; and b. $\leq 5.125 \times 10^6$ lbm/hr when operating at $\geq 71.75 \times 10^6$ lbm/hr.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.2.1	----------NOTES---------- 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. ---------- Verify at least one of the following criteria (a, b, or c) is satisfied for each operating recirculation loop: a. Recirculation pump flow to speed ratio differs by ≤ 5% from established patterns, and jet pump loop flow to recirculation pump speed ratio differs by ≤ 5% from established patterns. b. Each jet pump diffuser to lower plenum differential pressure differs by ≤ 20% from established patterns. c. Each jet pump flow differs by ≤ 10% from established patterns.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the required SRVs and SVs are as follows: Number of SRVs — Setpoint (psig) 4 — 1135 ± 11.0 4 — 1145 ± 11.0 3 — 1155 ± 12.0 Number of SVs — Setpoint (psig) 2 — 1260 ± 13.0	In accordance with the Inservice Testing Program
SR 3.4.3.2	Verify each required SRV actuator strokes when manually actuated in the depressurization mode.	In accordance with the Surveillance Frequency Control Program.

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. OR Pressure boundary LEAKAGE exists.	C.1 Be in MODE 3. AND 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.	In accordance with the Surveillance Frequency Control Program.

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. AND C.2 Be in MODE 4.	12 hours 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 primary containment atmospheric monitoring system.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.5.2	Perform a CHANNEL FUNCTIONAL TEST of required leakage detection instrumentation.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.5.3	Perform a CHANNEL CALIBRATION of required leakage detection instrumentation.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2.2.1 Be in MODE 3.	12 hours
	AND	
	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 ≤ 0.2 μCi/gm.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	----------NOTE---------- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR shutdown cooling isolation pressure. ---------- Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. No RHR shutdown cooling subsystem in operation. AND No recirculation pump in operation.	B.1 Verify reactor coolant circulating by an alternate method.	1 hour from discovery of no reactor coolant circulation AND Once per 12 hours thereafter
	AND B.2 Monitor reactor coolant temperature and pressure.	Once per hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.8.1	Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

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.	Immediately
	AND	
	C.2 Determine RCS is acceptable for operation.	Prior to entering MODE 2 or 3.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.9.1	----------NOTE---------- Only required to be performed during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing. ----------	
	Verify: a. RCS pressure and RCS temperature are within the applicable limits specified in Figures 3.4.9-1 and 3.4.9-2; and b. RCS heatup and cooldown rates are ≤ 100°F in any 1 hour period.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.9.5	----------NOTE---------- Only required to be performed when tensioning the reactor vessel head bolting studs. ---------- Verify reactor vessel flange and head flange temperatures are > 70°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.9.6	----------NOTE---------- Not required to be performed until 30 minutes after RCS temperature ≤ 80°F in MODE 4. ---------- Verify reactor vessel flange and head flange temperatures are > 70°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.9.7	----------NOTE---------- Not required to be performed until 12 hours after RCS temperature ≤ 100°F in MODE 4. ---------- Verify reactor vessel flange and head flange temperatures are > 70°F.	In accordance with the Surveillance Frequency Control Program.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 Reactor Steam Dome Pressure

LCO 3.4.10 The reactor steam dome pressure shall be ≤ 1053 psig.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Reactor steam dome pressure not within limit.	A.1 Restore reactor steam dome pressure to within limit.	15 minutes
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.10.1 Verify reactor steam dome pressure is ≤ 1053 psig.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.2	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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.3	Verify ADS nitrogen supply header pressure is ≥ 85 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.4	Verify the LPCI cross tie valve is closed and power is removed from the valve operator.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.5	----------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 3.5.1.6	Verify automatic transfer of the power supply from the normal source to the alternate source for each LPCI subsystem inboard injection valve and each recirculation pump discharge valve.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.7	----------NOTE---------- For the core spray pumps, SR 3.5.1.7 may be met using equivalent values for flow rate and test pressure determined using pump curves. ---------- Verify the following ECCS pumps develop the specified flow rate against a system head corresponding to the specified reactor pressure.	In accordance with the Surveillance Frequency Control Program.

SYSTEM	FLOW RATE	NO. OF PUMPS	SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE OF
Core Spray	≥ 3,125 gpm	1	≥ 105 psig
LPCI	≥ 10,900 gpm	1	≥ 20 psig

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
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 ≤ 1053 and ≥ 940 psig, the HPCI pump can develop a flow rate ≥ 5000 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.9	----------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 ≤ 175 psig, the HPCI pump can develop a flow rate ≥ 5000 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.10	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.11	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.12	Verify each ADS valve actuator strokes when manually actuated in the depressurization mode.	In accordance with the Surveillance Frequency Control Program.

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
	AND	
	D.2 Initiate action to restore one standby gas treatment subsystem for Unit 2 to OPERABLE status.	Immediately
	AND	
	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 ≥ 11.0 ft.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	Verify, for each required core spray (CS) subsystem, the: a. Suppression pool water level is ≥ 11.0 ft; or b. ----------NOTE---------- Only one required CS subsystem may take credit for this option during OPDRVs. ---------- Condensate storage tank water level is ≥ 17.3 ft.	In accordance with the Surveillance Frequency Control Program.
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.2.4	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.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.5	----------NOTE---------- For the CS pumps, SR 3.5.2.5 may be met using equivalent values for flow rate and test pressure determined using pump curves. ---------- Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure. SYSTEM / FLOW RATE / NO. OF PUMPS / SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE OF CS / ≥ 3,125 gpm / 1 / ≥ 105 psig LPCI / ≥ 10,900 gpm / 1 / ≥ 20 psig	In accordance with the Surveillance Frequency Control Program.
SR 3.5.2.6	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.

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.	In accordance with the Surveillance Frequency Control Program.
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.3.3	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 1053 psig and ≥ 940 psig, the RCIC pump can develop a flow rate ≥ 600 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.3.4	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 175 psig, the RCIC pump can develop a flow rate ≥ 600 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.3.5	----------NOTE---------- Vessel injection may be excluded. ---------- Verify the RCIC System actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1.1	Perform required visual examinations and leakage rate testing except for primary containment air lock testing, in accordance with the Primary Containment Leakage Rate Testing Program.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.1.2	Verify drywell to suppression chamber bypass leakage is equivalent to a hole ≤ 1.0 inches in diameter.	In accordance with the Surveillance Frequency Control Program. AND -----NOTE------ Only required after two consecutive tests fail and continues until two consecutive tests pass ---------- 12 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.2.2	Verify only one door in the primary containment air lock can be opened at a time.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Purge/Vent flowpath open for an accumulated time greater than 90 hours for the calendar year while in MODE 1 or 2 with Reactor Pressure greater than 100 psig.	E.1	Isolate the penetration.	4 hours
	OR		
	E.2.1	Be in MODE 3.	12 hours
		AND	
	E.2.2	Be in MODE 4.	36 hours
F. Required Action and associated Completion Time of Condition A, B, C, or D not met in MODE 1, 2, or 3.	F.1	Be in MODE 3.	12 hours
	AND		
	F.2	Be in MODE 4.	36 hours
G. Required Action and associated Completion Time of Condition A, B, C, or D 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
	OR		
	G.2	Initiate action to restore valve(s) to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.1	Verify Containment Atmospheric Dilution (CAD) System liquid nitrogen storage tank level is ≥ 16 inches water column.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.2	Verify Safety Grade Instrument Gas (SGIG) System header pressure is ≥ 80 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.3	----------NOTE---------- Not required to be met when the 6 inch or 18 inch primary containment purge and 18 inch primary containment exhaust 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. ---------- Verify each 6 inch and 18 inch primary containment purge valve and each 18 inch primary containment exhaust valve is closed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.4	----------NOTES---------- 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. 3. Not required to be performed for test taps with a diameter ≤ 1 inch. ---------- 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.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.5	----------NOTES---------- 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. ---------- 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.	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
SR 3.6.1.3.6	Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.7	Verify each SGIG System manual valve in the flow paths servicing the 6 and 18 inch primary containment purge valves and the 18 inch primary containment exhaust valves, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.8	Verify the isolation time of each automatic power operated PCIV, except for MSIVs, is within limits.	In accordance with the Inservice Testing Program
SR 3.6.1.3.9	Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.	In accordance with the Inservice Testing Program
SR 3.6.1.3.10	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.11	Verify a representative sample of reactor instrumentation line EFCVs actuates to the isolation position on a simulated instrument line break signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.12	Remove and test the explosive squib from each shear isolation valve of the TIP System.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.13	Verify the CAD System supplies nitrogen to the SGIG System upon loss of the normal air supply.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.14	Verify combined MSIV leakage rate for all four main steam lines is ≤ 204 scfh, and ≤ 116 scfh for any one steam line, when tested at ≥ 25 psig.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.15	Verify each 6 inch and 18 inch primary containment purge valve and each 18 inch primary containment exhaust valve is blocked to restrict opening greater than the required maximum opening angle.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.16	Replace the inflatable seal of each 6 inch and 18 inch primary containment purge valve and each 18 inch primary containment exhaust valve.	In accordance with the Surveillance Frequency Control Program.

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Air Temperature

LCO 3.6.1.4 Drywell average air temperature shall be ≤ 145°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. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.4.1	Verify drywell average air temperature is within limit.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3.	12 hours
E. Two lines with one or more reactor building-to-suppression chamber vacuum breakers inoperable for opening.	E.1 Restore all vacuum breakers in one line to OPERABLE status.	1 hour
F. Required Action and Associated Completion Time of Conditions A, B, or E not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.5.1	Verify Containment Atmospheric Dilution (CAD) System nitrogen storage tank level is ≥ 16 inches water column.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.2	Verify Safety Grade Instrument Gas (SGIG) System header pressure ≥ 80 psig.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.5.3	----------NOTES---------- 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.4	Verify each SGIG System manual valve in the flow paths servicing the reactor building-to-suppression chamber vacuum breakers, that is not locked, sealed or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.5	Perform a functional test of each vacuum breaker.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.6	Verify the setpoint for full opening of each air operated vacuum breaker is ≤ 0.75 psid.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.7	Verify the CAD System supplies nitrogen to the SGIG System upon loss of normal air supply.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.1	----------NOTE---------- Not required to be met for vacuum breakers that are open during Surveillances. ---------- Verify each vacuum breaker is closed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.6.2	Perform a functional test of each required vacuum breaker.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.6.3	Verify the setpoint for full opening of each required vacuum breaker is ≤ 0.5 psid.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Suppression pool average temperature > 120°F.	E.1 Depressurize the reactor vessel to < 200 psig.	12 hours
	AND	
	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.	In accordance with the Surveillance Frequency Control Program. AND 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 ≥ 14.5 feet and ≤ 14.9 feet.

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. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.2.1	Verify suppression pool water level is within limits.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.2.3.2	Verify each required RHR pump develops a flow rate ≥ 10,000 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the Inservice Testing Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.4.1	Verify each RHR suppression pool 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.2.4.2	Verify each suppression pool spray nozzle is unobstructed.	In accordance with the Surveillance Frequency Control Program.

3.6 CONTAINMENT SYSTEMS

3.6.3.2 Primary Containment Oxygen Concentration

LCO 3.6.3.2 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 a 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 ≤ 15% RTP.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.2.1	Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify all secondary containment equipment hatches are closed and sealed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.4.1.2	Verify one secondary containment access door in each access opening is closed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.4.1.3	Verify secondary containment can be drawn down to ≥ 0.25 inch of vacuum water gauge in ≤ 180 seconds using one standby gas treatment (SGT) subsystem.	In accordance with the Surveillance Frequency Control Program.
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 ≤ 10,500 cfm.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.2.1	----------NOTES---------- 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. ---------- 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.4.2.2	Verify the isolation time of each power operated automatic SCIV is within limits.	In accordance with the Inservice Testing Program
SR 3.6.4.2.3	Verify each automatic SCIV actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 15 minutes with heaters operating.	In accordance with the Surveillance Frequency Control Program.
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.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify each HPSW manual and power operated 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.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify the water level in the pump bays of the pump structure is ≥ 98.5 ft Conowingo Datum (CD) and ≤ 113 ft CD.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.2	Verify the average water temperature of normal heat sink is ≤ 90°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.3	----------NOTE---------- Isolation of flow to individual components does not render ESW System inoperable. ---------- Verify each ESW subsystem manual and power operated valve in the flow paths servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.4	Verify each ESW subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the water level of emergency heat sink reservoir is ≥ 17 ft.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.3.2	Operate each required emergency cooling tower fan for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two MCREV subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs. OR One or more MCREV subsystems inoperable due to an inoperable CRE Boundary during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- F.1 Suspend movement of irradiated fuel assemblies in the secondary containment. AND F.2 Suspend CORE ALTERATIONS. AND F.3 Initiate action to suspend OPDRVs.	 Immediately Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Operate each MCREV subsystem for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.4.2	Perform required MCREV filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.4.3	Verify each MCREV subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.4.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	----------NOTE---------- Not required to be performed until 31 days after any main steam line not isolated and SJAE in operation. ---------- Verify the gross gamma activity rate of the noble gases is ≤ 320,000 μCi/second after decay of 30 minutes.	In accordance with the Surveillance Frequency Control Program. <u>AND</u> Once within 4 hours after a ≥ 50% increase in the nominal steady state fission gas release after factoring out increases due to changes in THERMAL POWER level

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.1	Verify one complete cycle of each main turbine bypass valve.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.6.2	Perform a system functional test.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.6.3	Verify the TURBINE BYPASS SYSTEM RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program.

3.7 PLANT SYSTEMS

3.7.7 Spent Fuel Storage Pool Water Level

LCO 3.7.7 The spent fuel storage pool water level shall be ≥ 232 ft 3 inches plant elevation.

APPLICABILITY: During movement of fuel assemblies in the spent fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Spent fuel storage pool water level not within limit.	A.1 --------NOTE--------- LCO 3.0.3 is not applicable. ---------- Suspend movement of fuel assemblies in the spent fuel storage pool.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	Verify the spent fuel storage pool water level is ≥ 232 ft 3 inches plant elevation.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. One or more offsite circuits and two or more DGs inoperable. OR Two or more offsite circuits and one DG inoperable.	H.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the Unit 2 AC sources.
SR 3.8.1.21 is applicable only to the Unit 3 AC sources.

