



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

February 14, 2012

Vice President, Operations
Entergy Nuclear Operations, Inc.
James A. FitzPatrick Nuclear Power Plant
P.O. Box 110
Lycoming, NY 13093

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - ISSUANCE OF
AMENDMENT RE: RISK-INFORMED JUSTIFICATION FOR THE
RELOCATION OF SPECIFIC SURVEILLANCE FREQUENCY REQUIREMENTS
TO A LICENSEE CONTROLLED PROGRAM (TAC NO. ME6755)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No. 301 to Renewed Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 22, 2011, as supplemented by letter dated October 19, 2011.

The amendment modifies the TS by relocating specific Surveillance Frequencies to a licensee-controlled program with the adoption of Technical Specification Task Force (TSTF)-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control-Risk Informed Technical Specification Task Force (RITSTF) Initiative 5b." The existing Bases information describing the basis for the Surveillance Frequency will be relocated to the licensee-controlled Surveillance Frequency Control Program. Additionally, the change adds a new program TS 5.5.15, "Surveillance Frequency Control Program," to TS Section 5.5, "Programs and Manuals."

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "B.K. Vaidya", with a horizontal line underneath.

Bhalchandra K. Vaidya, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosures:

1. Amendment No. 301 to DPR-59
2. Safety Evaluation

cc w/encls: Distribution via Listserv



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

ENTERGY NUCLEAR FITZPATRICK, LLC

AND ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-333

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 301
Renewed Facility Operating License No. DPR-59

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Entergy Nuclear Operations, Inc. (the licensee) dated July 22, 2011, as supplemented on October 19, 2011, 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-59 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 301, are hereby incorporated in the renewed facility operating license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance and shall be implemented within 120 days.

FOR THE NUCLEAR REGULATORY COMMISSION



George A. Wilson, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Renewed Facility Operating
License and Technical Specifications

Date of Issuance: February 14, 2012

ATTACHMENT TO LICENSE AMENDMENT NO. 301

RENEWED FACILITY OPERATING LICENSE NO. DPR-59

DOCKET NO. 50-333

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

Remove Page

Page 3

Insert Page

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 Pages

3.1.3-4
3.1.4-2
3.1.5-3
3.1.6-2
3.1.7-2
3.1.7-3
3.1.7-4
3.1.8-2
3.2.1-1
3.2.2-1
3.2.3-1
3.3.1.1-3
3.3.1.1-4
3.3.1.1-5
3.3.1.2-2
3.3.1.2-3
3.3.1.2-4
3.3.2.1-3
3.3.2.1-4
3.3.2.1-5
3.3.2.2-1
3.3.2.2-2
3.3.2.2-3
3.3.3.1-2
3.3.3.1-3
3.3.3.2-2
3.3.4.1-3
3.3.5.1-7
3.3.5.2-3
3.3.6.1-4
3.3.6.1-5

Insert Pages

3.1.3-4
3.1.4-2
3.1.5-3
3.1.6-2
3.1.7-2
3.1.7-3
3.1.7.4
3.1.8-2
3.2.1-1
3.2.2-1
3.2.3-1
3.3.1.1-3
3.3.1.1-4
3.3.1.1-5
3.3.1.2-2
3.3.1.2-3
3.3.1.2-4
3.3.2.1-3
3.3.2.1-4
3.3.2.1-5
3.3.2.2-1
3.3.2.2-2
--
3.3.3.1-2
3.3.3.1-3
3.3.3.2-2
3.3.4.1-3
3.3.5.1-7
3.3.5.2-3
3.3.6.1-4
3.3.6.1-5

Remove Pages

3.3.6.1-4
3.3.6.1-5
3.3.6.2-2
3.3.6.2-3
3.3.7.1-2
3.3.7.2-2
3.3.7.2-3
3.3.7.3-2
3.3.8.1-2
3.3.8.2-2
3.3.8.2-3
3.4.1-3
3.4.2-2
3.4.4-2
3.4.5-3
3.4.6-2
3.4.7-2
3.4.8-1
3.4.8-2
3.4.9-3
3.4.9-5
3.4.9-6
3.5.1-3
3.5.1-4
3.5.1-6
3.5.2-2
3.5.2-3
3.5.2-4
3.5.3-2
3.5.3-3
3.6.1.1-2
3.6.1.2-4
3.6.1.3-7
3.6.1.3-8
3.6.1.3-9
3.6.1.4-1
3.6.1.5-1
3.6.1.6-2
3.6.1.6-3
3.6.1.7-2
3.6.1.8-2
3.6.1.9-2
3.6.2.1-3
3.6.2.2-1
3.6.2.3-2
3.6.2.4-2

Insert Pages

3.3.6.1-4
3.3.6.1-5
3.3.6.2-2
3.3.6.2-3
3.3.7.1-2
3.3.7.2-2
3.3.7.2-3
3.3.7.3-2
3.3.8.1-2
3.3.8.2-2
3.3.8.2-3
3.4.1-3
3.4.2-2
3.4.4-2
3.4.5-3
3.4.6-2
3.4.7-2
3.4.8-1
--
3.4.9-3
3.4.9-5
3.4.9-6
3.5.1-3
3.5.1-4
3.5.1-6
3.5.2-2
3.5.2-3
3.5.2-4
3.5.3-2
3.5.3-3
3.6.1.1-2
3.6.1.2-4
3.6.1.3-7
3.6.1.3-8
3.6.1.3-9
3.6.1.4-1
3.6.1.5-1
3.6.1.6-2
3.6.1.6-3
3.6.1.7-2
3.6.1.8-2
3.6.1.9-2
3.6.2.1-3
3.6.2.2-1
3.6.2.3-2
3.6.2.4-2

Remove Pages

3.6.3.1-1
3.6.3.2-2
3.6.4.1-2
3.6.4.2-4
3.6.4.3-3
3.7.1-2
3.7.2-2
3.7.2-3
3.7.2-4
3.7.3-3
3.7.4-3
3.7.5-2
3.7.6-2
3.7.7-1
3.8.1-4
3.8.1-5
3.8.1-6
3.8.1-7
3.8.1-8
3.8.1-9
3.8.1-10
3.8.1-11
3.8.3-2
3.8.3-3
3.8.4-3
3.8.4-4
3.8.6-2
3.8.6-3
3.8.7-2
3.8.8-2
3.9.1-2
3.9.2-1
3.9.2-2
3.9.3-1
3.9.5-1
3.9.6-1
3.9.7-2
3.9.8-2
3.10.2-2
3.10.3-3
3.10.4-3
3.10.4-4
3.10.5-2
3.10.5-3
3.10.6-2
3.10.8-3
3.10.8-4
5.5-15

Insert Pages

3.6.3.1-1
3.6.3.2-2
3.6.4.1-2
3.6.4.2-4
3.6.4.3-3
3.7.1-2
3.7.2-2
3.7.2-3
3.7.2-4
3.7.3-3
3.7.4-3
3.7.5-2
3.7.6-2
3.7.7-1
3.8.1-4
3.8.1-5
3.8.1-6
3.8.1-7
3.8.1-8
3.8.1-9
3.8.1-10
--
3.8.3-2
3.8.3-3
3.8.4-3
3.8.4-4
3.8.6-2
3.8.6-3
3.8.7-2
3.8.8-2
3.9.1-2
3.9.2-1
--
3.9.3-1
3.9.5-1
3.9.6-1
3.9.7-2
3.9.8-2
3.10.2-2
3.10.3-3
3.10.4-3
3.10.4-4
3.10.5-2
--
3.10.6-2
3.10.8-3
3.10.8-4
5.5-15

- (4) ENO pursuant to the Act and 10 CFR Parts 30, 40, and 70 to receive, possess, and use, at any time, any byproduct, source and special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration; or associated with radioactive apparatus, components or tools..
 - (5) Pursuant to the Act and 10 CFR Parts 30 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- C. This renewed operating 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, Sections 50.54 and 50.59 of Part 50, and Section 70.32 of Part 70; and is subject to all applicable provisions of the Act and to the rules, regulations, and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level

ENO is authorized to operate the facility at steady state reactor core power levels not in excess of 2536 megawatts (thermal).
 - (2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 301, are hereby incorporated in the renewed operating license. The licensee shall operate the facility in accordance with the Technical Specifications.
 - (3) Fire Protection