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each offsite circuit.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.2	----------NOTES---------- 1. Performance of SR 3.8.1.7 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 3. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. 4. A single test at the specified Frequency will satisfy this Surveillance for both units. ----------	
	Verify each DG starts from standby conditions and achieves steady state voltage ≥ 4160 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	----------NOTES---------- 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.7. 5. A single test will satisfy this Surveillance for both units, with synchronization to the Unit 2 4 kV emergency bus for one periodic test and synchronization to the Unit 3 4 kV emergency bus during the next periodic test. However, if the test is not performed on Unit 3, then the test shall be performed synchronized to the Unit 2 4 kV emergency bus. ----------	
	Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2400 kW and ≤ 2800 kW.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.4	Verify each day tank contains ≥ 250 gal of fuel oil.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.5	Check for and remove accumulated water from each day tank.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.6	Verify the fuel oil transfer system operates to automatically transfer fuel oil from storage tank to the day tank.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.7	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG starts from standby condition and achieves, in ≤ 10 seconds, voltage ≥ 4160 V and frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify automatic and manual transfer of the unit power supply from the normal offsite circuit to the alternate offsite circuit.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.9	----------NOTES---------- 1. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 66.75 Hz; b. Within 1.8 seconds following load rejection, the voltage is ≥ 3750 V and ≤ 4570 V, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V; and c. Within 2.4 seconds following load rejection, the frequency is ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.10	----------NOTES---------- 1. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG does not trip and voltage is maintained ≤ 5230 V during and following a load rejection of ≥ 2400 kW and ≤ 2800 kW.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes associated 4 kV emergency bus in ≤ 10 seconds, 2. energizes auto-connected shutdown loads through individual load timers, 3. maintains steady state voltage ≥ 4160 V and ≤ 4400 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies auto-connected shutdown loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.12	----------NOTE---------- All DG starts may be preceded by an engine prelube period. ---------- Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start achieves voltage ≥ 4160 V, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V; b. In ≤ 10 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; c. Operates for ≥ 5 minutes; d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are energized or auto-connected through individual load timers from the offsite power system.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	----------NOTE---------- A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG's noncritical automatic trips are bypassed on an actual or simulated ECCS initiation signal.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.14	----------NOTES---------- 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG operates for ≥ 24 hours: a. For ≥ 2 hours loaded ≥ 2800 kW and ≤ 3000 kW; and b. For the remaining hours of the test loaded ≥ 2400 kW and ≤ 2800 kW.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.15	----------NOTES---------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2400 kW and ≤ 2800 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. A single test at the specified Frequency will satisfy this Surveillance for both units. ----------	
	Verify each DG starts and achieves, in ≤ 10 seconds, voltage ≥ 4160 V and frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.18	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify interval between each timed load block is within ± 10% of design interval for each individual load timer.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.19	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes associated 4 kV emergency bus in ≤ 10 seconds, 2. energizes auto-connected emergency loads through individual load timers, 3. achieves steady state voltage ≥ 4160 V and ≤ 4400 V, 4. achieves steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies auto-connected emergency loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.20	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify, when started simultaneously from standby condition, each DG achieves, in ≤ 10 seconds, voltage ≥ 4160 V and frequency ≥ 58.8 Hz.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.21	----------NOTE---------- When Unit 3 is in MODE 4 or 5, or moving irradiated fuel assemblies in the secondary containment, the Note to Unit 3 SR 3.8.2.1 is applicable. ---------- For required Unit 3 AC sources, the SRs of Unit 3 Specification 3.8.1, except SR 3.8.1.8 (when only one Unit 3 offsite circuit is required), SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.17, SR 3.8.1.18 (ECCS load block requirement only), and SR 3.8.1.19, are applicable.	In accordance with applicable SRs

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 31,000 gal of fuel.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.3.2	Verify lube oil inventory is ≥ 350 gal.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each DG air start receiver pressure is ≥ 225 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

----------NOTE----------
SR 3.8.4.1 through SR 3.8.4.8 are applicable only to the Unit 2 DC electrical power subsystems. SR 3.8.4.9 is applicable only to the Unit 3 DC electrical power subsystems.

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ 123.5 V on float charge.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify battery connection resistance is ≤ 40 E-6 ohms.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.3	Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could potentially degrade battery performance.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.4	Remove visible corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.5	Verify battery connection resistance is ≤ 40 E-6 ohms.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.6	Verify each required battery charger supplies ≥ 200 amps at ≥ 125 V for ≥ 4 hours.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.7	----------NOTES---------- 1. SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7 when SR 3.8.4.8 envelops the duty cycle of the battery. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	In accordance with the Surveillance Frequency Control Program. AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	Verify battery cell parameters meet Table 3.8.6-1 Category A limits.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.6.2	Verify each battery cell meets Table 3.8.6-1 Category B limits.	In accordance with the Surveillance Frequency Control Program. AND Once within 24 hours after battery discharge < 100 V AND Once within 24 hours after battery overcharge > 145 V
SR 3.8.6.3	Verify average electrolyte temperature of representative cells is ≥ 40°F.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One Unit 2 DC electrical power distribution subsystem inoperable.	D.1 Restore Unit 2 DC electrical power distribution subsystem to OPERABLE status.	2 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3.	12 hours
F. Two or more inoperable electrical power distribution subsystems that result in a loss of function.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify: a. Correct breaker alignments to required AC electrical power distribution subsystems; and b. Indicated power availability to required AC and DC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify: a. Correct breaker alignments to required AC electrical power distribution subsystems; and b. Indicated power availability to required AC and DC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs: a. All-rods-in, b. Refuel platform position, c. Refuel platform fuel grapple, fuel loaded, d. Refuel platform frame mounted auxiliary hoist, fuel loaded, e. Refuel platform monorail mounted hoist, fuel loaded.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.2 Refuel Position One-Rod-Out Interlock

LCO 3.9.2 The refuel position one-rod-out interlock shall be OPERABLE.

APPLICABILITY: MODE 5 with the reactor mode switch in the refuel position and any control rod withdrawn.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Refuel position one-rod-out interlock inoperable.	A.1 Suspend control rod withdrawal.	Immediately
	AND	
	A.2 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.2.1	Verify reactor mode switch locked in refuel position.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.9.2.2	----------NOTE---------- Not required to be performed until 1 hour after any control rod is withdrawn. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.3 Control Rod Position

LCO 3.9.3 All control rods shall be fully inserted.

APPLICABILITY: When loading fuel assemblies into the core.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more control rods not fully inserted.	A.1 Suspend loading fuel assemblies into the core.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.3.1 Verify all control rods are fully inserted.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.5 Control Rod OPERABILITY—Refueling

LCO 3.9.5 Each withdrawn control rod shall be OPERABLE.

APPLICABILITY: MODE 5.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more withdrawn control rods inoperable.	A.1 Initiate action to fully insert inoperable withdrawn control rods.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	----------NOTE---------- Not required to be performed until 7 days after the control rod is withdrawn. ---------- Insert each withdrawn control rod at least one notch.	In accordance with the Surveillance Frequency Control Program.
SR 3.9.5.2	Verify each withdrawn control rod scram accumulator pressure is ≥ 940 psig.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.6 Reactor Pressure Vessel (RPV) Water Level

LCO 3.9.6 RPV water level shall be ≥ 458 inches above RPV instrument zero.

APPLICABILITY: During movement of irradiated fuel assemblies within the RPV,
During movement of new fuel assemblies or handling of control rods within the RPV, when irradiated fuel assemblies are seated within the RPV.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RPV water level not within limit.	A.1 Suspend movement of fuel assemblies and handling of control rods within the RPV.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.6.1	Verify RPV water level is ≥ 458 inches above RPV instrument zero.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.7.1	Verify one RHR shutdown cooling subsystem is operating.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.8.1	Verify one RHR shutdown cooling subsystem is operating.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3.1 Place the reactor mode switch in the shutdown position.	1 hour
	OR	
	A.3.2 --------NOTE--------- Only applicable in MODE 5. ---------- Place the reactor mode switch in the refuel position.	1 hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.2.1	Verify all control rods are fully inserted in core cells containing one or more fuel assemblies.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.2.2	Verify no CORE ALTERATIONS are in progress.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.3.1	Perform the applicable SRs for the required LCOs.	According to the applicable SRs
SR 3.10.3.2	----------NOTE---------- Not required to be met if SR 3.10.3.1 is satisfied for LCO 3.10.3.d.1 requirements. ---------- Verify all control rods, other than the control rod being withdrawn, in a five by five array centered on the control rod being withdrawn, are disarmed.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.3.3	Verify all control rods, other than the control rod being withdrawn, are fully inserted.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more of the above requirements not met with the affected control rod not insertable.	B.1 Suspend withdrawal of the control rod and removal of associated CRD.	Immediately
	AND	
	B.2.1 Initiate action to fully insert all control rods.	Immediately
	OR	
	B.2.2 Initiate action to satisfy the requirements of this LCO.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.4.1	Perform the applicable SRs for the required LCOs.	According to the applicable SRs
SR 3.10.4.2	----------NOTE---------- Not required to be met if SR 3.10.4.1 is satisfied for LCO 3.10.4.c.1 requirements. ---------- Verify all control rods, other than the control rod being withdrawn, in a five by five array centered on the control rod being withdrawn, are disarmed.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.10.4.3	Verify all control rods, other than the control rod being withdrawn, are fully inserted.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.4.4	----------NOTE---------- Not required to be met if SR 3.10.4.1 is satisfied for LCO 3.10.4.b.1 requirements. ---------- Verify a control rod withdrawal block is inserted.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.1 Initiate action to fully insert all control rods.	Immediately
	OR	
	A.2.2 Initiate action to satisfy the requirements of this LCO.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.5.1	Verify all control rods, other than the control rod withdrawn for the removal of the associated CRD, are fully inserted.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.5.2	Verify all control rods, other than the control rod withdrawn for the removal of the associated CRD, in a five by five array centered on the control rod withdrawn for the removal of the associated CRD, are disarmed.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.5.3	Verify a control rod withdrawal block is inserted.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.10.5.4 Perform SR 3.1.1.1.	According to SR 3.1.1.1
SR 3.10.5.5 Verify no CORE ALTERATIONS are in progress.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3.1 Initiate action to fully insert all control rods in core cells containing one or more fuel assemblies.	Immediately
	OR	
	A.3.2 Initiate action to satisfy the requirements of this LCO.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.6.1	Verify the four fuel assemblies are removed from core cells associated with each control rod or CRD removed.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.6.2	Verify all other control rods in core cells containing one or more fuel assemblies are fully inserted.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.6.3	----------NOTE---------- Only required to be met during fuel loading. ---------- Verify fuel assemblies being loaded are in compliance with an approved spiral reload sequence.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.8.1	Perform the MODE 2 applicable SRs for LCO 3.3.1.1, Functions 2.a, 2.d and 2.e of Table 3.3.1.1-1.	According to the applicable SRs
SR 3.10.8.2	----------NOTE---------- Not required to be met if SR 3.10.8.3 satisfied. ---------- Perform the MODE 2 applicable SRs for LCO 3.3.2.1, Function 2 of Table 3.3.2.1-1.	According to the applicable SRs
SR 3.10.8.3	----------NOTE---------- Not required to be met if SR 3.10.8.2 satisfied. ---------- Verify movement of control rods is in compliance with the approved control rod sequence for the SDM test by a second licensed operator or other qualified member of the technical staff.	During control rod movement
SR 3.10.8.4	Verify no other CORE ALTERATIONS are in progress.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.10.8.5	Verify each withdrawn control rod does not go to the withdrawn overtravel position.	Each time the control rod is withdrawn to "full out" position AND Prior to satisfying LCO 3.10.8.c requirement after work on control rod or CRD System that could affect coupling
SR 3.10.8.6	Verify CRD charging water header pressure ≥ 940 psig.	In accordance with the Surveillance Frequency Control Program.

5.5 Programs and Manuals

5.5.13 Control Room Envelope Habitability Program (continued)

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one subsystem of the MCREV system, operating at the flow rate required by the VFTP, at a Frequency of 24 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 24 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c. and d. respectively.

5.5.14 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of the Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT 3

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 281
License No. DPR-56

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment by Exelon Generation Company, LLC (Exelon Generation Company), and PSEG Nuclear LLC (the licensees), dated August 31, 2009, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C(2) of Renewed Facility Operating License No. DPR-56 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 281 , are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.

3. Implementation Requirements:

This license amendment is effective as of the date of issuance, and shall be implemented within 60 days of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Eddie Miller for HKC

Harold K. Chernoff, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the License
and Technical Specifications

Date of Issuance: August 27, 2010

ATTACHMENT TO LICENSE AMENDMENT NO. 281

RENEWED FACILITY OPERATING LICENSE NO. DPR-56

DOCKET NO. 50-278

Replace the following page of the Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

Remove	Insert
Page 3	Page 3

Replace the following pages of the Appendix A, Technical Specifications, with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Remove	Insert	Remove	Insert	Remove	Insert	Remove	Insert
3.1-10	3.1-10	3.3-46	3.3-46	3.6-13	3.6-13	3.8-14	3.8-14
3.1-13	3.1-13	3.3.51	3.3-51	3.6-14	3.6-14	3.8-15	3.8-15
3.1-17	3.1-17	n/a	3.3-51a	3.6-15	3.6-15	3.8-16	3.8-16
3.1-19	3.1-19	3.3-57	3.3-57	3.6-16	3.6-16	3.8-17	3.8-17
3.1-21	3.1-21	3.3-60	3.3-60	3.6-17	3.6-17	3.8-18	3.8-18
3.1-22	3.1-22	3.3-64	3.3-64	3.6-19	3.6-19	3.8-19	3.8-19
3.1-23	3.1-23	3.3-67	3.3-67	3.6-20	3.6-20	3.8-27	3.8-27
3.1-27	3.1-27	3.3-68	3.3-68	3.6-22	3.6-22	3.8-30	3.8-30
3.2-1	3.2-1	3.4-4	3.4-4	3.6-25	3.6-25	3.8-31	3.8-31
3.2-2	3.2-2	3.4-7	3.4-7	3.6-26	3.6-26	3.8-32	3.8-32
3.2-4	3.2-4	3.4-9	3.4-9	3.6-28	3.6-28	3.8-39	3.8-39
3.3-3a	3.3-3a	3.4-11	3.4-11	3.6-30	3.6-30	3.8-43	3.8-43
3.3-4	3.3-4	3.4-13	3.4-13	3.6-33	3.6-33	3.8-46	3.8-46
3.3-5	3.3-5	3.4-15	3.4-15	3.6-35	3.6-35	3.9-2	3.9-2
3.3-6	3.3-6	3.4-18	3.4-18	3.6-39	3.6-39	3.9-3	3.9-3
n/a	3.3-6a	3.4-20	3.4-20	3.6-42	3.6-42	3.9-4	3.9-4
3.3-11	3.3-11	3.4-22	3.4-22	3.7-2	3.7-2	3.9-5	3.9-5
3.3-12	3.3-12	3.4-24	3.4-24	3.7-4	3.7-4	3.9-8	3.9-8
3.3-13	3.3-13	3.4-28	3.4-28	3.7-6	3.7-6	3.9-9	3.9-9
3.3-18	3.3-18	3.5-4	3.5-4	3.7-9	3.7-9	3.9-12	3.9-12
3.3-19	3.3-19	3.5-5	3.5-5	3.7-11	3.7-11	3.9-15	3.9-15
3.3-20	3.3-20	3.5-6	3.5-6	3.7-13	3.7-13	3.10-5	3.10-5
3.3-23	3.3-23	3.5-7	3.5-7	3.7-14	3.7-14	3.10-8	3.10-8
3.3-25	3.3-25	3.5-9	3.5-9	3.8-6	3.8-6	3.10-11	3.10-11
3.3-27	3.3-27	3.5-10	3.5-10	3.8-7	3.8-7	3.10-12	3.10-12
3.3-28	3.3-28	3.5-11	3.5-11	3.8-8	3.8-8	3.10-14	3.10-14
3.3-30	3.3-30	3.5-13	3.5-13	3.8-9	3.8-9	3.10-15	3.10-15
3.3-31	3.3-31	3.5-14	3.5-14	3.8-10	3.8-10	3.10-17	3.10-17
3.3-31b	3.3-31b	3.6-2	3.6-2	3.8-11	3.8-11	3.10-22	3.10-22
3.3-31c	3.3-31c	3.6-7	3.6-7	33.8-12	3.8-12	3.10-23	3.10-23
3.3-38	3.3-38	3.6-12	3.6-12	3.8-13	3.8-13	5.0-18a	5.0-18a

(5) Exelon Generation Company, pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not to separate, such byproduct and special nuclear material as may be produced by operation of the facility.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations in 10 CFR Chapter I: Part 20, Section 30.34 of Part 30, Section 40.41 of Part 40, Section 50.54 of Part 50, and Section 70.32 of Part 70; all applicable provisions of the Act and the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified below:

(1) Maximum Power Level

Exelon Generation Company is authorized to operate the Peach Bottom Atomic Power Station, Unit No. 3, at steady state reactor core power levels not in excess of 3514 megawatts thermal.

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 281 , are hereby incorporated in the license. Exelon Generation Company shall operate the facility in accordance with the Technical Specifications.[1]

(3) Physical Protection

Exelon Generation Company shall fully implement and maintain in effect all provisions of the Commission-approved physical security, training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822), and the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The combined set of plans[2], submitted by letter dated May 17, 2006, is entitled: Peach Bottom Atomic Power Station Security Plan, Training and Qualification Plan, Safeguards Contingency Plan, and Independent Spent Fuel Storage Installation Security Program, Revision 3." The set contains Safeguards Information protected under 10 CFR 73.21.

(4) Fire Protection

The Exelon Generation Company shall implement and maintain in effect all provisions of the approved fire protection program as described in the Updated Final Safety Analysis Report for the facility, and as approved in

[1]Licensed power level was revised by Amendment No. 250, dated November 22, 2002, and will be implemented following the 14th refueling outage currently scheduled for Fall 2003.

[2]The training and Qualification Plan and Safeguards Contingency Plan and Appendices to the Security Plan.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.3.1	Determine the position of each control rod.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.3.2	Deleted	
SR 3.1.3.3	----------NOTE---------- Not required to be performed until 31 days after the control rod is withdrawn and THERMAL POWER is greater than the LPSP of the RWM. ---------- Insert each withdrawn control rod at least one notch.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.3.4	Verify each control rod scram time from fully withdrawn to notch position 06 is ≤ 7 seconds.	In accordance with SR 3.1.4.1, SR 3.1.4.2, SR 3.1.4.3, and SR 3.1.4.4

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.4.2	Verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 800 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.4.3	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with any reactor steam dome pressure.	Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect scram time
SR 3.1.4.4	Verify each affected control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure ≥ 800 psig.	Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time AND Prior to exceeding 40% RTP after fuel movement within the affected core cell

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. One or more control rod scram accumulators inoperable with reactor steam dome pressure < 900 psig.	C.1 Verify all control rods associated with inoperable accumulators are fully inserted.	Immediately upon discovery of charging water header pressure < 940 psig
	AND	
	C.2 Declare the associated control rod inoperable.	1 hour
D. Required Action B.1 or C.1 and associated Completion Time not met.	D.1 --------NOTE--------- Not applicable if all inoperable control rod scram accumulators are associated with fully inserted control rods. ---------- Place the reactor mode switch in the shutdown position.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.5.1	Verify each control rod scram accumulator pressure is ≥ 940 psig.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Nine or more OPERABLE control rods not in compliance with the analyzed rod position sequence.	B.1 --------NOTE--------- RWM may be bypassed as allowed by LCO 3.3.2.1. ----------	
	Suspend withdrawal of control rods.	Immediately
	AND	
	B.2 Place the reactor mode switch in the shutdown position.	1 hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.6.1	Verify all OPERABLE control rods comply with the analyzed rod position sequence.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two SLC subsystems inoperable for reasons other than Condition A.	C.1 Restore one SLC subsystem to OPERABLE status.	8 hours
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.7.1	Verify level of sodium pentaborate solution in the SLC tank is ≥ 46%.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.2	Verify temperature of sodium pentaborate solution is ≥ 53°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.3	Verify temperature of pump suction piping is ≥ 53°F.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.4	Verify continuity of explosive charge.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.5	Verify the concentration of boron in solution is ≤ 9.82% weight and within the limits of Table 3.1.7-1.	In accordance with the Surveillance Frequency Control Program. AND Once within 24 hours after water or boron is added to solution AND Once within 24 hours after solution temperature is restored within limits
SR 3.1.7.6	Verify each SLC subsystem manual and power operated 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.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.7	Verify the quantity of B-10 stored in the SLC tank is ≥ 162.7 lbm.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.8	Verify each pump develops a flow rate ≥ 43.0 gpm at a discharge pressure ≥ 1255 psig.	In accordance with the Inservice Testing Program
SR 3.1.7.9	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.7.10	Verify sodium pentaborate atom percent B-10 enrichment is within the limits of Table 3.1.7-1.	Once within 8 hours after addition to SLC tank

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.8.1	----------NOTE---------- Not required to be met on vent and drain valves closed during performance of SR 3.1.8.2 or SR 3.3.1.1.9 for Function 13 of Table 3.3.1.1-1. ---------- Verify each SDV vent and drain valve is open.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.8.2	Cycle each SDV vent and drain valve to the fully closed and fully open position.	In accordance with the Surveillance Frequency Control Program.
SR 3.1.8.3	Verify each SDV vent and drain valve closes in ≤ 15 seconds after receipt of an actual or simulated scram signal.	In accordance with the Surveillance Frequency Control Program.

3.2 POWER DISTRIBUTION LIMITS

3.2.1 AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)

LCO 3.2.1 All APLHGRs shall be less than or equal to the limits specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any APLHGR not within limits.	A.1 Restore APLHGR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify all APLHGRs are less than or equal to the limits specified in the COLR.	Once within 12 hours after ≥ 25% RTP AND In accordance with the Surveillance Frequency Control Program.

3.2 POWER DISTRIBUTION LIMITS

3.2.2 MINIMUM CRITICAL POWER RATIO (MCPR)

LCO 3.2.2 All MCPRs shall be greater than or equal to the MCPR operating limits specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any MCPR not within limits.	A.1 Restore MCPR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.2.1 Verify all MCPRs are greater than or equal to the limits specified in the COLR.	Once within 12 hours after ≥ 25% RTP AND In accordance with the Surveillance Frequency Control Program.

(continued)

3.2 POWER DISTRIBUTION LIMITS

3.2.3 LINEAR HEAT GENERATION RATE (LHGR)

LCO 3.2.3 All LHGRs shall be less than or equal to the limits specified in the COLR.

APPLICABILITY: THERMAL POWER ≥ 25% RTP.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Any LHGR not within limits.	A.1 Restore LHGR(s) to within limits.	2 hours
B. Required Action and associated Completion Time not met.	B.1 Reduce THERMAL POWER to < 25% RTP.	4 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.3.1 Verify all LHGRs are less than or equal to the limits specified in the COLR.	Once within 12 hours after ≥ 25% RTP AND In accordance with the Surveillance Frequency Control Program.

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.

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.2	----------NOTE---------- Not required to be performed until 12 hours after THERMAL POWER ≥ 25% RTP. ----------	
	Verify the absolute difference between the average power range monitor (APRM) channels and the calculated power is ≤ 2% RTP while operating at ≥ 25% RTP.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.3	(Not Used.)	
SR 3.3.1.1.4	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.5	----------NOTE---------- Not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. ---------- Perform CHANNEL FUNCTIONAL TEST	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.6	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.7	(Not Used.)	
SR 3.3.1.1.8	Calibrate the local power range monitors.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.9	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.10	----------NOTE---------- Radiation detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.11	----------NOTES---------- 1. For Function 2.a, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. 2. For Functions 2.b and 2.f, the CHANNEL FUNCTIONAL TEST includes the recirculation flow input processing, excluding the flow transmitters. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.12	----------NOTES---------- 1. Neutron detectors are excluded. 2. For Function 1, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. 3. For Functions 2.b and 2.f, the recirculation flow transmitters that feed the APRMs are included. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.13	Verify Turbine Stop Valve-Closure and Turbine Control Valve Fast Closure, Trip Oil Pressure-Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.14	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.15	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.16	Calibrate each radiation detector.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.17	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.18	Verify the RPS RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.1.19	Verify OPRM is not bypassed when APRM Simulated Thermal Power is ≥29.5% and recirculation drive flow is <60%.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more required WRNMs inoperable in MODE 3 or 4.	D.1 Fully insert all insertable control rods.	1 hour
	AND	
	D.2 Place reactor mode switch in the shutdown position.	1 hour
E. One or more required WRNMs inoperable in MODE 5.	E.1 Suspend CORE ALTERATIONS except for control rod insertion.	Immediately
	AND	
	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 conditions.

SURVEILLANCE	FREQUENCY
SR 3.3.1.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.2.2	----------NOTES---------- 1. Only required to be met during CORE ALTERATIONS. 2. One WRNM may be used to satisfy more than one of the following. ---------- Verify an OPERABLE WRNM detector is located in: a. The fueled region; b. The core quadrant where CORE ALTERATIONS are being performed, when the associated WRNM is included in the fueled region; and c. A core quadrant adjacent to where CORE ALTERATIONS are being performed, when the associated WRNM is included in the fueled region.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.2.3	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.2.4	----------NOTES---------- 1. Not required to be met with less than or equal to four fuel assemblies adjacent to the WRNM and no other fuel assemblies in the associated core quadrant. 2. Not required to be met during spiral unloading. ---------- Verify count rate is: a. ≥ 3.0 cps; or b. Within the limits of Figure 3.3.1.2-1.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.2.5	----------NOTE---------- Not required to be performed until 12 hours after WRNMs indicate 125E-5 % power or below. ---------- Perform CHANNEL FUNCTIONAL TEST and determination of signal to noise ratio.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.1.2.6	----------NOTES---------- 1. Neutron detectors are excluded. 2. Not required to be performed until 12 hours after WRNMs indicate 125E-5 % power or below. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.

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
	AND	
	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.

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.1	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.2	----------NOTE---------- Not required to be performed until 1 hour after any control rod is withdrawn at ≤ 10% RTP in MODE 2. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.3	----------NOTE---------- Not required to be performed until 1 hour after THERMAL POWER is ≤ 10% RTP in MODE 1. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.4	----------NOTE---------- Neutron detectors are excluded. ---------- Verify the RBM: a. Low Power Range—Upscale Function is not bypassed when THERMAL POWER is ≥ 28.4% RTP. b. Intermediate Power Range—Upscale Function is not bypassed when THERMAL POWER is ≥ 63.4% RTP. c. High Power Range—Upscale Function is not bypassed when THERMAL POWER is ≥ 83.4% RTP.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.5	----------NOTE---------- Neutron detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.6	Verify the RWM is not bypassed when THERMAL POWER is ≤ 10% RTP.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.7	----------NOTE---------- Not required to be performed until 1 hour after reactor mode switch is in the shutdown position. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.1.8	Verify control rod sequences input to the RWM are in conformance with the analyzed rod position sequence.	Prior to declaring RWM OPERABLE following loading of sequence into RWM

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 DFCS high water level trip capability is maintained.

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.2.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 49.0 inches.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.2.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including valve actuation.	In accordance with the Surveillance Frequency Control Program.

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 for each required PAM instrumentation channel.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.3.1.2	Deleted	
SR 3.3.3.1.3	Perform CHANNEL CALIBRATION for each required PAM instrumentation channel.	In accordance with the Surveillance Frequency Control Program.

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

----------NOTE----------
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 REQUIREMENTS		FREQUENCY
SR 3.3.3.2.1	Verify each required control circuit and transfer switch is capable of performing the intended function.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE REQUIREMENTS		FREQUENCY
SR 3.3.3.2.2	Perform CHANNEL CALIBRATION for each required instrumentation channel.	In accordance with the Surveillance Frequency Control Program.

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
	OR	
	D.2 Be in MODE 2.	6 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 ATWS-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.1.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.1.3	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low (Level 2): ≥ -48.0 inches; and b. Reactor Pressure—High: ≤ 1106.0 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more Functions with EOC-RPT trip capability not maintained.	B.1 Restore EOC-RPT 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 an inoperable RPT breaker. ---------- Remove the affected recirculation pump from service.	4 hours
	OR	
	C.2 Reduce THERMAL POWER to < 29.5% 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 the associated Function maintains EOC-RPT trip capability.