ENO shall implement and maintain in effect all provisions of the approved fire protections program as described in the Final Safety Analysis Report for the facility and as approved in the SER dated November 20, 1972; the SER Supplement No. 1 dated February 1, 1973; the SER Supplement No. 2 dated October 4, 1974; the SER dated August 1, 1979; the SER Supplement dated October 3, 1980; the SER Supplement dated February 13, 1981; the NRC Letter dated February 24, 1981; Technical Specification Amendments 34 (dated January 31, 1978), 80 (dated May 22, 1984), 134 (dated July 19, 1989), 135 (dated September 5, 1989), 142 (dated October 23, 1989), 164 (dated August 10, 1990), 176 (dated January 16, 1992), 177 (dated February 10, 1992), 186 (dated February 19, 1993), 190 (dated June 29, 1993), 191 (dated July 7, 1993), 206 (dated February 28, 1994) and 214 (dated June 27, 1994); and NRC Exemptions and associated safety evaluations dated April 26, 1983, July 1, 1983, January 11, 1985, April 30, 1986, September 15, 1986 and September 10, 1992 subject to the following provision:

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	<p>----- NOTE -----</p> <p>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.</p> <p>-----</p> <p>Insert each withdrawn control rod at least one notch.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.1.3.3	Verify each control rod scram time from fully withdrawn to notch position 04 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
SR 3.1.3.4	Verify each control rod does not go to the withdrawn overtravel position.	<p>Each time the control rod is withdrawn to "full out" position</p> <p><u>AND</u></p> <p>Prior to declaring control rod OPERABLE after work on control rod or CRD System that could affect coupling</p>

SURVEILLANCE REQUIREMENTS (continued)

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.	<p>Prior to exceeding 40% RTP after fuel movement within the affected core cell</p> <p><u>AND</u></p> <p>Prior to exceeding 40% RTP after work on control rod or CRD System that could affect scram time</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	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 \geq 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 BPWS.	B.1 ----- NOTE ----- Rod worth minimizer (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 BPWS.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.7.1	Verify available volume of sodium pentaborate solution is within the limits of Figure 3.1.7-1.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.2	Verify temperature of sodium pentaborate solution is within the limits of Figure 3.1.7-2.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.3	Verify temperature of pump suction piping is within the limits of Figure 3.1.7-2.	In accordance with the Surveillance Frequency Control Program
SR 3.1.7.4	Verify continuity of explosive charge.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.5	Verify the concentration of sodium pentaborate in solution is within the limits of Figure 3.1.7-1.	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>Once within 24 hours after water or sodium pentaborate is added to solution</p> <p><u>AND</u></p> <p>Once within 24 hours after solution temperature is restored within the limits of Figure 3.1.7-2</p>
SR 3.1.7.6	Verify each SLC subsystem manual 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 3.1.7.7	Verify each pump develops a flow rate ≥ 50 gpm at a discharge pressure ≥ 1275 psig.	In accordance with the Inservice Testing Program
SR 3.1.7.8	Verify flow through one SLC subsystem from pump into reactor pressure vessel.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.7.9	Verify all heat traced piping between storage tank and pump suction is unblocked.	In accordance with the Surveillance Frequency Control Program <u>AND</u> Once within 24 hours after piping temperature is restored within the limits of Figure 3.1.7-2
SR 3.1.7.10	Verify sodium pentaborate enrichment is ≥ 34.7 atom percent B-10.	Prior to addition to SLC tank
SR 3.1.7.11	Verify sodium pentaborate enrichment in solution in the SLC tank is ≥ 34.7 atom percent B-10.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.1.8.1 -----NOTE----- Not required to be met on vent and drain valves closed during performance of SR 3.1.8.2. -----</p> <p>Verify each SDV vent and drain valve is open.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.1.8.2 Cycle each SDV vent and drain valve to the fully closed and fully open position.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.1.8.3 Verify each SDV vent and drain valve:</p> <p> a. Closes in ≤ 30 seconds after receipt of an actual or simulated scram signal; and</p> <p> b. Opens when the actual or simulated scram signal is reset.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

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 \geq 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 \geq 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 \geq 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 \geq 25% RTP <u>AND</u> 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 \geq 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 \geq 25% RTP <u>AND</u> 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	<p>-----NOTE----- Not required to be performed until 12 hours after THERMAL POWER \geq 25% RTP. -----</p> <p>Verify the absolute difference between the average power range monitor (APRM) channels and the calculated power is \leq 2% RTP while operating at \geq 25% RTP.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.3	<p>-----NOTE----- Not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.4	Perform a functional test of each RPS automatic scram contactor.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.5	Verify the source range monitor (SRM) and intermediate range monitor (IRM) channels overlap.	Prior to fully withdrawing SRMs
SR 3.3.1.1.6	<p>----- NOTE -----</p> <p>Only required to be met during entry into MODE 2 from MODE 1.</p> <p>-----</p> <p>Verify the IRM and APRM channels overlap.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.7	Calibrate the local power range monitors.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.8	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.9	<p>----- NOTE -----</p> <p>1. Neutron detectors are excluded.</p> <p>2. For Functions 1.a and 2.a, not required to be performed when entering MODE 2 from MODE 1 until 12 hours after entering MODE 2.</p> <p>3. For Function 2.b, the recirculation loop flow signal portion of the channel is excluded.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.1.10	Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.11	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.12	<p>----- NOTE ----- For Function 2.b, all portions of the channel except the recirculation loop flow signal portion are excluded. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.13	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.14	Verify Turbine Stop Valve—Closure and Turbine Control Valve Fast Closure, EHC Oil Pressure—Low Functions are not bypassed when THERMAL POWER is $\geq 29\%$ RTP.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.1.15	<p>----- NOTE ----- 1. Neutron detectors are excluded. 2. "n" equals 2 channels for the purpose of determining the STAGGERED TEST BASIS Frequency. -----</p> <p>Verify the RPS RESPONSE TIME is within limits.</p>	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

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

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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.2.2 ----- NOTE -----</p> <ol style="list-style-type: none"> 1. Only required to be met during CORE ALTERATIONS. 2. One SRM may be used to satisfy more than one of the following. <p>-----</p> <p>Verify an OPERABLE SRM detector is located in:</p> <ol style="list-style-type: none"> a. The fueled region; b. The core quadrant where CORE ALTERATIONS are being performed, when the associated SRM is included in the fueled region; and c. A core quadrant adjacent to where CORE ALTERATIONS are being performed, when the associated SRM is included in the fueled region. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.2.3 Perform CHANNEL CHECK.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.2.4 ----- NOTE -----</p> <p>Not required to be met with less than or equal to four fuel assemblies adjacent to the SRM and no other fuel assemblies in the associated core quadrant.</p> <p>-----</p> <p>Verify count rate is ≥ 3.0 cps with a signal to noise ratio $\geq 2:1$.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.2.5 ----- NOTE ----- The determination of signal to noise ratio is not required to be met with less than or equal to four fuel assemblies adjacent to the SRM and no other fuel assemblies in the associated core quadrant. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST and determination of signal to noise ratio.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.2.6 ----- NOTE ----- Not required to be performed until 12 hours after IRMs on Range 2 or below. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST and determination of signal to noise ratio.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.2.7 ----- NOTE ----- 1. Neutron detectors are excluded. 2. Not required to be performed until 12 hours after IRMs on Range 2 or below. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

- NOTE -----
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
SR 3.3.2.1.2	<p>----- NOTE -----</p> <p>Not required to be performed until 1 hour after any control rod is withdrawn at $\leq 10\%$ RTP in MODE 2.</p> <p>-----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.2.1.3 ----- NOTE ----- Not required to be performed until 1 hour after THERMAL POWER is \leq 10% RTP in MODE 1. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.2.1.4 ----- NOTE ----- Neutron detectors are excluded. -----</p> <p>Verify the RBM is not bypassed:</p> <p>a. When THERMAL POWER is \geq 30% RTP; and</p> <p>b. When a peripheral control rod is not selected.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.2.1.5 ----- NOTE ----- 1. Neutron detectors are excluded. 2. For Function 1.a, the recirculation loop flow signal portion of the channel is excluded. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.2.1.6 Verify the RWM is not bypassed when THERMAL POWER is \leq 10% RTP.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.1.7	<p>----- NOTE -----</p> <p>Not required to be performed until 1 hour after reactor mode switch is in the shutdown position.</p> <p>-----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.1.8	<p>----- NOTE -----</p> <p>For Function 1.a, all portions of the channel except the recirculation loop flow signal portion are excluded.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.1.9	Verify control rod sequences input to the RWM are in conformance with BPWS.	Prior to declaring RWM OPERABLE following loading of sequence into RWM

3.3 INSTRUMENTATION

3.3.2.2 Feedwater and Main Turbine High Water Level Trip Instrumentation

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

APPLICABILITY: THERMAL POWER \geq 25% RTP.

ACTIONS

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

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

SURVEILLANCE REQUIREMENTS

----- NOTE -----

When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided feedwater and main turbine high water level trip capability is maintained.

SURVEILLANCE		FREQUENCY
SR 3.3.2.2.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.2.2	<p style="text-align: center;">----- NOTE -----</p> <p>Only required to be performed when in MODE 4 for > 24 hours.</p> <p style="text-align: center;">-----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.2.3	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 222.5 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

----- 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 other required channel in the associated Function is OPERABLE.