SURVEILLANCE	FREQUENCY
SR 3.3.4.2.1 Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.4.2.2	Perform CHANNEL CALIBRATION. The Allowable Values shall be: TSV–Closure: ≤ 10% closed; and TCV Fast Closure, Trip Oil Pressure–Low: ≥ 500 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.3	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.4	Verify TSV–Closure and TCV Fast Closure, Trip Oil Pressure–Low Functions are not bypassed when THERMAL POWER is ≥ 29.5% RTP.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.5	----------NOTE---------- Breaker interruption time may be assumed from the most recent performance of SR 3.3.4.2.6. ---------- Verify the EOC-RPT SYSTEM RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.4.2.6	Determine RPT breaker interruption time.	In accordance with the Surveillance Frequency Control Program.

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 and 3.f; and (b) for up to 6 hours for Functions other than 3.c and 3.f provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.4	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

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 Function 2; 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.2.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.2.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.5.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

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 for up to 6 hours provided the associated Function maintains primary containment isolation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.1.3	----------NOTE---------- For Function 1.d, radiation detectors are excluded. ---------- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.1.4	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.6.1.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.1.6	Calibrate each radiation detector.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.1.7	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

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.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.3	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.4	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.6.2.5	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Place the associated MCREV subsystem(s) in operation.	1 hour
	OR	
	B.2 Declare associated MCREV subsystem(s) inoperable.	1 hour

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 MCREV System initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.7.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.7.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.7.1.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 400 cpm.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.7.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

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

1. Refer to Table 3.3.8.1-1 to determine which SRs apply for each Unit 3 LOP Function. SR 3.3.8.1.5 is applicable only to the Unit 2 LOP instrumentation.

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

SURVEILLANCE		FREQUENCY
SR 3.3.8.1.1	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.2	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.3	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.4	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.1.5	For required Unit 2 LOP instrumentation Functions, the SRs of Unit 2 Specification 3.3.8.1 are applicable.	In accordance with applicable SRs

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition A or B not met in MODE 3, 4, or 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 3.3.8.2.1	----------NOTE---------- Only required to be performed prior to entering MODE 2 or 3 from MODE 4, when in MODE 4 for ≥ 24 hours. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.2.2	Perform CHANNEL CALIBRATION for each RPS motor generator set electric power monitoring assembly. The Allowable Values shall be: a. Overvoltage ≤ 133 V, with time delay set to ≤ 1.5 seconds. b. Undervoltage ≥ 111 V, with time delay set to ≤ 1.5 seconds. c. Underfrequency ≥ 56.8 Hz, with time delay set to ≤ 7.0 seconds.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.3	Perform CHANNEL CALIBRATION for each RPS alternate power supply electric power monitoring assembly. The Allowable Values shall be: a. Overvoltage ≤ 133 V, with time delay set to ≤ 1.5 seconds. b. Undervoltage ≥ 111 V, with time delay set to ≤ 4.0 seconds. c. Underfrequency ≥ 56.8 Hz, with time delay set to ≤ 1.5 seconds.	In accordance with the Surveillance Frequency Control Program.
SR 3.3.8.2.4	Perform a system functional test.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	----------NOTE---------- Not required to be performed until 24 hours after both recirculation loops are in operation. ---------- Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is: a. $\leq 10.25 \times 10^6$ lbm/hr when operating at $< 71.75 \times 10^6$ lbm/hr; and b. $\leq 5.125 \times 10^6$ lbm/hr when operating at $\geq 71.75 \times 10^6$ lbm/hr.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.2.1	----------NOTES---------- 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. ---------- Verify at least one of the following criteria (a, b, or c) is satisfied for each operating recirculation loop: a. Recirculation pump flow to speed ratio differs by ≤ 5% from established patterns, and jet pump loop flow to recirculation pump speed ratio differs by ≤ 5% from established patterns. b. Each jet pump diffuser to lower plenum differential pressure differs by ≤ 20% from established patterns. c. Each jet pump flow differs by ≤ 10% from established patterns.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.3.1	Verify the safety function lift setpoints of the required SRVs and SVs are as follows: Number of SRVs — Setpoint (psig) 4 — 1135 ± 11.0 4 — 1145 ± 11.0 3 — 1155 ± 12.0 Number of SVs — Setpoint (psig) 2 — 1260 ± 13.0	In accordance with the Inservice Testing Program
SR 3.4.3.2	Verify each required SRV actuator strokes when manually actuated in the depressurization mode.	In accordance with the Surveillance Frequency Control Program.

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. OR Pressure boundary LEAKAGE exists.	C.1 Be in MODE 3. AND 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.	In accordance with the Surveillance Frequency Control Program.

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. AND C.2 Be in MODE 4.	12 hours 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 primary containment atmospheric monitoring system.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.5.2	Perform a CHANNEL FUNCTIONAL TEST of required leakage detection instrumentation.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.5.3	Perform a CHANNEL CALIBRATION of required leakage detection instrumentation.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.2.2.1 Be in MODE 3.	12 hours
	AND	
	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 ≤ 0.2 μCi/gm.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.7.1	----------NOTE---------- Not required to be met until 2 hours after reactor steam dome pressure is less than the RHR shutdown cooling isolation pressure. ---------- Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. No RHR shutdown cooling subsystem in operation. AND No recirculation pump in operation.	B.1 Verify reactor coolant circulating by an alternate method.	1 hour from discovery of no reactor coolant circulation AND Once per 12 hours thereafter
	AND B.2 Monitor reactor coolant temperature and pressure.	Once per hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.8.1	Verify one required RHR shutdown cooling subsystem or recirculation pump is operating.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

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.	Immediately
	AND	
	C.2 Determine RCS is acceptable for operation.	Prior to entering MODE 2 or 3.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.9.1	----------NOTE---------- Only required to be performed during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing. ----------	
	Verify: a. RCS pressure and RCS temperature are within the applicable limits specified in Figures 3.4.9-1 and 3.4.9-2; and b. RCS heatup and cooldown rates are ≤ 100°F in any 1 hour period.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.9.5	----------NOTE---------- Only required to be performed when tensioning the reactor vessel head bolting studs. ---------- Verify reactor vessel flange and head flange temperatures are > 70°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.9.6	----------NOTE---------- Not required to be performed until 30 minutes after RCS temperature ≤ 80°F in MODE 4. ---------- Verify reactor vessel flange and head flange temperatures are > 70°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.4.9.7	----------NOTE---------- Not required to be performed until 12 hours after RCS temperature ≤ 100°F in MODE 4. ---------- Verify reactor vessel flange and head flange temperatures are > 70°F.	In accordance with the Surveillance Frequency Control Program.

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.10 Reactor Steam Dome Pressure

LCO 3.4.10 The reactor steam dome pressure shall be ≤ 1053 psig.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Reactor steam dome pressure not within limit.	A.1 Restore reactor steam dome pressure to within limit.	15 minutes
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.10.1	Verify reactor steam dome pressure is ≤ 1053 psig.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.2	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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.3	Verify ADS nitrogen supply header pressure is ≥ 85 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.4	Verify the LPCI cross tie valve is closed and power is removed from the valve operator.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.5	----------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 3.5.1.6	Verify automatic transfer of the power supply from the normal source to the alternate source for each LPCI subsystem inboard injection valve and each recirculation pump discharge valve.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.7	----------NOTE---------- For the core spray pumps, SR 3.5.1.7 may be met using equivalent values for flow rate and test pressure determined using pump curves. ---------- Verify the following ECCS pumps develop the specified flow rate against a system head corresponding to the specified reactor pressure. SYSTEM / FLOW RATE / NO. OF PUMPS / SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE OF Core Spray: ≥ 3,125 gpm, 1, ≥ 105 psig LPCI: ≥ 10,900 gpm, 1, ≥ 20 psig	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
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 ≤ 1053 and ≥ 940 psig, the HPCI pump can develop a flow rate ≥ 5000 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.9	----------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 ≤ 175 psig, the HPCI pump can develop a flow rate ≥ 5000 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.10	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.11	----------NOTE---------- Valve actuation may be excluded. ---------- Verify the ADS actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.1.12	Verify each ADS valve actuator strokes when manually actuated in the depressurization mode.	In accordance with the Surveillance Frequency Control Program.

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
	AND	
	D.2 Initiate action to restore one standby gas treatment subsystem for Unit 3 to OPERABLE status.	Immediately
	AND	
	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 ≥ 11.0 ft.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	Verify, for each required core spray (CS) subsystem, the: a. Suppression pool water level is ≥ 11.0 ft; or b. ----------NOTE---------- Only one required CS subsystem may take credit for this option during OPDRVs. ---------- Condensate storage tank water level is ≥ 17.3 ft.	In accordance with the Surveillance Frequency Control Program.
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.2.4	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.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.5	----------NOTE---------- For the CS pumps, SR 3.5.2.5 may be met using equivalent values for flow rate and test pressure determined using pump curves. ---------- Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure. SYSTEM / FLOW RATE / NO. OF PUMPS / SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE OF CS / ≥ 3,125 gpm / 1 / ≥ 105 psig LPCI / ≥ 10,900 gpm / 1 / ≥ 20 psig	In accordance with the Surveillance Frequency Control Program.
SR 3.5.2.6	----------NOTE---------- Vessel injection/spray may be excluded. ---------- Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.

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.	In accordance with the Surveillance Frequency Control Program.
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.3.3	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 1053 psig and ≥ 940 psig, the RCIC pump can develop a flow rate ≥ 600 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.
SR 3.5.3.4	----------NOTE---------- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. ---------- Verify, with reactor pressure ≤ 175 psig, the RCIC pump can develop a flow rate ≥ 600 gpm against a system head corresponding to reactor pressure.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.3.5	----------NOTE---------- Vessel injection may be excluded. ---------- Verify the RCIC System actuates on an actual or simulated automatic initiation signal.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.1.1	Perform required visual examinations and leakage rate testing except for primary containment air lock testing, in accordance with the Primary Containment Leakage Rate Testing Program.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.1.2	Verify drywell to suppression chamber bypass leakage is equivalent to a hole ≤ 1.0 inches in diameter.	In accordance with the Surveillance Frequency Control Program. AND -----NOTE------ Only required after two consecutive tests fail and continues until two consecutive tests pass ---------- 12 months

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.2.2	Verify only one door in the primary containment air lock can be opened at a time.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION		COMPLETION TIME
E. Purge/Vent flowpath open for an accumulated time greater than 90 hours for the calendar year while in MODE 1 or 2 with Reactor Pressure greater than 100 psig.	E.1	Isolate the penetration.	4 hours
	OR		
	E.2.1	Be in MODE 3.	12 hours
		AND	
	E.2.2	Be in Mode 4.	36 hours
F. Required Action and associated Completion Time of Condition A, B, C, or D not met in MODE 1, 2, or 3.	F.1	Be in MODE 3.	12 hours
	AND		
	F.2	Be in MODE 4.	36 hours
G. Required Action and associated Completion Time of Condition A, B, C, or D 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
	OR		
	G.2	Initiate action to restore valve(s) to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.1	Verify Containment Atmospheric Dilution (CAD) System liquid nitrogen storage tank level is ≥ 16 inches water column.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.2	Verify Safety Grade Instrument Gas (SGIG) System header pressure is ≥ 80 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.3	----------NOTE---------- Not required to be met when the 6 inch or 18 inch primary containment purge and 18 inch primary containment exhaust 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. ---------- Verify each 6 inch and 18 inch primary containment purge valve and each 18 inch primary containment exhaust valve is closed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.4	----------NOTES---------- 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. 3. Not required to be performed for test taps with a diameter ≤ 1 inch. ---------- 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.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.5	----------NOTES---------- 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. ---------- 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.	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
SR 3.6.1.3.6	Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.7	Verify each SGIG System manual valve in the flow paths servicing the 6 and 18 inch primary containment purge valves and the 18 inch primary containment exhaust valves, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.8	Verify the isolation time of each automatic power operated PCIV, except for MSIVs, is within limits.	In accordance with the Inservice Testing Program
SR 3.6.1.3.9	Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.	In accordance with the Inservice Testing Program
SR 3.6.1.3.10	Verify each automatic PCIV actuates to the isolation position on an actual or simulated isolation signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.11	Verify a representative sample of reactor instrumentation line EFCVs actuates to the isolation position on a simulated instrument line break signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.12	Remove and test the explosive squib from each shear isolation valve of the TIP System.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.13	Verify the CAD System supplies nitrogen to the SGIG System upon loss of the normal air supply.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.14	Verify combined MSIV leakage rate for all four main steam lines is ≤ 204 scfh, and ≤ 116 scfh for any one steam line, when tested at ≥ 25 psig.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.15	Verify each 6 inch and 18 inch primary containment purge valve and each 18 inch primary containment exhaust valve is blocked to restrict opening greater than the required maximum opening angle.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.3.16	Replace the inflatable seal of each 6 inch and 18 inch primary containment purge valve and each 18 inch primary containment exhaust valve.	In accordance with the Surveillance Frequency Control Program.

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Air Temperature

LCO 3.6.1.4 Drywell average air temperature shall be ≤ 145°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. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.4.1	Verify drywell average air temperature is within limit.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3.	12 hours
E. Two lines with one or more reactor building-to-suppression chamber vacuum breakers inoperable for opening.	E.1 Restore all vacuum breakers in one line to OPERABLE status.	1 hour
F. Required Action and Associated Completion Time of Conditions A, B, or E not met.	F.1 Be in MODE 3. AND F.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.5.1	Verify Containment Atmospheric Dilution (CAD) System nitrogen storage tank level is ≥ 16 inches water column.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.2	Verify Safety Grade Instrument Gas (SGIG) System header pressure ≥ 80 psig.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.5.3	----------NOTES---------- 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.4	Verify each SGIG System manual valve in the flow paths servicing the reactor building-to-suppression chamber vacuum breakers, that is not locked, sealed or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.5	Perform a functional test of each vacuum breaker.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.6	Verify the setpoint for full opening of each air operated vacuum breaker is ≤ 0.75 psid.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.5.7	Verify the CAD System supplies nitrogen to the SGIG System upon loss of normal air supply.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.1	----------NOTE---------- Not required to be met for vacuum breakers that are open during Surveillances. ---------- Verify each vacuum breaker is closed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.6.2	Perform a functional test of each required vacuum breaker.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.1.6.3	Verify the setpoint for full opening of each required vacuum breaker is ≤ 0.5 psid.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
E. Suppression pool average temperature > 120°F.	E.1 Depressurize the reactor vessel to < 200 psig.	12 hours
	AND	
	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.	In accordance with the Surveillance Frequency Control Program. AND 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 ≥ 14.5 feet and ≤ 14.9 feet.

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. AND B.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.2.1	Verify suppression pool water level is within limits.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.2.3.2	Verify each required RHR pump develops a flow rate ≥ 10,000 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the Inservice Testing Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.4.1	Verify each RHR suppression pool 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.2.4.2	Verify each suppression pool spray nozzle is unobstructed.	In accordance with the Surveillance Frequency Control Program.

3.6 CONTAINMENT SYSTEMS

3.6.3.2 Primary Containment Oxygen Concentration

LCO 3.6.3.2 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 a 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 ≤ 15% RTP.	8 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.2.1	Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.2 Initiate action to suspend OPDRVs.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.1.1	Verify all secondary containment equipment hatches are closed and sealed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.4.1.2	Verify one secondary containment access door in each access opening is closed.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.4.1.3	Verify secondary containment can be drawn down to ≥ 0.25 inch of vacuum water gauge in ≤ 180 seconds using one standby gas treatment (SGT) subsystem.	In accordance with the Surveillance Frequency Control Program.
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 ≤ 10,500 cfm.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.2.1	----------NOTES---------- 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. ---------- 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.	In accordance with the Surveillance Frequency Control Program.
SR 3.6.4.2.2	Verify the isolation time of each power operated automatic SCIV is within limits.	In accordance with the Inservice Testing Program
SR 3.6.4.2.3	Verify each automatic SCIV actuates to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.3.1	Operate each SGT subsystem for ≥ 15 minutes with heaters operating.	In accordance with the Surveillance Frequency Control Program.
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.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3. AND D.2 Be in MODE 4.	12 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify each HPSW manual and power operated 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.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify the water level in the pump bays of the pump structure is ≥ 98.5 ft Conowingo Datum (CD) and ≤ 113 ft CD.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.2	Verify the average water temperature of normal heat sink is ≤ 90°F.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.3	----------NOTE---------- Isolation of flow to individual components does not render ESW System inoperable. ---------- Verify each ESW subsystem manual and power operated valve in the flow paths servicing safety related systems or components, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.2.4	Verify each ESW subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify the water level of emergency heat sink reservoir is ≥ 17 ft.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.3.2	Operate each required emergency cooling tower fan for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two MCREV subsystems inoperable during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS, or during OPDRVs. OR One or more MCREV subsystems inoperable due to an inoperable CRE boundary during movement of irradiated fuel assemblies in the secondary containment, during CORE ALTERATIONS or during OPDRVs.	----------NOTE---------- LCO 3.0.3 is not applicable. ---------- F.1 Suspend movement of irradiated fuel assemblies in the secondary containment. AND F.2 Suspend CORE ALTERATIONS. AND F.3 Initiate action to suspend OPDRVs.	 Immediately Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Operate each MCREV subsystem for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.4.2	Perform required MCREV filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.4.3	Verify each MCREV subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.4.4	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.5.1	----------NOTE---------- Not required to be performed until 31 days after any main steam line not isolated and SJAE in operation. ---------- Verify the gross gamma activity rate of the noble gases is ≤ 320,000 μCi/second after decay of 30 minutes.	In accordance with the Surveillance Frequency Control Program. AND Once within 4 hours after a ≥ 50% increase in the nominal steady state fission gas release after factoring out increases due to changes in THERMAL POWER level

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.1	Verify one complete cycle of each main turbine bypass valve.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.6.2	Perform a system functional test.	In accordance with the Surveillance Frequency Control Program.
SR 3.7.6.3	Verify the TURBINE BYPASS SYSTEM RESPONSE TIME is within limits.	In accordance with the Surveillance Frequency Control Program.

3.7 PLANT SYSTEMS

3.7.7 Spent Fuel Storage Pool Water Level

LCO 3.7.7 The spent fuel storage pool water level shall be ≥ 232 ft 3 inches plant elevation.

APPLICABILITY: During movement of fuel assemblies in the spent fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Spent fuel storage pool water level not within limit.	A.1 --------NOTE--------- LCO 3.0.3 is not applicable. ---------- Suspend movement of fuel assemblies in the spent fuel storage pool.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	Verify the spent fuel storage pool water level is ≥ 232 ft 3 inches plant elevation.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. One or more offsite circuits and two or more DGs inoperable. OR Two or more offsite circuits and one DG inoperable.	H.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

----------NOTE----------
SR 3.8.1.1 through SR 3.8.1.20 are applicable only to the Unit 3 AC sources.
SR 3.8.1.21 is applicable only to the Unit 2 AC sources.

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each offsite circuit.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.2	----------NOTES---------- 1. Performance of SR 3.8.1.7 satisfies this SR. 2. All DG starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. 3. A modified DG start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. When modified start procedures are not used, the time, voltage, and frequency tolerances of SR 3.8.1.7 must be met. 4. A single test at the specified Frequency will satisfy this Surveillance for both units. ----------	
	Verify each DG starts from standby conditions and achieves steady state voltage ≥ 4160 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	----------NOTES---------- 1. DG loadings may include gradual loading as recommended by the manufacturer. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow, without shutdown, a successful performance of SR 3.8.1.2 or SR 3.8.1.7. 5. A single test will satisfy this Surveillance for both units, with synchronization to the Unit 3 4 kV emergency bus for one periodic test and synchronization to the Unit 2 4 kV emergency bus during the next periodic test. However, if the test is not performed on Unit 2, then the test shall be performed synchronized to the Unit 3 4 kV emergency bus. ---------- Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2400 kW and ≤ 2800 kW.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.4	Verify each day tank contains ≥ 250 gal of fuel oil.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.5	Check for and remove accumulated water from each day tank.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.6	Verify the fuel oil transfer system operates to automatically transfer fuel oil from storage tank to the day tank.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.7	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG starts from standby condition and achieves, in ≤ 10 seconds, voltage ≥ 4160 V and frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1 or 2. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify automatic and manual transfer of the unit power supply from the normal offsite circuit to the alternate offsite circuit.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.9	----------NOTES---------- 1. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG rejects a load greater than or equal to its associated single largest post-accident load, and: a. Following load rejection, the frequency is ≤ 66.75 Hz; b. Within 1.8 seconds following load rejection, the voltage is ≥ 3750 V and ≤ 4570 V, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V; and c. Within 2.4 seconds following load rejection, the frequency is ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.10	----------NOTES---------- 1. If performed with the DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG does not trip and voltage is maintained ≤ 5230 V during and following a load rejection of ≥ 2400 kW and ≤ 2800 kW.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.11	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify on an actual or simulated loss of offsite power signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes associated 4 kV emergency bus in ≤ 10 seconds, 2. energizes auto-connected shutdown loads through individual load timers, 3. maintains steady state voltage ≥ 4160 V and ≤ 4400 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies auto-connected shutdown loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.12	----------NOTE---------- All DG starts may be preceded by an engine prelube period. ---------- Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each DG auto-starts from standby condition and: a. In ≤ 10 seconds after auto-start achieves voltage ≥ 4160 V, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V; b. In ≤ 10 seconds after auto-start achieves frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains frequency ≥ 58.8 Hz and ≤ 61.2 Hz; c. Operates for ≥ 5 minutes; d. Permanently connected loads remain energized from the offsite power system; and e. Emergency loads are energized or auto-connected through individual load timers from the offsite power system.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.13	----------NOTE---------- A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG's noncritical automatic trips are bypassed on an actual or simulated ECCS initiation signal.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.14	----------NOTES---------- 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. If performed with DG synchronized with offsite power, it shall be performed at a power factor ≤ 0.89. However, if grid conditions do not permit, the power factor limit is not required to be met. Under this condition, the power factor shall be maintained as close to the limit as practicable. 3. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify each DG operates for ≥ 24 hours: a. For ≥ 2 hours loaded ≥ 2800 kW and ≤ 3000 kW; and b. For the remaining hours of the test loaded ≥ 2400 kW and ≤ 2800 kW.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.15	----------NOTES---------- 1. This Surveillance shall be performed within 5 minutes of shutting down the DG after the DG has operated ≥ 2 hours loaded ≥ 2400 kW and ≤ 2800 kW. Momentary transients outside of load range do not invalidate this test. 2. All DG starts may be preceded by an engine prelube period. 3. A single test at the specified Frequency will satisfy this Surveillance for both units. ----------	
	Verify each DG starts and achieves, in ≤ 10 seconds, voltage ≥ 4160 V and frequency ≥ 58.8 Hz, and after steady state conditions are reached, maintains voltage ≥ 4160 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.18	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify interval between each timed load block is within ± 10% of design interval for each individual load timer.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.19	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify, on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ECCS initiation signal: a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. DG auto-starts from standby condition and: 1. energizes associated 4 kV emergency bus in ≤ 10 seconds, 2. energizes auto-connected emergency loads through individual load timers, 3. achieves steady state voltage ≥ 4160 V and ≤ 4400 V, 4. achieves steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies auto-connected emergency loads for ≥ 5 minutes.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.20	----------NOTES---------- 1. All DG starts may be preceded by an engine prelube period. 2. A single test at the specified Frequency will satisfy this Surveillance for both units. ---------- Verify, when started simultaneously from standby condition, each DG achieves, in ≤ 10 seconds, voltage ≥ 4160 V and frequency ≥ 58.8 Hz.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.1.21	----------NOTE---------- When Unit 2 is in MODE 4 or 5, or moving irradiated fuel assemblies in the secondary containment, the Note to Unit 2 SR 3.8.2.1 is applicable. ---------- For required Unit 2 AC sources, the SRs of Unit 2 Specification 3.8.1, except SR 3.8.1.8 (when only one Unit 2 offsite circuit is required), SR 3.8.1.12, SR 3.8.1.13, SR 3.8.1.17, SR 3.8.1.18 (ECCS load block requirement only), and SR 3.8.1.19, are applicable.	In accordance with applicable SRs

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.3.1	Verify each fuel oil storage tank contains ≥ 31,000 gal of fuel.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.3.2	Verify lube oil inventory is ≥ 350 gal.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.3.3	Verify fuel oil properties of new and stored fuel oil are tested in accordance with, and maintained within the limits of, the Diesel Fuel Oil Testing Program.	In accordance with the Diesel Fuel Oil Testing Program
SR 3.8.3.4	Verify each DG air start receiver pressure is ≥ 225 psig.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.3.5	Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

----------NOTE----------
SR 3.8.4.1 through SR 3.8.4.8 are applicable only to the Unit 3 DC electrical power subsystems. SR 3.8.4.9 is applicable only to the Unit 2 DC electrical power subsystems.

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	Verify battery terminal voltage is ≥ 123.5 V on float charge.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. OR Verify battery connection resistance is ≤ 40 E-6 ohms.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.3	Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could potentially degrade battery performance.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.4	Remove visible corrosion and verify battery cell to cell and terminal connections are coated with anti-corrosion material.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.5	Verify battery connection resistance is ≤ 40 E-6 ohms.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.6	Verify each required battery charger supplies ≥ 200 amps at ≥ 125 V for ≥ 4 hours.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.4.7	----------NOTES---------- 1. SR 3.8.4.8 may be performed in lieu of the service test in SR 3.8.4.7 when SR 3.8.4.8 envelops the duty cycle of the battery. 2. This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is adequate to supply, and maintain in OPERABLE status, the required emergency loads for the design duty cycle when subjected to a battery service test.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.8	----------NOTE---------- This Surveillance shall not be performed in MODE 1, 2, or 3. However, credit may be taken for unplanned events that satisfy this SR. ---------- Verify battery capacity is ≥ 80% of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.	In accordance with the Surveillance Frequency Control Program. AND 12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating AND 24 months when battery has reached 85% of the expected life with capacity ≥ 100% of manufacturer's rating

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.6.1	Verify battery cell parameters meet Table 3.8.6-1 Category A limits.	In accordance with the Surveillance Frequency Control Program.
SR 3.8.6.2	Verify each battery cell meets Table 3.8.6-1 Category B limits.	In accordance with the Surveillance Frequency Control Program. AND Once within 24 hours after battery discharge < 100 V AND Once within 24 hours after battery overcharge > 145 V
SR 3.8.6.3	Verify average electrolyte temperature of representative cells is ≥ 40°F.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One Unit 3 DC electrical power distribution subsystem inoperable.	D.1 Restore Unit 3 DC electrical power distribution subsystem to OPERABLE status.	2 hours
E. Required Action and associated Completion Time of Condition A, B, C, or D not met.	E.1 Be in MODE 3.	12 hours
F. Two or more inoperable electrical power distribution subsystems that result in a loss of function.	F.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify: a. Correct breaker alignments to required AC electrical power distribution subsystems; and b. Indicated power availability to required AC and DC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify: a. Correct breaker alignments to required AC electrical power distribution subsystems; and b. Indicated power availability to required AC and DC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs: a. All-rods-in, b. Refuel platform position, c. Refuel platform fuel grapple, fuel loaded, d. Refuel platform frame mounted auxiliary hoist, fuel loaded, e. Refuel platform monorail mounted hoist, fuel loaded.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.2 Refuel Position One-Rod-Out Interlock

LCO 3.9.2 The refuel position one-rod-out interlock shall be OPERABLE.

APPLICABILITY: MODE 5 with the reactor mode switch in the refuel position and any control rod withdrawn.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Refuel position one-rod-out interlock inoperable.	A.1 Suspend control rod withdrawal.	Immediately
	AND	
	A.2 Initiate action to fully insert all insertable control rods in core cells containing one or more fuel assemblies.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.2.1	Verify reactor mode switch locked in refuel position.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.9.2.2	----------NOTE---------- Not required to be performed until 1 hour after any control rod is withdrawn. ---------- Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.3 Control Rod Position

LCO 3.9.3 All control rods shall be fully inserted.

APPLICABILITY: When loading fuel assemblies into the core.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more control rods not fully inserted.	A.1 Suspend loading fuel assemblies into the core.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.3.1 Verify all control rods are fully inserted.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.5 Control Rod OPERABILITY—Refueling

LCO 3.9.5 Each withdrawn control rod shall be OPERABLE.