SURVEILLANCE	FREQUENCY
SR 3.3.3.1.1 Perform CHANNEL CHECK of each required PAM instrument channel.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.3.1.2	Perform CHANNEL CALIBRATION of each required PAM instrumentation channel.	In accordance with the Surveillance Frequency Control Program

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.

SURVEILLANCE		FREQUENCY
SR 3.3.3.2.1	Perform CHANNEL CHECK for each required instrumentation channel that is normally energized.	In accordance with the Surveillance Frequency Control Program
SR 3.3.3.2.2	Verify each required control circuit and transfer switch is capable of performing the intended function.	In accordance with the Surveillance Frequency Control Program
SR 3.3.3.2.3	Perform CHANNEL CALIBRATION for each required instrumentation channel.	In accordance with the Surveillance Frequency Control Program

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
SR 3.3.4.1.2	Perform CHANNEL FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.4.1.3	Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.4.1.4	Perform CHANNEL CALIBRATION. The Allowable Values shall be: a. Reactor Vessel Water Level—Low Low (Level 2): ≥ 105.4 inches; and b. Reactor Pressure—High: ≤ 1153 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.3.4.1.5	Perform LOGIC SYSTEM FUNCTIONAL TEST including breaker actuation.	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, 3.f, and 3.g; and (b) for up to 6 hours for Functions other than 3.c, 3.f, and 3.g provided the associated Function or the redundant Function maintains ECCS initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.1.1	Perform CHANNEL CHECK.	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	Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.1.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.1.6	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 Functions 2 and 4; and (b) for up to 6 hours for Functions 1 and 3 provided the associated Function maintains RCIC initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.5.2.1	Perform CHANNEL CHECK.	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	Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2.6	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 as follows: (a) for up to 6 hours for Functions 2.d, 2.g, 7.a, and 7.b; and (b) for up to 6 hours for Functions other than 2.d, 2.g, 7.a, and 7.b provided the associated Function maintains 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 Functions 1.f and 2.f, radiation detectors are excluded. ----- Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
	(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.3.6.1.4 Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.5 Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.1.6 Calibrate the radiation detectors.	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
<p>SR 3.3.6.1.8 ----- NOTE ----- "n" equals 2 channels for the purpose of determining the STAGGERED TEST BASIS Frequency. -----</p> <p>Verify the ISOLATION INSTRUMENTATION RESPONSE TIME is within limits.</p>	In accordance with the Surveillance Frequency Control Program

ACTIONS

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

SURVEILLANCE REQUIREMENTS

-----NOTES-----

1. Refer to Table 3.3.6.2-1 to determine which SRs apply for each Secondary Containment Isolation Function.
 2. When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains secondary containment isolation capability.
-

SURVEILLANCE	FREQUENCY
SR 3.3.6.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
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	Calibrate the trip units.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.2.5	Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.6.2.6	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

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

SURVEILLANCE	FREQUENCY
SR 3.3.7.1.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.7.1.2 Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 4000 cpm.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

----- NOTE -----

When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the associated Function maintains condenser air removal pump isolation capability.

SURVEILLANCE	FREQUENCY
SR 3.3.7.2.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.7.2.2	<p>-----NOTE----- Radiation detectors are excluded. -----</p> <p>Perform CHANNEL CALIBRATION. The Allowable Value shall be ≤ 3 times Normal Full Power Background.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.7.2.3	Calibrate the radiation detectors.	In accordance with the Surveillance Frequency Control Program
SR 3.3.7.2.4	Perform LOGIC SYSTEM FUNCTIONAL TEST including isolation valve actuation.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

----- NOTE -----
When a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours provided the ESW pressure Instrumentation maintains initiation capability.

SURVEILLANCE		FREQUENCY
SR 3.3.7.3.1	Perform CHANNEL CALIBRATION. The Allowable Value shall be ≥ 40 psig and ≤ 50 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.3.7.3.2	Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

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

SURVEILLANCE	FREQUENCY
SR 3.3.8.1.1 Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program
SR 3.3.8.1.2 Perform LOGIC SYSTEM FUNCTIONAL TEST.	In accordance with the Surveillance Frequency Control Program

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
<p>SR 3.3.8.2.1 ----- NOTE----- Only required to be performed prior to entering MODE 2 from MODE 3 or 4, when in MODE 4 for ≥ 24 hours. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.8.2.2	<p>Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice RPS motor generator sets. The Allowable Values shall be:</p> <ul style="list-style-type: none"> a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds. b. Undervoltage ≥ 112.5 V for RPS bus A and ≥ 113.9 V for RPS bus B, with time delay set to ≤ 4 seconds. c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 seconds. 	In accordance with the Surveillance Frequency Control Program
SR 3.3.8.2.3	<p>Perform CHANNEL CALIBRATION of the electric power monitoring assemblies associated with the inservice alternate power supplies. The Allowable Values shall be:</p> <ul style="list-style-type: none"> a. Overvoltage ≤ 132 V, with time delay set to ≤ 4 seconds. b. Undervoltage ≥ 109.9 V, with time delay set to ≤ 4 seconds. c. Underfrequency ≥ 57 Hz, with time delay set to ≤ 4 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	<p>----- NOTE----- Only required to be performed in MODE 1. -----</p> <p>Verify reactor operating at core flow and THERMAL POWER conditions outside the Exclusion Region of the power-to-flow map specified in the COLR.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.4.1.2	<p>----- NOTE----- Not required to be performed until 24 hours after both recirculation loops are in operation. -----</p> <p>Verify recirculation loop jet pump flow mismatch with both recirculation loops in operation is:</p> <ul style="list-style-type: none"> a. 10% of rated core flow when operating at < 70% of rated core flow; and b. 5% of rated core flow when operating at ≥ 70% of rated core flow. 	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

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

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.4.1 Verify RCS unidentified and total LEAKAGE and unidentified LEAKAGE increase are within limits.	In accordance with the Surveillance Frequency Control Program

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 other required leakage detection instrumentation is OPERABLE.

SURVEILLANCE		FREQUENCY
SR 3.4.5.1	Perform a CHANNEL CHECK of drywell continuous atmospheric monitoring systems.	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
	<u>AND</u>	
	B.2.2.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.6.1 ----- NOTE ----- Only required to be performed in MODE 1. -----</p> <p>Verify reactor coolant DOSE EQUIVALENT I-131 specific activity is $\leq 0.2 \mu\text{Ci/gm}$.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

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

3.4 REACTOR COOLANT SYSTEM (RCS)

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

LCO 3.4.8 Two RHR shutdown cooling subsystems shall be OPERABLE.

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

APPLICABILITY: MODE 4.