APPLICABILITY: MODE 5.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more withdrawn control rods inoperable.	A.1 Initiate action to fully insert inoperable withdrawn control rods.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	----------NOTE---------- Not required to be performed until 7 days after the control rod is withdrawn. ---------- Insert each withdrawn control rod at least one notch.	In accordance with the Surveillance Frequency Control Program.
SR 3.9.5.2	Verify each withdrawn control rod scram accumulator pressure is ≥ 940 psig.	In accordance with the Surveillance Frequency Control Program.

3.9 REFUELING OPERATIONS

3.9.6 Reactor Pressure Vessel (RPV) Water Level

LCO 3.9.6 RPV water level shall be ≥ 458 inches above RPV instrument zero.

APPLICABILITY: During movement of irradiated fuel assemblies within the RPV,
During movement of new fuel assemblies or handling of control rods within the RPV, when irradiated fuel assemblies are seated within the RPV.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RPV water level not within limit.	A.1 Suspend movement of fuel assemblies and handling of control rods within the RPV.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.6.1	Verify RPV water level is ≥ 458 inches above RPV instrument zero.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.7.1	Verify one RHR shutdown cooling subsystem is operating.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.8.1	Verify one RHR shutdown cooling subsystem is operating.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3.1 Place the reactor mode switch in the shutdown position.	1 hour
	OR	
	A.3.2 --------NOTE--------- Only applicable in MODE 5. ---------- Place the reactor mode switch in the refuel position.	1 hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.2.1	Verify all control rods are fully inserted in core cells containing one or more fuel assemblies.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.2.2	Verify no CORE ALTERATIONS are in progress.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.3.1	Perform the applicable SRs for the required LCOs.	According to the applicable SRs
SR 3.10.3.2	----------NOTE---------- Not required to be met if SR 3.10.3.1 is satisfied for LCO 3.10.3.d.1 requirements. ---------- Verify all control rods, other than the control rod being withdrawn, in a five by five array centered on the control rod being withdrawn, are disarmed.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.3.3	Verify all control rods, other than the control rod being withdrawn, are fully inserted.	In accordance with the Surveillance Frequency Control Program.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One or more of the above requirements not met with the affected control rod not insertable.	B.1 Suspend withdrawal of the control rod and removal of associated CRD.	Immediately
	AND	
	B.2.1 Initiate action to fully insert all control rods.	Immediately
	OR	
	B.2.2 Initiate action to satisfy the requirements of this LCO.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.4.1	Perform the applicable SRs for the required LCOs.	According to the applicable SRs
SR 3.10.4.2	----------NOTE---------- Not required to be met if SR 3.10.4.1 is satisfied for LCO 3.10.4.c.1 requirements. ---------- Verify all control rods, other than the control rod being withdrawn, in a five by five array centered on the control rod being withdrawn, are disarmed.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.10.4.3	Verify all control rods, other than the control rod being withdrawn, are fully inserted.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.4.4	----------NOTE---------- Not required to be met if SR 3.10.4.1 is satisfied for LCO 3.10.4.b.1 requirements. ---------- Verify a control rod withdrawal block is inserted.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.2.1 Initiate action to fully insert all control rods.	Immediately
	OR	
	A.2.2 Initiate action to satisfy the requirements of this LCO.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.5.1	Verify all control rods, other than the control rod withdrawn for the removal of the associated CRD, are fully inserted.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.5.2	Verify all control rods, other than the control rod withdrawn for the removal of the associated CRD, in a five by five array centered on the control rod withdrawn for the removal of the associated CRD, are disarmed.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.5.3	Verify a control rod withdrawal block is inserted.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.10.5.4 Perform SR 3.1.1.1.	According to SR 3.1.1.1
SR 3.10.5.5 Verify no CORE ALTERATIONS are in progress.	In accordance with the Surveillance Frequency Control Program.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3.1 Initiate action to fully insert all control rods in core cells containing one or more fuel assemblies.	Immediately
	OR	
	A.3.2 Initiate action to satisfy the requirements of this LCO.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.6.1	Verify the four fuel assemblies are removed from core cells associated with each control rod or CRD removed.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.6.2	Verify all other control rods in core cells containing one or more fuel assemblies are fully inserted.	In accordance with the Surveillance Frequency Control Program.
SR 3.10.6.3	----------NOTE---------- Only required to be met during fuel loading. ----------	
	Verify fuel assemblies being loaded are in compliance with an approved spiral reload sequence.	In accordance with the Surveillance Frequency Control Program.

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.10.8.1	Perform the MODE 2 applicable SRs for LCO 3.3.1.1, Functions 2.a, 2.d and 2.e of Table 3.3.1.1-1.	According to the applicable SRs
SR 3.10.8.2	----------NOTE---------- Not required to be met if SR 3.10.8.3 satisfied. ---------- Perform the MODE 2 applicable SRs for LCO 3.3.2.1, Function 2 of Table 3.3.2.1-1.	According to the applicable SRs
SR 3.10.8.3	----------NOTE---------- Not required to be met if SR 3.10.8.2 satisfied. ---------- Verify movement of control rods is in compliance with the approved control rod sequence for the SDM test by a second licensed operator or other qualified member of the technical staff.	During control rod movement
SR 3.10.8.4	Verify no other CORE ALTERATIONS are in progress.	In accordance with the Surveillance Frequency Control Program.

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.10.8.5	Verify each withdrawn control rod does not go to the withdrawn overtravel position.	Each time the control rod is withdrawn to "full out" position AND Prior to satisfying LCO 3.10.8.c requirement after work on control rod or CRD System that could affect coupling
SR 3.10.8.6	Verify CRD charging water header pressure ≥ 940 psig.	In accordance with the Surveillance Frequency Control Program.

5.5 Programs and Manuals

5.5.13 Control Room Envelope Habitability Program (continued)

d. Measurement, at designated locations, of the CRE pressure relative to all external areas adjacent to the CRE boundary during the pressurization mode of operation by one subsystem of the MCREV system, operating at the flow rate required by the VFTP, at a Frequency of 24 months on a STAGGERED TEST BASIS. The results shall be trended and used as part of the 24 month assessment of the CRE boundary.

e. The quantitative limits on unfiltered air inleakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air inleakage measured by the testing described in paragraph c. The unfiltered air inleakage limit for radiological challenges is the inleakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air inleakage limits for hazardous chemicals must ensure that exposure of CRE occupants to these hazards will be within the assumptions in the licensing basis.

f. The provisions of SR 3.0.2 are applicable to the Frequencies for assessing CRE habitability, determining CRE unfiltered inleakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c. and d. respectively.

5.5.14 Surveillance Frequency Control Program

This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure the associated Limiting Conditions for Operation are met.

a. The Surveillance Frequency Control Program shall contain a list of Frequencies of the Surveillance Requirements for which the Frequency is controlled by the program.

b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.

c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 278 TO RENEWED FACILITY

OPERATING LICENSE NO. DPR-44 AND AMENDMENT NO. 281 TO

RENEWED FACILITY OPERATING LICENSE NO. DPR-56

EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR, LLC

PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3

DOCKET NOS. 50-277 AND 50-278

1.0 INTRODUCTION

By letter dated August 31, 2009 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML092470153), Exelon Generation Company, LLC, the licensee for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, requested to amend the Technical Specifications (TS), Appendix A, of Renewed Facility Operating License numbers DPR-44 and DPR-56 for PBAPS Units 2 and 3. The requested change is the adoption of Nuclear Regulatory Commission-approved Technical Specification Tast Force (TSTF) Traveler 425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control—RITSTF [Risk-Informed Technical Specification Task Force] Initiative 5b" (ADAMS Accession No. ML090850627). When implemented, TSTF-425 relocates most periodic frequencies of TS surveillances to a licensee-controlled program, the "Surveillance Frequency Control Program" (SFCP), and provides requirements for the new program in the Administrative Controls section of the TS. All surveillance frequencies can be relocated except:

- Frequencies that reference other approved programs for the specific interval (such as the In-Service Testing Program or the Primary Containment Leakage Rate Testing Program);
- Frequencies that are purely event-driven (e.g., "each time the control rod is withdrawn to the 'full out' position");
- Frequencies that are event-driven, but have a time component for performing the surveillance on a one-time basis once the event occurs (e.g., "within 24 hours after thermal power reaching ≥ 95% RTP [rated thermal power]"); and
- Frequencies that are related to specific conditions (e.g., battery degradation, age and capacity) or conditions for the performance of a surveillance requirement (e.g., "drywell to suppression chamber differential pressure decrease").

A new program is added to the Administrative Controls of TS Section 5 as Specification 5.5.14. The new program is called the SFCP and describes the requirements for the program to control changes to the relocated surveillance frequencies. The proposed licensee changes to the Administrative Controls of the TS to incorporate the SFCP include a specific reference to Nuclear Energy Institute (NEI) 04-10, "Risk-Informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies," Revision 1 (ADAMS Accession No. ML071360456), as the basis for making any changes to the surveillance frequencies once they are relocated out of the TS.

In a letter dated September 19, 2007 (ADAMS Accession No. ML072570267), the Nuclear Regulatory Commission (NRC) staff approved NEI 04-10, as acceptable for referencing in licensing actions to the extent specified and under the limitations delineated in NEI 04-10, and the associated safety evaluation (SE) providing the basis for NRC acceptance.

The NRC staff has completed its review and finds that the requested TS modifications are acceptable, as discussed in this safety evaluation.

2.0 REGULATORY EVALUATION

Per the PBAPS Updated Final Safety Analysis Report (UFSAR), PBAPS Units 2 and 3 were licensed in accordance with the 70 draft General Design Criteria (GDC) published for comment in the *Federal Register* (FR) on July 11, 1967, by the Atomic Energy Commission (AEC). The GDC were later incorporated and updated by the Nuclear Regulatory Commission in Title 10 of the *Code of Federal Regulations* (10 CFR). Appendix H of the PBAPS UFSAR describes the plant's design criteria.

The NRC staff reviewed the proposed changes against the criteria of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.36, "Technical specifications." Section 182a of the Atomic Energy Act (the Act) requires applicants for nuclear power plant operating licenses to include TSs as part of the license. These TSs are derived from the plant safety analyses. In 10 CFR 50.36, the NRC established its regulatory requirements related to the content of TSs. In accordance with 10 CFR 50.36(c)(3), surveillance requirements (SRs) are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation (LCO) will be met. The proper use and application of SR frequency requirements are described in Section 1.4, "Frequency," of the PBAPS Units 2 and 3 TSs.

The new TS, SFCP, provides the necessary administrative controls to require that surveillance frequencies relocated to the SFCP assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the LCOs will be met. Changes to surveillance frequencies in the SFCP are made using the methodology contained in NEI 04-10, including qualitative considerations, results of risk analyses, sensitivity studies and any bounding analyses, and recommended monitoring of structures, systems, and components (SSCs), and required to be documented. Furthermore, changes to frequencies are subject to regulatory review and oversight of the SFCP implementation through the rigorous NRC review of safety-related SSC performance provided by the reactor oversight program (ROP).

In the "Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors" published in the *Federal Register* (FR) (58 FR 39132, July 22, 1993) the NRC addressed the use of Probabilistic Safety Analysis (PSA, currently referred to as Probabilistic Risk Assessment or PRA) in the Standard Technical Specifications. In this 1993 FR publication, the NRC states, in part:

> . . . The Commission believes that it would be inappropriate at this time to allow requirements which meet one or more of the first three criteria [of the Policy Statement] to be deleted from Technical Specifications based solely on PSA (Criterion 4). However, if the results of PSA indicate that Technical Specifications can be relaxed or removed, a deterministic review will be performed. . .
>
> The Commission Policy in this regard is consistent with its Policy Statement on "Safety Goals for the Operation of Nuclear Power Plants," 51 FR 30028, published on August 21, 1986. The Policy Statement on Safety Goals states in part, "* * * probabilistic results should also be reasonably balanced and supported through use of deterministic arguments. In this way, judgments can be made * * * about the degree of confidence to be given these [probabilistic] estimates and assumptions. This is a key part of the process of determining the degree of regulatory conservatism that may be warranted for particular decisions. This defense-in-depth approach is expected to continue to ensure the protection of public health and safety." . . .
>
> The Commission will continue to use PSA, consistent with its policy on Safety Goals, as a tool in evaluating specific line item improvements to Technical Specifications, new requirements, and industry proposals for risk-based Technical Specification changes.

Approximately 2 years later the NRC provided additional detail concerning the use of PRA in the "Use of Probabilistic Risk Assessment in Nuclear Regulatory Activities; Final Policy Statement," published in the *Federal Register* (60 FR 42622, August 16, 1995). In this FR publication, the NRC states, in part:

> . . . The Commission believes that an overall policy on the use of PRA [methods] in nuclear regulatory activities should be established so that the many potential applications of PRA methodology can be implemented in a consistent and predictable manner that promotes regulatory stability and efficiency. . . In addition, the Commission believes that the use of PRA technology in NRC regulatory activities should be increased to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC's deterministic approach. . .
>
> PRA addresses a broad spectrum of initiating events by assessing the event frequency. Mitigating system reliability is then assessed, including the potential for multiple and common-cause failures. The treatment therefore goes beyond the single failure requirements in the deterministic approach. The probabilistic approach to regulation is, therefore, considered an extension and enhancement of traditional regulation by considering risk in a more coherent and complete manner. . .

Therefore, the Commission believes that an overall policy on the use of PRA in nuclear regulatory activities should be established so that the many potential applications of PRA can be implemented in a consistent and predictable manner that promotes regulatory stability and efficiency. This policy statement sets forth the Commission's intention to encourage the use of PRA and to expand the scope of PRA applications in all nuclear regulatory matters to the extent supported by the state-of-the-art in terms of methods and data.

Therefore, the Commission adopts the following policy statement regarding the expanded NRC use of PRA:

(1) The use of PRA technology should be increased in all regulatory matters to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC's deterministic approach and supports the NRC's traditional defense-in-depth philosophy.

(2) PRA and associated analyses (e.g., sensitivity studies, uncertainty analyses, and importance measures) should be used in regulatory matters, where practical within the bounds of the state-of-the-art, to reduce unnecessary conservatism associated with current regulatory requirements, regulatory guides, license commitments, and staff practices. Where appropriate, PRA should be used to support the proposal for additional regulatory requirements in accordance with 10 CFR 50.109 (Backfit Rule). Appropriate procedures for including PRA in the process for changing regulatory requirements should be developed and followed. It is, of course, understood that the intent of this policy is that existing rules and regulations shall be complied with unless these rules and regulations are revised.