ACTIONS

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

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.8.1 Verify each RHR shutdown cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position, or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.1 ----- NOTE ----- Only required to be performed during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing. -----</p> <p>Verify:</p> <ul style="list-style-type: none"> a. RCS pressure and RCS temperature are within the limits specified in the curves in the PTLR as applicable; and b. RCS temperature change averaged over a one hour period is: <ul style="list-style-type: none"> 1. $\leq 100^{\circ}\text{F}$ when the RCS pressure and RCS temperature are on or to the right of curve C in the PTLR as applicable, during inservice leak and hydrostatic testing; 2. $\leq 20^{\circ}\text{F}$ when the RCS pressure and RCS temperature are to the left of curve C in the PTLR as applicable, during inservice leak and hydrostatic testing; and 3. $\leq 100^{\circ}\text{F}$ during other heatup and cooldown operations. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.5 ----- NOTES ----- Only required to be met in MODES 1, 2, 3, and 4 during recirculation pump startup. -----</p> <p>Verify the difference between the reactor coolant temperature in the recirculation loop to be started and the RPV coolant temperature is within the limits specified in the PTLR.</p>	<p>Once within 15 minutes prior to each startup of a recirculation pump</p>
<p>SR 3.4.9.6 ----- NOTES ----- Only required to be performed when tensioning the reactor vessel head bolting studs. -----</p> <p>Verify, when the reactor vessel head bolting studs are under tension, reactor vessel flange and head flange temperatures are within the limits specified in the PTLR.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.4.9.7 ----- NOTES ----- Not required to be performed until 30 minutes after RCS temperature $\leq 80^{\circ}\text{F}$ with any reactor vessel head bolting stud tensioned. -----</p> <p>Verify, when the reactor vessel head bolting studs are under tension, reactor vessel flange and head flange temperatures are within the limits specified in the PTLR.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.4.9.8 ----- NOTES -----</p> <p>Not required to be performed until 12 hours after RCS temperature $\leq 100^{\circ}\text{F}$ with any reactor vessel head bolting stud tensioned.</p> <p>-----</p> <p>Verify, when the reactor vessel head bolting studs are under tension, reactor vessel flange and head flange temperatures are within the limits specified in the PTLR.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.1 Verify, for each ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.2</p> <p style="text-align: center;">—————NOTE—————</p> <p>Low pressure coolant injection (LPCI) subsystems may be considered OPERABLE during alignment and operation for decay heat removal with reactor steam dome pressure less than the Residual Heat Removal (RHR) cut in permissive pressure in MODE 3, if capable of being manually realigned and not otherwise inoperable.</p> <hr/> <p>Verify each ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.1.3</p> <p>Verify ADS pneumatic supply header pressure is ≥ 95 psig.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.1.4</p> <p>Verify the RHR System cross tie valves are closed and power is removed from the electrical valve operator.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.5.1.5</p> <p>Cycle open and closed each LPCI motor operated valve independent power supply battery charger AC input breaker and verify each LPCI inverter output voltage is ≥ 576 V and ≤ 624 V while supplying the respective bus.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.1.9	<p>—————NOTE—————</p> <p>Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test.</p> <p>Verify, with reactor pressure ≤ 165 psig, the HPCI pump can develop a flow rate ≥ 3400 gpm against a system head corresponding to reactor pressure.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.10	<p>—————NOTE—————</p> <ol style="list-style-type: none"> 1. For the HPCI System, not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. 2. Vessel injection/spray may be excluded. <p>Verify each ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.11	<p>—————NOTE—————</p> <p>Valve actuation may be excluded.</p> <p>Verify the ADS actuates on an actual or simulated automatic initiation signal.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.12	<p>Verify each LPCI motor operated valve independent power supply inverter capacity is adequate to supply and maintain in OPERABLE status the required emergency loads for the design duty cycle.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.5.2.1 Verify, for each required low pressure coolant injection (LPCI) subsystem, the suppression pool water level is ≥ 10.33 ft.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	<p>Verify, for each required core spray (CS) subsystem, the:</p> <p>a. Suppression pool water level is ≥ 10.33 ft; or</p> <p>b. <u>NOTE</u> Only one required CS subsystem may take credit for this option during OPDRVs.</p> <p>The water level in each condensate storage tank is ≥ 324 inches.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.3	<p>Verify, for each required ECCS injection/spray subsystem, the piping is filled with water from the pump discharge valve to the injection valve.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.4	<p><u>NOTE</u> One LPCI subsystem may be considered OPERABLE during alignment and operation for decay heat removal if capable of being manually realigned and not otherwise inoperable.</p> <p>Verify each required ECCS injection/spray subsystem manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE					FREQUENCY
SR 3.5.2.5	Verify each required ECCS pump develops the specified flow rate against a system head corresponding to the specified reactor pressure above primary containment pressure.				In accordance with the Inservice Testing Program
				SYSTEM HEAD CORRESPONDING TO A REACTOR PRESSURE ABOVE PRIMARY CONTAINMENT PRESSURE OF	
	<u>SYSTEM</u>	<u>FLOW RATE</u>	<u>NO. OF PUMPS</u>		
	CS	≥ 4265 gpm	1	≥ 113 psi	
	LPCI	≥ 7700 gpm	1	≥ 20 psi	
SR 3.5.2.6	<div>NOTE</div> <div>Vessel injection/spray may be excluded.</div>				In accordance with the Surveillance Frequency Control Program
	Verify each required ECCS injection/spray subsystem actuates on an actual or simulated automatic initiation signal.				

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.3.1	Verify the RCIC System piping is filled with water from the pump discharge valve to the injection valve.	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	<p>----- NOTE ----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify, with reactor pressure ≤ 1040 psig and ≥ 970 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.5.3.4	<p>----- NOTE ----- Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. -----</p> <p>Verify, with reactor pressure ≤ 165 psig, the RCIC pump can develop a flow rate ≥ 400 gpm against a system head corresponding to reactor pressure.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.3.5</p> <p>----- NOTE -----</p> <ol style="list-style-type: none"> 1. Not required to be performed until 12 hours after reactor steam pressure and flow are adequate to perform the test. 2. Vessel injection may be excluded. <p>-----</p> <p>Verify the RCIC System actuates on an actual or simulated automatic initiation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

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 suppression chamber pressure increase is ≤ 0.25 in. water gauge per minute over a 10 minute period with a drywell to suppression chamber differential pressure of ≥ 1 psi.	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>——NOTE—— Only required after two consecutive tests fail and continues until two consecutive tests pass</p> <hr/> <p>12 months</p>

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.2.1	<p style="text-align: center;"><u>NOTES</u></p> <ol style="list-style-type: none"> 1. An inoperable air lock door does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against criteria applicable to SR 3.6.1.1.1. <p>Perform required primary containment air lock leakage rate testing in accordance with the Primary Containment Leakage Rate Testing Program.</p>	In accordance with the Primary Containment Leakage Rate Testing Program
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

SURVEILLANCE REQUIREMENTS

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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.3	<p>NOTE</p> <ol style="list-style-type: none"> 1. Valves and blind flanges in high radiation areas may be verified by use of administrative means. 2. Not required to be met for PCIVs that are open under administrative controls. <p>Verify each primary containment manual isolation valve and blind flange that is located inside primary containment and not locked, sealed or otherwise secured and is required to be closed during accident conditions is closed.</p>	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 3.6.1.3.4	Verify continuity of the traversing incore probe (TIP) shear isolation valve explosive charge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.5	Verify the isolation time of each power operated, automatic PCIV, except for MSIVs, is within limits.	In accordance with the Inservice Testing Program
SR 3.6.1.3.6	Verify the isolation time of each MSIV is ≥ 3 seconds and ≤ 5 seconds.	In accordance with the Inservice Testing Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.3.7	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 3.6.1.3.8	Verify each reactor instrumentation line EFCV actuates to the isolation position on a simulated instrument line break.	In accordance with the Inservice Testing Program
SR 3.6.1.3.9	Remove and test the explosive squib from each shear isolation valve of the TIP System.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.3.10	Verify combined main steam line leakage rate is ≤ 46 scfh when tested at ≥ 25 psig.	In accordance with the Primary Containment Leakage Rate Testing Program
SR 3.6.1.3.11	Verify the leakage rate of each air operated testable check valve associated with the LPCI and CS Systems vessel injection penetrations is within limits.	In accordance with the Primary Containment Leakage Rate Testing Program

3.6 CONTAINMENT SYSTEMS

3.6.1.4 Drywell Pressure

LCO 3.6.1.4 Drywell pressure shall be ≤ 1.95 psig.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

SURVEILLANCE REQUIREMENTS

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

3.6 CONTAINMENT SYSTEMS

3.6.1.5 Drywell Air Temperature

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

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.1.5.1 Verify drywell average air temperature is within limit.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.1.6.1</p> <hr/> <p style="text-align: center;">NOTES</p> <ol style="list-style-type: none"> 1. Not required to be met for vacuum breakers that are open during Surveillances. 2. Not required to be met for vacuum breakers open when performing their intended function. <hr/> <p>Verify each vacuum breaker is closed.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.6.2 Perform a functional test of each vacuum breaker.	In accordance with the Inservice Testing Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.1.6.3	Perform a CHANNEL CALIBRATION of each air operated vacuum breaker differential pressure instrument channel and verify the setpoint is ≤ 0.5 psid.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.6.4	Verify the opening setpoint of each self actuating vacuum breaker is ≤ 0.5 psid.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.8.1	Verify each MSLC subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.8.2	Perform a system functional test of each MSLC subsystem.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.1.9.1	Verify each RHR containment spray subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program
SR 3.6.1.9.2	Verify each required RHR pump develops a flow rate of ≥ 7750 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the Inservice Testing Program
SR 3.6.1.9.3	Verify each spray nozzle is unobstructed.	In accordance with the Surveillance Frequency Control Program

Suppression Pool Average Temperature
3.6.2.1

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
	<u>AND</u>	
	E.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.1.1 Verify suppression pool average temperature is within the applicable limits.	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>5 minutes when performing testing that adds heat to the suppression pool</p>

3.6 CONTAINMENT SYSTEMS

3.6.2.2 Suppression Pool Water Level

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

NOTE

Not required to be met for up to 4 hours during Surveillances that cause suppression pool water level to be outside the limit.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.2.2.1 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 ≥ 7700 gpm through the associated heat exchanger while operating in the suppression pool cooling mode.	In accordance with the Inservice Testing Program

Drywell-to-Suppression Chamber Differential Pressure
3.6.2.4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.2.4.1	Verify drywell-to-suppression chamber differential pressure is within limit.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.3.1 Primary Containment Oxygen Concentration

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

APPLICABILITY: MODE 1 during the time period:

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

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.3.1.1 Verify primary containment oxygen concentration is within limits.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.3.2.1 Verify ≥ 1400 gal of liquid nitrogen are contained in each CAD subsystem.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.6.3.2.2 Verify each CAD subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position or can be aligned to the correct position.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

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 secondary containment vacuum is ≥ 0.25 inch of vacuum water gauge.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.2	Verify all secondary containment equipment hatches are closed and sealed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.3	Verify one secondary containment access door in each access opening is closed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.4.1.4	Verify the secondary containment can be maintained ≥ 0.25 inch of vacuum water gauge for 1 hour using one SGT subsystem at a flow rate ≤ 6000 cfm.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.4.2.1	<p style="text-align: center;"><u>NOTES</u></p> <ol style="list-style-type: none"> Valves and blind flanges in high radiation areas may be verified by use of administrative means. Not required to be met for SCIVs that are open under administrative controls. <p>Verify each secondary containment isolation manual valve and blind flange that is not locked, sealed, or otherwise secured and is required to be closed during accident conditions is closed.</p>	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 Surveillance Frequency Control 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 ≥ 10 continuous hours 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
SR 3.6.4.3.4	Manually cycle each SGT subsystem filter cooling cross-tie valve.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Both RHRSW subsystems inoperable for reasons other than Condition B.	<p style="text-align: center;"><u>NOTE</u></p> <p>Enter applicable Conditions and Required Actions of LCO 3.4.7 for RHR shutdown cooling made inoperable by RHRSW System.</p>	8 hours
	D.1 Restore one RHRSW subsystem to OPERABLE status.	
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3.	12 hours
	<p><u>AND</u></p> <p>E.2 Be in MODE 4.</p>	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.1.1	Verify each RHRSW 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

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>C. Required Action and associated Completion Time not met.</p> <p><u>OR</u></p> <p>Both ESW subsystems inoperable for reasons other than Condition A.</p> <p><u>OR</u></p> <p>UHS inoperable for reasons other than Condition B.</p>	C.1 Be in MODE 3.	12 hours
	<u>AND</u>	
	C.2 Be in MODE 4.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	Verify the water level in the ESW pump screenwell is ≥ 236.5 ft mean sea level.	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.2	Verify the average water temperature of UHS is $\leq 85^{\circ}\text{F}$.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.2.3	<p>NOTE</p> <p>Not required to be met if UHS temperature is > 37°F.</p> <p>Verify the required deicing heater feeder current is within limits for each division of deicing heaters.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.4	<p>NOTE</p> <p>Isolation of flow to individual components does not necessarily render ESW System inoperable.</p> <p>Verify each ESW subsystem manual, power operated, and automatic 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.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.5	<p>NOTE</p> <p>Not required to be met if UHS temperature is > 37°F.</p> <p>Verify the required deicing heater power is within limits for each division of deicing heaters.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.7.2.6	<p>NOTE</p> <p>Not required to be met if UHS temperature is > 37°F.</p> <p>Verify the required deicing heater resistance to ground is within limits for each division of deicing heaters.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.7	Verify each ESW subsystem actuates on an actual or simulated initiation signal.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>F. Two CREVAS subsystems inoperable during movement of recently irradiated fuel assemblies in the secondary containment or during OPDRVs.</p> <p><u>OR</u></p> <p>One or more CREVAS subsystems inoperable due to an inoperable CRE boundary during movement of recently irradiated fuel in the secondary containment or during OPDRVs.</p>	<p>----- NOTE ----- LCO 3.0.3 is not applicable. -----</p> <p>F.1 Suspend movement of recently irradiated fuel assemblies in the secondary containment.</p> <p><u>AND</u></p> <p>F.2 Initiate action to suspend OPDRVs.</p>	<p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.3.1 Operate each CREVAS subsystem for ≥ 15 minutes.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.7.3.2 Perform required CREVAS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).</p>	<p>In accordance with the VFTP</p>

(continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Verify each control room AC subsystem has the capability to remove the assumed heat load.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<div>SR 3.7.5.1</div> <div>----- 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 $\leq 600,000 \mu\text{Ci/second}$.</div>	<div>In accordance with the Surveillance Frequency Control Program</div> <div>AND</div> <div>----- NOTE----- Only required when gross gamma activity rate is $\geq 5,000 \mu\text{Ci/second}$ ----- Once within 4 hours after a $\geq 50\%$ increase in the nominal steady state fission gas release after factoring out increases due to changes in THERMAL POWER level</div>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.6.1	Verify one complete cycle of each required main turbine bypass valve.	Prior to entering MODE 2 or 3 from MODE 4
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 ≥ 21 ft 7 inches over the top of irradiated fuel assemblies seated in the spent fuel storage pool racks.

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

ACTIONS

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

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.7.1 Verify the spent fuel storage pool water level is ≥ 21 ft 7 inches over the top of irradiated fuel assemblies seated in the spent fuel storage pool racks.</p>	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. (continued)	D.2 Restore EDG subsystem to OPERABLE status.	12 hours
E. Two EDG subsystems inoperable.	E.1 Restore one EDG subsystem to OPERABLE status.	2 hours
F. Required Action and associated Completion Time of Condition A, B, C, D, or E not met.	F.1 Be in MODE 3.	12 hours
	<u>AND</u> F.2 Be in MODE 4.	36 hours
G. Three or more AC sources inoperable.	G.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

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
<p>SR 3.8.1.2</p> <p>----- NOTE-----</p> <p>All EDG subsystem starts may be preceded by an engine prelube period and followed by a warmup period prior to loading.</p> <p>-----</p> <p>Verify each EDG subsystem starts from standby conditions, force parallels, and achieves:</p> <ol style="list-style-type: none"> In ≤ 10 seconds, voltage ≥ 3900 V and frequency ≥ 58.8 Hz; and Steady state voltage ≥ 3900 V and ≤ 4400 V and frequency ≥ 58.8 Hz and ≤ 61.2 Hz. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.3</p> <p>----- NOTE-----</p> <ol style="list-style-type: none"> EDG loadings may include gradual loading as recommended by the manufacturer. Momentary transients outside the load range do not invalidate this test. This Surveillance shall be conducted on only one EDG subsystem at a time. This SR shall be preceded by and immediately follow, without shutdown, a successful performance of SR 3.8.1.2. <p>-----</p> <p>Verify each EDG subsystem is paralleled with normal, reserve, or backfeed power and each EDG is loaded and operates for ≥ 60 minutes at a load ≥ 2340 kW and ≤ 2600 kW.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.4	Verify each day tank contains ≥ 327 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
SR 3.8.1.6	Verify that each EDG fuel oil transfer system operates to automatically transfer fuel oil from its storage tank to the associated day tank.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.7	<p>----- NOTE-----</p> <p>Only required to be met for each offsite circuit that is not energizing its respective 4.16 kV emergency bus.</p> <p>-----</p> <p>Verify automatic and manual transfer of plant power supply from the normal station service transformer to each offsite circuit.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.8	<p>----- NOTE-----</p> <p>If performed with the EDG subsystem paralleled with normal, reserve, or backfeed power, it shall be performed within the power factor limit. 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.</p> <p>-----</p> <p>Verify each EDG subsystem rejects a load greater than or equal to its associated single largest post-accident load, and following load rejection, the frequency is ≤ 66.75 Hz.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.9</p> <p>----- NOTE-----</p> <p>All EDG subsystem starts may be preceded by an engine prelube period.</p> <p>-----</p> <p>Verify on an actual or simulated loss of power signal:</p> <ul style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. EDG subsystem auto-starts from standby condition, force parallels, and: <ul style="list-style-type: none"> 1. energizes permanently connected loads in ≤ 11 seconds, 2. energizes auto-connected shutdown loads, 3. maintains steady state voltage ≥ 3900 V and ≤ 4400 V, 4. maintains steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto-connected shutdown loads for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.10 ----- NOTE-----</p> <p>All EDG subsystem starts may be preceded by an engine prelube period.</p> <p>-----</p> <p>Verify on an actual or simulated Emergency Core Cooling System (ECCS) initiation signal each EDG subsystem auto-starts from standby condition, force parallels, and:</p> <ul style="list-style-type: none"> a. In ≤ 10 seconds after auto-start and during tests, achieves voltage ≥ 3900 V, frequency ≥ 58.8 Hz; b. Achieves steady state voltage ≥ 3900 V and ≤ 4400 V and 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 auto-connected in the prescribed sequence from the offsite power system. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.11 ----- NOTE-----</p> <p>Momentary transients outside the load and power factor ranges do not invalidate this test.</p> <p>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.</p> <p>-----</p> <p>Verify each EDG subsystem operating within the power factor limit operates for ≥ 8 hours:</p> <ul style="list-style-type: none"> a. For ≥ 2 hours each EDG loaded ≥ 2730 kW and ≤ 2860 kW; and b. For the remaining hours of the test each EDG loaded ≥ 2340 kW and ≤ 2600 kW. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.12 ----- NOTE----- All EDG subsystem starts may be preceded by an engine prelube period. -----</p> <p>Verify, on an actual or simulated loss of power signal in conjunction with an actual or simulated ECCS initiation signal:</p> <ol style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. EDG subsystem auto-starts from standby condition, force parallels, and: <ol style="list-style-type: none"> 1. energizes permanently connected loads in ≤ 11 seconds, 2. energizes auto-connected emergency loads in the prescribed sequence, 3. achieves steady state voltage ≥ 3900 V and ≤ 4400 V, 4. achieves steady state frequency ≥ 58.8 Hz and ≤ 61.2 Hz, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.13 Verify interval between each sequenced load block is greater than or equal to the minimum design load interval.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more EDGs with new fuel oil properties not within limits.	D.1 Restore stored fuel oil properties to within limit.	30 days
E. One or more EDGs with required starting air receiver pressure < 150 psig and \geq 110 psig.	E.1 Restore required starting air receiver pressure to within limits.	48 hours
F. Requires Action and associated Completion Time of Condition A, B, C, D, or E not met. <u>OR</u> One or more EDGs with diesel fuel oil, lube oil, or starting air subsystem not within limits for reasons other than condition A, B, C, D, or E.	F.1 Declare associated EDG inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.3.1 Verify each fuel oil storage tank contains \geq a 7 day supply of fuel.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.3.2	Verify lube oil inventory of each EDG is \geq a 7 day supply.	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 EDG required air start receiver pressure is \geq 150 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