(3) PRA evaluations in support of regulatory decisions should be as realistic as practicable and appropriate supporting data should be publicly available for review.

(4) The Commission's safety goals for nuclear power plants and subsidiary numerical objectives are to be used with appropriate consideration of uncertainties in making regulatory judgments on the need for proposing and backfitting new generic requirements on nuclear power plant licensees.

Licensees are required by TS to perform surveillance tests, calibration, or inspection on specific safety-related system equipment (e.g., reactivity control, power distribution, electrical, and instrumentation) to verify system operability. Surveillance frequencies, currently identified in TS, are based primarily upon deterministic methods such as engineering judgment, operating experience, and manufacturer's recommendations. The licensee's use of NRC-approved methodologies identified in NEI 04-10, provides a way to establish risk-informed surveillance frequencies that complement the deterministic approach and support the NRC's traditional defense-in-depth philosophy.

The licensee's SFCP ensures that surveillance requirements specified in the TS are performed at intervals sufficient to assure the above regulatory requirements are met. Existing regulatory requirements, such as 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," and 10 CFR 50 Appendix B (corrective action program), require licensee monitoring of surveillance test failures and implementing corrective actions to

address such failures. One of these actions may be to consider increasing the frequency at which a surveillance test is performed. In addition, the SFCP implementation guidance in NEI 04-10, requires monitoring the performance of SSCs for which surveillance frequencies are decreased to assure reduced testing does not adversely impact the SSCs. These requirements, and the monitoring required by NEI 04-10, ensure that surveillance frequencies are sufficient to assure that the requirements of 10 CFR 50.36 are satisfied and that any performance deficiencies will be identified and appropriate corrective actions taken.

Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," November 2002 (ADAMS Accession No. ML023240437), describes a risk-informed approach, acceptable to the NRC, for assessing the nature and impact of proposed permanent licensing-basis changes by considering engineering issues and applying risk insights. This RG also provides risk acceptance guidelines for evaluating the results of such evaluations.

RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," August 1998 (ADAMS Accession No. ML003740176), describes an acceptable risk-informed approach specifically for assessing proposed permanent TS changes in allowed outage times. This RG also provides risk acceptance guidelines for evaluating the results of such assessments. RG 1.177 identifies a three-tiered approach for the licensee's evaluation of the risk associated with a proposed completion time (CT) TS change, as discussed below.

- Tier 1 assesses the risk impact of the proposed change in accordance with acceptance guidelines consistent with the Commission's Safety Goal Policy Statement, as documented in RG 1.174 and RG 1.177. The first tier assesses the impact on operational plant risk based on the change in core damage frequency (ΔCDF) and change in large early release frequency (ΔLERF). It also evaluates plant risk while equipment covered by the proposed CT is out-of-service, as represented by incremental conditional core damage probability and incremental conditional large early release probability. Tier 1 also addresses PRA quality, including the technical adequacy of the licensee's plant-specific PRA for the subject application. Cumulative risk of the present TS change, in light of past related applications or additional applications under review, are also considered along with uncertainty/sensitivity analysis with respect to the assumptions related to the proposed TS change.

- Tier 2 identifies and evaluates any potential risk-significant plant equipment outage configurations that could result if equipment, in addition to that associated with the proposed license amendment, is taken out-of-service simultaneously, or if other risk-significant operational factors, such as concurrent system or equipment testing, are also involved. The purpose of this evaluation is to ensure that there are appropriate restrictions in place such that risk-significant plant equipment outage configurations will not occur when equipment associated with the proposed CT is implemented.

- Tier 3 addresses the licensee's overall configuration risk management program (CRMP) to ensure that adequate programs and procedures are in place for identifying risk-significant plant configurations resulting from maintenance or other operational activities and appropriate compensatory measures are taken to avoid risk significant configurations that may not have been considered when the Tier 2 evaluation was performed. Compared with Tier 2, Tier 3 provides additional coverage to ensure risk-

significant plant equipment outage configurations are identified in a timely manner and that the risk impact of out-of-service equipment is appropriately evaluated prior to performing any maintenance activity over extended periods of plant operation. Tier 3 guidance can be satisfied by the Maintenance Rule (10 CFR 50.65(a)(4)), which requires a licensee to assess and manage the increase in risk that may result from activities such as surveillance testing and corrective and preventive maintenance, subject to the guidance provided in RG 1.177, Section 2.3.7.1, and the adequacy of the licensee's program and PRA model for this application. The CRMP is to ensure that equipment removed from service prior to or during the proposed extended CT will be appropriately assessed from a risk perspective.

RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," (ADAMS Accession No. ML070240001), describes an acceptable approach for determining whether the quality of the PRA, in total or the parts that are used to support an application, is sufficient to provide confidence in the results, such that the PRA can be used in regulatory decision making for light water-reactors.

3.0 TECHNICAL EVALUATION

3.1 Proposed TS Changes

The licensee's adoption of TSTF-425 for PBAPS provides for relocation of applicable surveillance frequencies, and provides for the addition of the SFCP to the Administrative Controls of TS. Specifically, a new program is added to the Administrative Controls of TS Section 5 as Specification 5.5.14. Consistent with TSTF-425, applicable TS Surveillance Frequency values are replaced with a reference to the SFCP. TSTF-425 also requires the application of NEI 04-10 for any future changes to surveillance frequencies within the SFCP. The licensee's application for the changes proposed in TSTF-425 included documentation regarding the PRA technical adequacy consistent with the requirements of RG 1.200. In accordance with NEI 04-10, PRA methods are used, in combination with plant performance data and other considerations, to identify and justify modifications to the surveillance frequencies of equipment at nuclear power plants. This is in accordance with guidance provided in RG 1.174 and RG 1.177 in support of changes to surveillance test intervals.

3.2 RG 1.177 Five Key Safety Principles

RG 1.177 identifies five key safety principles required for risk-informed changes to TS. Each of these principles is addressed by the industry methodology document, NEI 04-10.

3.2.1 The Proposed Change Meets Current Regulations

10 CFR 50.36(c)(3) provides that TSs include surveillance requirements which are "requirements relating to test, calibration, or inspection to assure that necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." NEI 04-10 provides guidance for relocating the surveillance frequencies from the TSs to a licensee-controlled program by providing an NRC-approved methodology for control of the surveillance frequencies. The surveillance requirements themselves would remain in the TSs, as required by 10 CFR 50.36(c)(3).

This change is consistent with other NRC-approved TS changes in which the surveillance frequencies are relocated to licensee-controlled documents, such as surveillances performed in accordance with the In-service Testing Program or the Primary Containment Leakage Rate Testing Program. Thus, this proposed change meets the first key safety principle of RG 1.177 by complying with current regulations.

3.2.2 The Proposed Change Is Consistent With the Defense-in-Depth Philosophy

Consistency with the defense-in-depth philosophy, the second key safety principle of RG 1.177, is maintained if:

- A reasonable balance is preserved among prevention of core damage, prevention of containment failure, and consequence mitigation.
- Over-reliance on programmatic activities to compensate for weaknesses in plant design is avoided.
- System redundancy, independence, and diversity are preserved commensurate with the expected frequency, consequences of challenges to the system, and uncertainties (e.g., no risk outliers). Because the scope of the proposed methodology is limited to revision of surveillance frequencies, the redundancy, independence, and diversity of plant systems are not impacted.
- Defenses against potential common cause failures are preserved, and the potential for the introduction of new common cause failure mechanisms is assessed.
- Independence of barriers is not degraded.
- Defenses against human errors are preserved.
- The intent of the GDC in 10 CFR Part 50, Appendix A, is maintained. (As discussed in Section 2.0, "Regulatory Evaluation," of this safety evaluation, PBAPS is required to adhere to the 70 draft GDC contained in Appendix H of the PBAPS UFSAR.)

TSTF-425 requires the application of NEI 04-10 for any changes to surveillance frequencies within the SFCP. NEI 04-10 uses both the core damage frequency (CDF) and the large early release frequency (LERF) metrics to evaluate the impact of proposed changes to surveillance frequencies. The guidance of RG 1.174 and RG 1.177 for changes to CDF and LERF is achieved by evaluation using a comprehensive risk analysis, which assesses the impact of proposed changes including contributions from human errors and common cause failures. Defense-in-depth is also included in the methodology explicitly as a qualitative consideration outside of the risk analysis, as is the potential impact on detection of component degradation that could lead to an increased likelihood of common cause failures. Both the quantitative risk analysis and the qualitative considerations assure a reasonable balance of defense-in-depth is maintained to ensure protection of public health and safety, satisfying the second key safety principle of RG 1.177.

3.2.3 The Proposed Change Maintains Sufficient Safety Margins

The engineering evaluation that will be conducted by the licensee under the SFCP when frequencies are revised will assess the impact of the proposed frequency change with the principle that sufficient safety margins are maintained. The guidelines used for making that assessment will include ensuring the proposed surveillance test frequency change is not in conflict with approved industry codes and standards or adversely affects any assumptions or inputs to the safety analysis, or, if such inputs are affected, justification is provided to ensure sufficient safety margin will continue to exist.

The design, operation, testing methods, and acceptance criteria for SSCs, specified in applicable codes and standards (or alternatives approved for use by the NRC) will continue to be met as described in the plant licensing basis, including the UFSAR, and the safety analysis acceptance criteria as described in the plant licensing basis.

Thus, safety margins are maintained by the proposed methodology, and the third key safety principle of RG 1.177 is satisfied.

3.2.4 When Proposed Changes Result in an Increase in Core Damage Frequency or Risk, the Increases Should Be Small and Consistent With the Intent of the Commission's Safety Goal Policy Statement

RG 1.177 provides a framework for evaluating the risk impact of proposed changes to surveillance frequencies. This requires the identification of the risk contribution from impacted surveillances, determination of the risk impact from the change to the proposed surveillance frequency, and performance of sensitivity and uncertainty evaluations. TSTF-425 requires application of NEI 04-10 in the SFCP. NEI 04-10 satisfies the intent of RG 1.177 requirements for evaluating the change in risk, and for assuring that such changes are small.

3.2.4.1 Quality of the PRA

The quality of the PBAPS PRA is compatible with the safety implications of the proposed TS change and the role the PRA plays in justifying the change. That is, the more the potential change in risk or the greater the uncertainty in that risk from the requested TS change, or both, the more rigor that must go into ensuring the quality of the PRA.

The licensee used RG 1.200 to address the technical adequacy of the PBAPS PRA. RG 1.200 is NRC-developed regulatory guidance, which endorses with comments and qualifications the use of the American Society of Mechanical Engineers (ASME) RA-Sb-2005, "Addenda to ASME RA-S-2002 Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications," NEI 00-02, "PRA Peer Review Process Guidelines," Revision 1, May 2006, and NEI 05-04, "Process for Performing Follow-On PRA Peer Reviews Using the ASME PRA Standard," Revision 0, August 2006. The licensee has performed an assessment of the PRA models used to support the SFCP against the requirements of RG 1.200 to assure that the PRA models are capable of determining the change in risk due to changes to surveillance frequencies of SSCs, using plant-specific data and models. Capability Category II of ASME RA-Sb-2005 is applied as the standard, and any identified deficiencies to those requirements are assessed further to

determine any impacts to proposed decreases to surveillance frequencies, including by the use of sensitivity studies where appropriate.

The NRC staff reviewed the licensee's assessment of the PBAPS PRA and the remaining open deficiencies that do not conform to Capability Category II of the ASME PRA standard (Table 2-1 of Attachment 2 of the license amendment request). The NRC staff's assessment of these open "gaps," to assure that they are addressed and dispositioned for each surveillance frequency evaluation per the NEI 04-10 methodology, is provided below.

Gap #1: An update of the PBAPS interfacing systems loss-of-coolant accident (ISLOCA) evaluation is required. The licensee identified that the existing evaluation is conservative when compared to similar evaluations for other nuclear plants which use more detailed methods, and therefore this deficiency is not significant for surveillance frequency evaluations. The NRC staff finds that a conservative treatment of ISLOCA would not adversely impact risk analyses for surveillance frequency extensions, and therefore this deficiency can be addressed per the methodology of NEI 04-10.

Gap #2: Interviews or other input from plant operations, maintenance, engineering, and safety analysis staff for the purpose of identifying potential initiating events which may not be included in the model should be obtained and documented. The licensee identified that the current initiating events modeled are consistent with other PRAs for boiling water reactors (BWR). The process in NEI 04-10 includes a step to specifically consider the impact on initiating events from the components being evaluated, and therefore this deficiency can be addressed per the methodology.

The licensee's disposition also states that Capability Category I is acceptable for surveillance test interval extensions, although it stated that the gap would still be assessed for each surveillance interval extension, as required by NEI 04-10.

Gap #6: Documentation of system dependencies in a single PRA notebook is recommended. The licensee identified that the information is provided in the existing documentation. This deficiency does not identify any specific PRA model concern, and can be addressed per NEI 04-10.

Gap #11: Limitations of the thermal hydraulic codes used to support the PRA should be identified and documented. The licensee stated that its use of such codes is within known limitations, and that this is a documentation issue. Each surveillance interval extension can be evaluated for its relevance to thermal hydraulic evaluations consistent with NEI 04-10.

Gaps #25, #26, #27, and #31: Collectively, these gaps identify deficiencies in the evaluation and documentation of pre-initiator system alignment errors and instrument miscalibration. The licensee identified that a significant number of these failure modes are included in the PRA model for risk-significant systems, and quantification of these events use generic evaluations or a limited number of detailed evaluations. Each surveillance interval extension can be evaluated for its relevance to possible alignment or miscalibration errors, and appropriate sensitivity analyses can then be performed, consistent with NEI 04-10.

The licensee's disposition also states that Capability Category I is acceptable for surveillance test interval extensions, although it stated that the gap would still be assessed for each surveillance interval extension, as required by NEI 04-10.

Gap #54: The methodology for determining the number of demands of standby components is not documented and so may not be consistent with the standard. The licensee identified that its method for estimating demands is consistent with its implementation of 10 CFR 50.65 (maintenance rule), and judged that this would only have a minimal impact of component reliability values. Appropriate sensitivity studies may be performed where surveillance interval extensions may be impacted by the data, consistent with NEI 04-10.