SURVEILLANCE		FREQUENCY
SR 3.8.4.1	<p>Verify battery terminal voltage on float charge is:</p> <ul style="list-style-type: none"> a. ≥ 127.8 VDC for 125 VDC batteries, and b. ≥ 396.2 VDC for 419 VDC LPCI MOV independent power supply batteries. 	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.2	<p>Verify each 125 VDC battery charger supplies ≥ 270 amps at ≥ 128 VDC for ≥ 4 hours.</p> <p><u>OR</u></p> <p>Verify each 125 VDC battery charger can recharge the battery to the fully charged state within 24 hours while supplying the largest combined demands of the various continuous steady state loads, after a battery discharge to the bounding design basis event discharge state.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	<p>----- NOTE -----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3 for the 125 VDC batteries. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>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 or a modified performance discharge test.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.4 ----- NOTE -----</p> <p>This Surveillance shall not normally be performed in MODE 1, 2, or 3 for the 125 VDC batteries. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. Credit may be taken for unplanned events that satisfy this SR.</p> <p>-----</p> <p>Verify battery capacity is $\geq 80\%$ of the manufacturer's rating when subjected to a performance discharge test or a modified performance discharge test.</p>	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>12 months when battery shows degradation or has reached 85% of expected life with capacity < 100% of manufacturer's rating</p> <p><u>AND</u></p> <p>24 months when battery has reached 85% of the expected life with capacity $\geq 100\%$ of manufacturer's rating</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. (continued)	A.3 Restore battery cell parameters to Category A and B limits of Table 3.8.6-1.	31 days
<p>B. Required Action and associated Completion Time of Condition A not met.</p> <p><u>OR</u></p> <p>One or more batteries with average electrolyte temperature of the representative cells not within limits.</p> <p><u>OR</u></p> <p>One or more batteries with one or more battery cell parameters not within Category C limits.</p>	B.1 Declare associated battery inoperable.	Immediately

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

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.2	Verify battery cell parameters meet Table 3.8.6-1 Category B limits.	In accordance with the Surveillance Frequency Control Program
SR 3.8.6.3	Verify average electrolyte temperature of representative cells is $\geq 65^{\circ}\text{F}$ for each 125 VDC battery, and $\geq 50^{\circ}\text{F}$ for each 419 VDC LPCI MOV independent power supply battery.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two or more electrical power distribution subsystems inoperable that result in a loss of function.	D.1 Enter LCO 3.0.3.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.7.1 Verify correct breaker alignments and voltage to required AC and 125 VDC electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
A.(continued)	<p>A.2.3 Initiate action to suspend operations with a potential for draining the reactor vessel.</p> <p><u>AND</u></p> <p>A.2.4 Initiate actions to restore required AC and 125 VDC electrical power distribution subsystems to OPERABLE status.</p> <p><u>AND</u></p> <p>A.2.5 Declare associated required shutdown cooling subsystem(s) inoperable.</p>	<p>Immediately</p> <p>Immediately</p> <p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.8.1 Verify correct breaker alignments and voltage to required AC and 125 VDC electrical power distribution subsystems.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.1.1	<p>Perform CHANNEL FUNCTIONAL TEST on each of the following required refueling equipment interlock inputs:</p> <ul style="list-style-type: none"> a. All-rods-in, b. Refuel platform position, c. Refuel platform fuel grapple, fuel loaded, d. Refuel platform fuel grapple not fully up, e. Refuel platform frame mounted hoist, fuel loaded, and f. Refuel platform trolley mounted (monorail) 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
	<u>AND</u> 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
SR 3.9.2.2	<p>-----NOTE----- Not required to be performed until 1 hour after any control rod is withdrawn. -----</p> <p>Perform CHANNEL FUNCTIONAL TEST.</p>	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	<p>----- NOTE ----- Not required to be performed until 7 days after the control rod is withdrawn. -----</p> <p>Insert each withdrawn control rod at least one notch.</p>	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 ≥ 22 ft 2 inches above the top of the RPV flange.

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 ≥ 22 ft 2 inches above the top of the RPV flange.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3 Initiate action to restore one standby gas treatment subsystem to OPERABLE status.	Immediately
	<u>AND</u> B.4 Initiate action to restore isolation capability in each required secondary containment penetration flow path not isolated.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.7.1 Verify each required RHR shutdown cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position, or can be aligned to the correct position.	In accordance with the Surveillance Frequency Control Program

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. (continued)	B.3 Initiate action to restore isolation capability in each required secondary containment penetration flow path not isolated.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.8.1 Verify each RHR shutdown cooling subsystem manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, is in the correct position, or can be aligned to the correct position.	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
	<p><u>OR</u></p> <p>A.3.2 ----- NOTE ----- Only applicable in MODE 5. -----</p> <p>Place the reactor mode switch in the refuel position.</p>	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	<p>----- NOTE ----- Not required to be met if SR 3.10.3.1 is satisfied for LCO 3.10.3.d.1 requirements. -----</p> <p>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.</p>	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
	<u>AND</u>	
	B.2.1 Initiate action to fully insert all control rods.	Immediately
	<u>OR</u>	
	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	<p>----- NOTE -----</p> <p>Not required to be met if SR 3.10.4.1 is satisfied for LCO 3.10.4.c.1 requirements.</p> <p>-----</p> <p>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.</p>	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	<p>----- NOTE -----</p> <p>Not required to be met if SR 3.10.4.1 is satisfied for LCO 3.10.4.b.1 requirements.</p> <p>-----</p> <p>Verify a control rod withdrawal block is inserted.</p>	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
	<u>OR</u>	
	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
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 other 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
	<u>OR</u> 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	<p>-----NOTE----- Only required to be met during fuel loading. -----</p> <p>Verify fuel assemblies being loaded are in compliance with an approved spiral reload sequence.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.10.8.2	<p>----- NOTE ----- Not required to be met if SR 3.10.8.3 satisfied. -----</p> <p>Perform the MODE 2 applicable SRs for LCO 3.3.2.1, Function 2 of Table 3.3.2.1-1.</p>	According to the applicable SRs
SR 3.10.8.3	<p>----- NOTE ----- Not required to be met if SR 3.10.8.2 satisfied. -----</p> <p>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.</p>	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.	<p>Each time the control rod is withdrawn to "full-out" position</p> <p><u>AND</u></p> <p>Prior to satisfying LCO 3.10.8.c requirement after work on control rod or CRD System that could affect coupling</p>
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

5.5.14 Control Room Envelope Habitability Program (continued)

- e. The quantitative limits on unfiltered air leakage into the CRE. These limits shall be stated in a manner to allow direct comparison to the unfiltered air leakage measured by the testing described in paragraph c. The unfiltered air leakage limit for radiological challenges is the leakage flow rate assumed in the licensing basis analyses of DBA consequences. Unfiltered air leakage 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 leakage, and measuring CRE pressure and assessing the CRE boundary as required by paragraphs c and d, respectively.

5.5.15 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. 301 TO RENEWED FACILITY OPERATING

LICENSE NO. DPR-59 ENTERGY NUCLEAR OPERATIONS, INC.

JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NO. 50-333

1.0 INTRODUCTION

By letter dated July 22, 2011, Agencywide Documents Access and Management System (ADAMS) Accession No. ML112060443, as supplemented by letter dated October 19, 2011, ADAMS Accession No. ML112930085, Entergy Nuclear Operations, Inc. (the licensee) submitted a request for changes to the James A. FitzPatrick Nuclear Power Plant (JAFNPP) Technical Specifications (TSs). The supplement dated October 19, 2011, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination.