Gap #55: A review of operating experience to determine the time that components were in standby is required. The licensee identified that it estimates standby status. Appropriate sensitivity studies may be performed where surveillance interval extensions may be impacted by the data, consistent with NEI 04-10. The licensee's disposition also states that Capability Category I is acceptable for surveillance test interval extensions, although it stated that the gap would still be assessed for each surveillance interval extension, as required by NEI 04-10.

Gap #58, #59, #60, #65: Collectively, these gaps identify deviations from the guidance in the standard defining how maintenance hours, coincident maintenance activities, and current design and operating conditions should be considered when determining the plant-specific data for plant SSCs. The licensee identified that its method for estimating demands is consistent with its implementation of 10 CFR 50.65 (maintenance rule), and stated this item is not expected to significantly impact the number of unavailable hours used in the model. With regards to coincident maintenance activities, the licensee stated that the existing model is reasonably consistent with known plant operating practice and experience. For consideration of design and operating conditions, the licensee identified the need to update documentation to reflect the existing process for updating plant-specific data. Each surveillance interval extension can be evaluated for its relevance to these issues, consistent with NEI 04-10.

Gap #67, #68, #69, #70, #71, #72, and #73: Collectively, these gaps identify deficiencies in the internal flooding analysis. The licensee identified that an updated analysis has been completed and will be incorporated into the PRA model in the 2009 model update process. The results of this analysis demonstrate that the contribution of internal flooding to both CDF and LERF remain relatively small. Since the analysis is complete, the impact of surveillance interval extensions can be evaluated for impact on internal flooding risk, consistent with NEI 04-10.

Gap #77, #80, Add #2: Enhancement to the uncertainty analysis by use of a documented, systematic process to identify significant assumptions is recommended. Subsequent to completion of the gap assessment, the PRA standard was revised. The licensee assessed this issue, and identified that the revised standard for identification and evaluation of uncertainties will be applied for each surveillance interval extension to support identification of key assumptions. This is consistent with the current PRA standard, and therefore acceptable for conformance to NEI 04-10.

Gap #83: The LERF analysis requires a human error dependency assessment and quantitative sensitivity and uncertainty assessments. The licensee identified that these assessments are being finalized as part of the 2009 model update process. Each surveillance interval extension can be evaluated for its relevance to LERF and human error dependencies, consistent with NEI 04-10.

Add #1: The definition of "significant" has been updated in the PRA standard subsequent to completion of the gap assessment. The licensee identified that this is only a documentation issue which will be addressed in the next full PRA model update. Each surveillance interval extension can be evaluated to assure there is no impact on the quantitative results, consistent with NEI 04-10.

Based on the licensee's assessment using the applicable PRA standard and RG 1.200, and the level of PRA quality, combined with the proposed evaluation and disposition of gaps, the NRC staff finds that the assessment is sufficient to support the evaluation of future changes proposed to surveillance frequencies within the SFCP, and is consistent with Regulatory Position 2.3.1 of RG 1.177.

3.2.4.2 Scope of the PRA

The licensee is required to evaluate each proposed change to a relocated surveillance frequency using the guidance contained in NEI 04-10 to determine its potential impact on risk due to impacts from internal events, fires, seismic, other external events, and from shutdown conditions. Consideration is made of both CDF and LERF metrics. In cases where a PRA of sufficient scope or where quantitative risk models were unavailable, the licensee uses bounding analyses, or other conservative quantitative evaluations. A qualitative screening analysis may be used when the surveillance frequency impact on plant risk is shown to be negligible or zero.

The licensee has developed a fire PRA model, based on the guidance in Electric Power and Research Institute (EPRI) Fire Induced Vulnerability Evaluation (FIVE), EPRI Fire PRA Implementation Guide, EPRI Fire Events Database, and plant-specific data. An update to this PRA was completed in 2007 to include explicit analysis of the main control room and cable spreading room. Additional updates will incorporate NUREG/CR-6850 initiating event frequencies. For surveillance interval evaluations where a qualitative or bounding approach is not deemed sufficient, Exelon intends to apply the fire PRA model with consideration of conservatisms which are inherent in the fire PRA on a case-by-case basis.

The NRC staff finds that the licensee's evaluation methodology is sufficient to ensure the scope of the risk contribution of each surveillance frequency change is properly identified for evaluation, and is consistent with Regulatory Position 2.3.2 of RG 1.177.

3.2.4.3 PRA Modeling

The licensee will determine whether the SSCs affected by a proposed change to a surveillance frequency are modeled in the PRA. Where the SSC is directly or implicitly modeled, a quantitative evaluation of the risk impact may be carried out. The methodology adjusts the failure probability of the impacted SSCs, including any impacted common cause failure modes, based on the proposed change to the surveillance frequency. Where the SSC is not modeled in

the PRA, bounding analyses are performed to characterize the impact of the proposed change to the surveillance frequency. Potential impacts on the risk analyses due to screening criteria and truncation levels are addressed by the requirements for PRA technical adequacy consistent with guidance contained in RG 1.200, and by sensitivity studies identified in NEI 04-10.

The licensee will perform quantitative evaluations of the impact of selected testing strategy (i.e., staggered testing or sequential testing) consistently with the guidance of NUREG/CR-6141 and NUREG/CR-5497, as discussed in NEI 04-10.

The NRC staff finds that the application of the methods in NEI 04-10 to the PBAPS PRA modeling is sufficient to ensure an acceptable evaluation of risk for future proposed changes in surveillance frequency, and is consistent with Regulatory Position 2.3.3 of RG 1.177.

3.2.4.4 Assumptions for Time Related Failure Contributions

The failure probabilities of SSCs modeled in the PBAPS PRA include a standby time-related contribution and a cyclic demand-related contribution. NEI 04-10 criteria adjust the time-related failure contribution of SSCs affected by the proposed change to surveillance frequency. This is consistent with RG 1.177 Section 2.3.3 which permits separation of the failure rate contributions into demand and standby for evaluation of surveillance requirements. If the available data do not support distinguishing between the time-related failures and demand failures, then the change to surveillance frequency is conservatively assumed to impact the total failure probability of the SSC, including both standby and demand contributions. The SSC failure rate (per unit time) is assumed to be unaffected by the change in test frequency, and will be confirmed by the required monitoring and feedback implemented after the change in surveillance frequency is implemented. The process requires consideration of qualitative sources of information with regards to potential impacts of test frequency on SSC performance, including industry and plant-specific operating experience, vendor recommendations, industry standards, and code-specified test intervals. Thus, the process is not reliant upon risk analyses as the sole basis for the proposed changes.

The potential beneficial risk impacts of reduced surveillance frequency, including reduced downtime, lesser potential for restoration errors, reduction of potential for test-caused transients, and reduced test-caused wear of equipment, are identified qualitatively, but are conservatively not required to be quantitatively assessed. Thus, through the application of NEI 04-10, the NRC staff finds that the licensee has employed reasonable assumptions with regard to extensions of surveillance test intervals, and is consistent with Regulatory Position 2.3.4 of RG 1.177.

3.2.4.5 Sensitivity and Uncertainty Analyses

NEI 04-10 requires sensitivity studies to assess the impact of uncertainties from key assumptions of the PRA, uncertainty in the failure probabilities of the affected SSCs, impact to the frequency of initiating events, and of any identified deviations from Capability Category II of ASME PRA Standard (ASME RA-Sb-2005). Where the sensitivity analyses identify a potential impact on the proposed change, revised surveillance frequencies are considered, along with any qualitative considerations that may bear on the results of such sensitivity studies. Required monitoring and feedback of SSC performance once the revised surveillance frequencies are implemented will also be performed. Thus, through the application of NEI 04-10, the NRC staff

finds that the licensee has appropriately considered the possible impact of PRA model uncertainty and sensitivity to key assumptions and model limitations, and is consistent with Regulatory Position 2.3.5 of RG 1.177.

3.2.4.6 Acceptance Guidelines

The licensee will quantitatively evaluate the change in total risk (including internal and external events contributions) in terms of CDF and LERF for both the individual risk impact of a proposed change in surveillance frequency and the cumulative impact from all individual changes to surveillance frequencies using the guidance contained in NRC approved NEI 04-10 in accordance with the TS SFCP. Each individual change to surveillance frequency must show a risk impact below 1E-6 per year for change to CDF, and below 1E-7 per year for change to LERF. These are consistent with the limits of RG 1.174 for very small changes in risk. Where the RG 1.174 limits are not met, the process either considers revised surveillance frequencies which are consistent with RG 1.174 or the process terminates without permitting the proposed changes. Where quantitative results are unavailable to permit comparison to acceptance guidelines, appropriate qualitative analyses are required to demonstrate that the associated risk impact of a proposed change to surveillance frequency is negligible or zero. Otherwise, bounding quantitative analyses are required which demonstrate the risk impact is at least one order of magnitude lower than the RG 1.174 acceptance guidelines for very small changes in risk. In addition to assessing each individual SSC surveillance frequency change, the cumulative impact of all changes must result in a risk impact below 1E-5 per year for change to CDF, and below 1E-6 per year for change to LERF, and the total CDF and total LERF must be reasonably shown to be less than 1E-4 per year and 1E-5 per year, respectively. These are consistent with the limits of RG 1.174 for acceptable changes in risk, as referenced by RG 1.177 for changes to surveillance frequencies. The NRC staff interprets this assessment of cumulative risk as a requirement to calculate the change in risk from a baseline model utilizing failure probabilities based on the surveillance frequencies prior to implementation of the SFCP, compared to a revised model with failure probabilities based on changed surveillance frequencies. The staff further notes that Exelon includes a provision to exclude the contribution to cumulative risk from individual changes to surveillance frequencies associated with small risk increases (less than 5E-8 CDF and 5E-9 LERF) once the baseline PRA models are updated to include the effects of the revised surveillance frequencies.

The quantitative acceptance guidance of RG 1.174 is supplemented by qualitative information to evaluate the proposed changes to surveillance frequencies, including industry and plant-specific operating experience, vendor recommendations, industry standards, the results of sensitivity studies, and SSC performance data and test history. The final acceptability of the proposed change is based on all of these considerations and not solely on the PRA results compared to numerical acceptance guidelines. Post implementation performance monitoring and feedback are also required to assure continued reliability of the components. The licensee's application of NEI 04-10 provides reasonable acceptance guidelines and methods for evaluating the risk increase of proposed changes to surveillance frequencies, consistent with Regulatory Position 2.4 of RG 1.177. Therefore, the NRC staff finds that the proposed Exelon methodology satisfies the fourth key safety principle of RG 1.177 by assuring any increase in risk is small, consistent with the intent of the Commission's Safety Goal Policy Statement.

3.2.5 The Impact of the Proposed Change Should Be Monitored Using Performance Measurement Strategies

The licensee's adoption of TSTF-425 requires application of NEI 04-10 in the SFCP. NEI 04-10 requires performance monitoring of SSCs whose surveillance frequency has been revised as part of a feedback process to assure that the change in test frequency has not resulted in degradation of equipment performance and operational safety. The monitoring and feedback includes consideration of maintenance rule monitoring of equipment performance. In the event of degradation of SSC performance, the surveillance frequency will be reassessed in accordance with the methodology, in addition to any corrective actions which may apply as part of the maintenance rule requirements. The performance monitoring and feedback specified in NEI 04-10 is sufficient to reasonably assure acceptable SSC performance and is consistent with Regulatory Position 3.2 of RG 1.177. Thus, NRC staff finds that the fifth key safety principle of RG 1.177 is satisfied.

3.3 Addition of Surveillance Frequency Control Program to TS Section 5

The licensee has included the SFCP and specific requirements into TS Section 5.5.14, "Administrative Controls," as follows:

> This program provides controls for Surveillance Frequencies. The program shall ensure that Surveillance Requirements specified in the Technical Specifications are performed at intervals sufficient to assure that the associated Limiting Conditions for Operation are met.
>
> a. The Surveillance Frequency Control Program shall contain a list of Frequencies of the Surveillance Requirements for which the Frequency is controlled by the program.
>
> b. Changes to the Frequencies listed in the Surveillance Frequency Control Program shall be made in accordance with NEI 04-10, "Risk-Informed Method for Control of Surveillance Frequencies," Revision 1.
>
> c. The provisions of Surveillance Requirements 3.0.2 and 3.0.3 are applicable to the Frequencies established in the Surveillance Frequency Control Program.

3.4 Summary and Conclusions

The NRC staff has reviewed the licensee's proposed relocation of some surveillance frequencies to a licensee-controlled document, and controlling changes to surveillance frequencies in accordance with a new program, the SFCP, identified in the administrative controls of TS. The SFCP and TS Section 5.5.14 references NEI 04-10, which provides a risk-informed methodology using plant-specific risk insights and performance data to revise surveillance frequencies within the SFCP. This methodology supports relocating surveillance frequencies from TS to a licensee-controlled document, provided that subsequent changes to those frequencies are performed in accordance with NEI 04-10 which is specified in the Administrative Controls of the TS.

The NRC staff finds that the proposed licensee adoption of TSTF-425 and risk-informed methodology of NEI 04-10 as referenced in the Administrative Controls of TS, satisfies the key principles of risk-informed decision making applied to changes to TS as delineated in RG 1.177 and RG 1.174, in that:

- The proposed change meets current regulations;
- The proposed change is consistent with defense-in-depth philosophy;
- The proposed change maintains sufficient safety margins;
- Increases in risk resulting from the proposed change are small and consistent with the Commission's Safety Goal Policy Statement; and
- The impact of the proposed change is monitored with performance measurement strategies.

10 CFR 50.36(c)(3) states: "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." The NRC staff finds that with the proposed relocation of surveillance frequencies to an owner-controlled document and administratively controlled in accordance with the TS SFCP, Exelon continues to meet the regulatory requirement of 10 CFR 50.36, and specifically, 10 CFR 50.36(c)(3), "Surveillance requirements."

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The NRC staff has determined that the amendments change requirements with respect to installation or use of a facility's components located within the restricted area as defined in 10 CFR Part 20 or change SRs. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (75 FR 23815). The changes discussed in this safety evaluation meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Andrew Howe

Date: August 27, 2010

All work is complete on TAC Nos. ME2184 and ME2185. Accordingly, these TAC Nos. will be closed. A copy of our Safety Evaluation is enclosed and a Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/ra/

John D. Hughey, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosures:
1. Amendment No. 278 to Renewed DPR-44
2. Amendment No. 281 to Renewed DPR-56
3. Safety Evaluation

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