The requested change is the adoption of NRC-approved Technical Specification Task Force (TSTF) traveler TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control-RITSTF Initiative 5b" (Reference 1). 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 $\geq 95\%$ RTP [Reactor 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 (SR) (e.g., "drywell to suppression chamber differential pressure decrease").

A new program is added to the Administrative Controls of TS Section 5 as Specification 5.5.15. The new program is called the SFCP and describes the requirements for the program to control changes to the relocated surveillance frequencies. The TS Bases for each of the affected SRs are revised to state that the frequency is set in accordance with the SFCP. Some SRs Bases do not contain a discussion of the frequency. In these cases, the Bases describing the current frequency were added to maintain consistency with the Bases for similar surveillances. These instances are noted in the markup along with the source of the text. 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 (Reference 2) 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 (Reference 3), the NRC staff approved NEI 04-10, Revision 1, as acceptable for referencing in licensing actions to the extent specified and under the limitations delineated in NEI 04-10, and the final acceptance safety evaluation (SE) providing the basis for NRC acceptance of NEI 04-10.

2.0 REGULATORY EVALUATION

In the "Final Policy Statement: Technical Specifications for Nuclear Power Plants" 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 Standard Technical Specifications. In discussing the use of PSA in Nuclear Power Plant TSSs, the Commission wrote 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 10 CFR 50.36¹] 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 to these [probabilistic]² 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

1 This clarification is not part of the original policy statement.

2 The *Federal Register* Notice 58 FR 39135 (Alteration in Original) explains the brackets.

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 "Final Policy Statement: Use of Probabilistic Risk Assessment Methods in Nuclear Regulatory Activities" published in the *Federal Register* (60 FR 42622, August 16, 1995). The Commission, in discussing the deterministic and probabilistic approach to regulation, and the Commission's extension and enhancement of traditional regulation, wrote in part:

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.

The Commission provided its new policy, stating:

Although PRA methods and information have thus far been used successfully in nuclear regulatory activities, there have been concerns that PRA methods are not consistently applied throughout the agency, that sufficient agency PRA/statistics expertise is not available, and that the Commission is not deriving full benefit from the large agency and industry investment in the developed risk assessment methods. 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. Implementation of the policy statement will improve the regulatory process in three areas: Foremost, through safety decision making enhanced by the use of PRA insights; through more efficient use of agency resources; and through a reduction in unnecessary burdens on licensees.

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.

In Title 10 of the *Code of Federal Regulations* (10 CFR) 50.36, the NRC established its regulatory requirements related to the content of TS. Pursuant to 10 CFR 50.36, TS are required to include items in the following five specific categories related to station operation: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) SRs; (4) design features; and (5) administrative controls.

As stated in 10 CFR 50.36(c)(3), "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." These categories will remain in TS. The new TS SFCP provides the necessary administrative controls to require that surveillances relocated to the SFCP are conducted at a frequency to 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).

Licensees are required by TS to perform surveillance test, 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 SRs 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," (Reference 4), 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," (Reference 5), describes an acceptable risk-informed approach specifically for assessing proposed permanent TS changes.

RG 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," (Reference 6), 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

The licensee's adoption of TSTF-425 for JAFNPP provides for administrative relocation of applicable surveillance frequencies, and provides for the addition of the SFCP to the administrative controls of TS. TSTF-425 also requires the application of NEI 04-10 for any 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.

3.1 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.

3.1.1 The Proposed Change Meets Current Regulations

10 CFR 50.36(c)(3) provides that TSs will include surveillances 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 surveillances 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 Inservice 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.

3.1.2 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 General Design Criteria in 10 CFR Part 50, Appendix A, is maintained.

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.

3.1.3 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 to assure 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 Updated Final Safety Analysis Report and Bases to TS), since these are not affected by changes to the surveillance frequencies. Similarly, there is no impact to 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.

3.1.4 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.

3.1.4.1 Quality of the PRA

The quality of the JAFNPP PRA must be 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.

RG 1.200 is NRC's developed regulatory guidance for assessing the technical adequacy of a PRA. Revision 2 of this RG endorses (with comments and qualifications) the use of the American Society of Mechanical Engineers (ASME)/American Nuclear Society (ANS) RA-Sa-2009, "Addenda to ASME RA-S-2008 Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications," (Reference 7), NEI 00-02, "PRA Peer Review Process Guidelines," (Reference 8) and NEI 05-04, "Process for Performing Follow-On PRA Peer Reviews Using the ASME PRA Standard" (Reference 9). Revision 1 of this RG had endorsed the internal events PRA standard ASME RA-Sb-2005, "Addenda to ASME RA-S-2002 Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications," (Reference 10). For the internal events PRA, there are no significant technical differences in the standard requirements, therefore, assessments using the previously endorsed internal events standard are acceptable.

The licensee used RG 1.200 to address the technical adequacy of the JAFNPP PRA. The licensee has performed an assessment of the PRA models used to support the SFCP using the

guidance 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 is required by NEI 04-10 for the internal events PRA, 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 JAFNPP internal events PRA model was subjected to a peer review using RG 1.200 and the PRA standard in September 2009. This was a full-scope peer review of the internal events model. The review identified 21 facts and observations (F&O) where the JAFNPP model did not meet at least capability category II of the standard for an applicable supporting requirement. The licensee identified and dispositioned each of the remaining 11 open F&Os for this application, and confirmed that the other 10 F&Os have been resolved and closed out. The NRC staff reviewed the licensee's assessment of the open F&Os as discussed below:

F&O for Supporting Requirement AS-B7 The credit for control rod drive (CRD) makeup does not account for time dependency, in that the CRD has insufficient capacity for decay heat removal immediately after a transient. Therefore, some other source of makeup must function early in the event sequence. The licensee stated that although the success of other early injection sources different than CRD is not explicitly modeled, CRD is only credited for long-term loss of containment heat removal sequences which implicitly have long-term failure of other higher capacity high-pressure injection sources. Early failures of these other sources of injection due to random (not due to accident phenomena) failures are of sufficiently low probability that they do not contribute to sequences above the truncation limit for quantification. Therefore, this deficiency can be addressed by the methodology of NEI 04-10.

F&O for Supporting Requirement HR-G7 The human error probability (HEP) dependency method does not consider the sequence of the human error events, instead applying a dependent probability to the event with the higher HEP. The licensee has not yet corrected its dependency analysis in the JAFNPP model. An evaluation of combinations of human errors which are contributors to the JAFNPP PRA results by the licensee determined that lower probability human error events are generally those which occur earlier in the accident sequence, and that there is conservatism in the overall dependent HEP values calculated due to low or zero dependence between the execution steps of two human actions which is not explicitly considered. In response to a request for additional information (RAI), the licensee performed a re-evaluation of dependent events considering the actual order of the events and stated that the cumulative impact on the baseline CDF was an increase of less than 2%, and much less than 1% for baseline LERF. Therefore, the licensee concluded that the impact on risk calculations which support this application is not significant. The NRC staff cannot conclude that in all cases the HEP dependency would be insignificant to risk calculations which support this application; however, sensitivity analyses, required by the NEI 04-10 methodology to evaluate existing open F&Os from the peer review, can be conducted if one or more HEP dependencies are related to surveillance test intervals being evaluated. Therefore, this deficiency can be addressed consistent with the methodology of NEI 04-10.

F&O for Supporting Requirement QU-A3 The quantification method is a point estimate of the mean value of CDF, but due to the manner in which the JAFNPP basic event database is constructed, the state-of-knowledge correlation is not fully accounted. The licensee conducted sensitivity analyses at the time of the peer review which demonstrated that this is not a

significant issue, and the mean value and point estimate of the mean value for both CDF and LERF are very close in value. Therefore, this deficiency can be addressed by the methodology of NEI 04-10.

F&O for Supporting Requirement QU-D7 The model documentation includes risk ranking of components, but there is no discussion of the reasonableness of these rankings. A review of the rankings was performed which established a verification of the reasonableness of the results, therefore, the F&O represents a baseline model documentation issue only, and would not impact risk calculations for this application. Therefore, this deficiency would not impact risk calculations, and so resolution of this F&O is not required to support this application.

F&O for Supporting Requirement LE-C4 Point estimates are used for success branches of the level two PRA model while logic models are used for the failure branches. There are two main types of event tree branches in a typical level two PRA model - hardware failure branches and severe accident phenomena branches. For phenomena branches, point estimate probabilities are applied which is reasonable and appropriate. For hardware failure branches, the success branch is near a probability of 1.0, so there is minimal impact of applying a point estimate. Therefore, there is no significant impact expected on this application, and so this deficiency can be addressed by the methodology of NEI 04-10.

F&O for Supporting Requirement LE-E3 There are inconsistencies in the definition of "early" for LERF calculations. In response to an RAI, the licensee reviewed core damage sequences which are binned as large early release sequences, and confirmed that the existing LERF model bins CDF sequences accordingly. The only core damage sequence identified as potentially impacted by the definition of "early" was the loss of containment decay heat removal which does not involve a large early release. If this sequence were considered to be a large early release, the baseline LERF would increase by 3×10^{-8} /year, which is not significant compared to the nominal baseline LERF. Therefore, this deficiency can be addressed by the methodology of NEI 04-10.

F&O for Supporting Requirement IFSN-A6 The potential impacts from jet impingement, pipe whip, humidity, temperature, are not assessed and are not stated in the documentation as not being assessed. The PRA standard does not require these impacts to be addressed for capability category II, and so this is a documentation issue only. Therefore, this deficiency would not impact risk calculations, and so resolution of this F&O is not required to support this application.

F&O for Supporting Requirement IFEV-A1 The corresponding initiating event group is not identified for the majority of internal flooding scenarios. The licensee has identified that the link to initiating event applied for each flood scenario is provided in the model files but not documented. Therefore, this deficiency would not impact risk calculations, and so resolution of this F&O is not required to support this application.

F&O for Supporting Requirement IFEV-A5 and IFQU-A1 The initiating event frequency is not documented and is only found in spreadsheets outside of the approved documentation. This is a documentation issue only. Therefore, this deficiency would not impact risk calculations, and so resolution of this F&O is not required to support this application.

F&O for Supporting Requirement IFEV-A6 Review and consideration of plant-specific information on flooding is required for capability category II. The licensee has reviewed plant data and not found any plant-specific significant impacts which would require altering the generic data, and so this is an open documentation issue only. Therefore, this deficiency would not impact risk calculations, and so resolution of this F&O is not required to support this application.

Based on the above discussion, the licensee's assessment using the applicable PRA standard and RG 1.200, the level of PRA quality, combined with the proposed evaluation and disposition of the open F&Os, using sensitivity analyses consistent with the guidance in NEI 04-10, is sufficient to support the evaluation of changes proposed to surveillance frequencies within the SFCP, and is consistent with regulatory position 2.3.1 of RG 1.177.

3.1.4.2 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 will use the fire PRA developed in support of the Individual Plant Examination of External Events (IPEEE) to evaluate surveillance test interval changes of plant equipment when that equipment is included in the fire PRA; otherwise a qualitative or bounding assessment or a determination of zero fire risk impact will be performed. The licensee will use its IPEEE seismic margins analysis to assess seismic risk impact. The IPEEE external hazards screening analysis will be applied to qualitatively assess this hazard group.

Based on the above discussion, 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.

3.1.4.3 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.

Thus, through the application of NEI 04-10, the JAFNPP PRA modeling is sufficient to ensure an acceptable evaluation of risk for the proposed changes in surveillance frequency, and is consistent with regulatory position 2.3.3 of RG 1.177.

3.1.4.4 Assumptions for Time Related Failure Contributions

The failure probabilities of SSCs modeled in the JAFNPP PRA may include a standby time-related contribution and a cyclic demand-related contribution. NEI 04-10 criteria adjusts 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 SRs. 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, based on the above discussion, through the application of NEI 04-10, 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.

3.1.4.5 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 the PRA standard. 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 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.

3.1.4.6 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 $1\text{E-}6$ per year for change to CDF, and below $1\text{E-}7$ 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 $1\text{E-}5$ per year for change to CDF, and below $1\text{E-}6$ per year for change to LERF, and the total CDF and total LERF must be reasonably shown to be less than $1\text{E-}4$ per year and $1\text{E-}5$ 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 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 NRC staff further notes that the licensee includes a provision to exclude the contribution to cumulative risk from individual changes to surveillance frequencies associated with insignificant risk increases (less than $5\text{E-}8$ CDF and $5\text{E-}9$ 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, based on the above discussion, the proposed 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.

3.1.5 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, the fifth key safety principle of RG 1.177 is satisfied.

3.2 Addition of Surveillance Frequency Control Program to Administrative Controls

The licensee has included the SFCP and specific requirements into the Administrative Controls, TS Section 5.5.15, Surveillance Frequency Control Program, 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.

The proposed program is consistent with the model application of TSTF-425, and is therefore acceptable.

3.3 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 5.5.15 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 those frequencies are changed in accordance with NEI 04-10 which is specified in the Administrative Controls of the TS.

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 "Technical specifications will include items in the following categories: Surveillance requirements. 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, Entergy Nuclear Operations 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 New York State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding (76 FR 70772). Accordingly, the amendment meets 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 amendment.

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.

7.0 REFERENCES

1. TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control-RITSTF Initiative 5b," March 18, 2009 (ADAMS Accession No. ML090850642).
2. NEI 04-10, Revision 1, "Risk-Informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies," April 2007 (ADAMS Accession No. ML071360456).
3. Final Safety Evaluation for Nuclear Energy Institute (NEI) Topical Report (TR) 04-10, Revision 1, "Risk-Informed Technical Specifications Initiative 5B, Risk-Informed Method for Control of Surveillance Frequencies," September 19, 2007 (ADAMS Accession No. ML072570267).

4. Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," Revision 2, May 2011 (ADAMS Accession No. ML100910006).
5. Regulatory Guide 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," Revision 1, May 2011 (ADAMS Accession No. ML100910008).
6. Regulatory Guide 1.200, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities," Revision 2, March 2009 (ADAMS Accession No. ML090410014).
7. ASME/ANS PRA Standard ASME/ANS RA-Sa-2009, "Addenda to ASME RA-S-2008, "Standard for Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications."
8. NEI 00-02, Revision 1 "Probabilistic Risk Assessment (PRA) Peer Review Process Guidance, Revision 1, May 2006 (ADAMS Accession No. ML061510621).
9. NEI 05-04, "Process for Performing Follow-On PRA Peer Reviews Using the ASME PRA Standard", Revision 0, August 2006.
10. ASME PRA Standard ASME RA-Sb-2005, "Addenda to ASME RA-S-2002, "Standard for Probabilistic Risk Assessment for Nuclear Power Plant Application."

Principal Contributor: Andrew J. Howe
Gerald Waig

Date: February 14, 2012

February 14, 2012

Vice President, Operations
Entergy Nuclear Operations, Inc.
James A. FitzPatrick Nuclear Power Plant
P.O. Box 110
Lycoming, NY 13093

SUBJECT: JAMES A. FITZPATRICK NUCLEAR POWER PLANT - ISSUANCE OF
AMENDMENT RE: RISK-INFORMED JUSTIFICATION FOR THE
RELOCATION OF SPECIFIC SURVEILLANCE FREQUENCY REQUIREMENTS
TO A LICENSEE CONTROLLED PROGRAM (TAC NO. ME6755)

Dear Sir or Madam:

The Commission has issued the enclosed Amendment No. 301 to Renewed Facility Operating License No. DPR-59 for the James A. FitzPatrick Nuclear Power Plant. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 22, 2011, as supplemented by letter dated October 19, 2011.

The amendment modifies the TS by relocating specific Surveillance Frequencies to a licensee-controlled program with the adoption of Technical Specification Task Force (TSTF)-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control-Risk Informed Technical Specification Task Force (RITSTF) Initiative 5b." The existing Bases information describing the basis for the Surveillance Frequency will be relocated to the licensee-controlled Surveillance Frequency Control Program. Additionally, the change adds a new program TS 5.5.15, "Surveillance Frequency Control Program," to TS Section 5.5, "Programs and Manuals."

A copy of the related Safety Evaluation is enclosed. A Notice of Issuance will be included in the Commission's next regular biweekly *Federal Register* notice.

Sincerely,

/ra/

Bhalchandra K. Vaidya, Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-333

Enclosures:

1. Amendment No. 301 to DPR-59
2. Safety Evaluation

cc w/encls: Distribution via Listserve

DISTRIBUTION:

PUBLIC LPL1-1 R/F RidsNrrDorILPL1-1 RidsOGCMailCenter
RidsNrrDssltsb RidsAcnsAcnwMailCenter RidsNrrPMFitzPatrick
RidsNrrLASLittle (paper copy) RidsNrrDraApla MGray, RI

ADAMS Accession No.: ML113430851

OFFICE	LPL1-1\PM	LPL1-1\LA	APLA/BC	STSB/BC	OGC	LPL1-1\BC	LPL1-1\PM
NAME	B. K. Vaidya	SLittle	DHarrison	RElliott	CKanatas	GWilson	B. K. Vaidya
DATE	1/17/12	1/17/2012	1/20/12	12/22/11	1/23/12	2/9/12	2/13/12

OFFICIAL RECORD COPY