



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

July 28, 2015

Mr. Eric McCartney
Site Vice President
NextEra Energy Point Beach, LLC
6610 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS REGARDING RELOCATION OF SURVEILLANCE
FREQUENCIES TO LICENSEE CONTROL (TAC NOS. MF4379 AND MF4380)

Dear Mr. McCartney:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 253 and 257 to Renewed Facility Operating License Nos. DPR-24 and DPR-27 for the Point Beach Nuclear Plant Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated July 3, 2014, as supplemented by letters dated December 8, 2014; March 19, 2015; and May 28, 2015.

These amendments revise the TSs by relocating specific surveillances to a licensee-controlled program. The proposed changes are consistent with the NRC-approved Technical Specifications Task Force (TSTF) Traveler, TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control - RITSTF [Risk-Informed TSTF] Initiative 5b."

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

A handwritten signature in black ink, appearing to read "Mahesh L. Chawla", is positioned above the typed name.

Mahesh L. Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures:

1. Amendment No. 253 to DPR-24
2. Amendment No. 257 to DPR-27
3. Safety Evaluation

cc w/enclosures: Distribution via Listserv



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

NEXTERA ENERGY POINT BEACH, LLC

DOCKET NO. 50-266

POINT BEACH NUCLEAR PLANT UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 253
License No. DPR-24

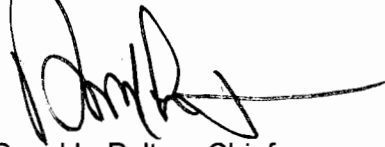
1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by NextEra Energy Point Beach, LLC (the licensee), dated July 3, 2014, as supplemented by letters dated December 8, 2014; March 19, 2015; and May 28, 2015, complies with the standards and requirements 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 4.B of the Renewed Facility Operating License No. DPR-24 is hereby amended to read as follows:
 2. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 253, are hereby incorporated in the renewed operating license. NextEra Energy Point Beach shall operate the facility in accordance with Technical Specifications.

Enclosure 1

3. This license amendment is effective as of its date of issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'D. Pelton', with a long horizontal flourish extending to the right.

David L. Pelton, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of issuance: July 28, 2015



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

NEXTERA ENERGY POINT BEACH, LLC

DOCKET NO. 50-301

POINT BEACH NUCLEAR PLANT UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 257
License No. DPR-27

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by NextEra Energy Point Beach, LLC (the licensee), dated July 3, 2014, as supplemented by letters dated December 8, 2014; March 19, 2015; and May 28, 2015, 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 4.B of the Renewed Facility Operating License No. DPR-27 is hereby amended to read as follows:

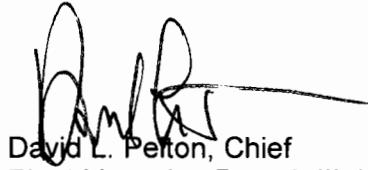
(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 257, are hereby incorporated in the renewed operating license. NextEra Point Beach shall operate the facility in accordance with Technical Specifications.

Enclosure 2

3. This license amendment is effective as of the date of issuance and shall be implemented within 90 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read 'D. Perton', with a long horizontal flourish extending to the right.

David L. Perton, Chief
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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

Date of issuance: July 28, 2015

ATTACHMENT TO LICENSE AMENDMENT NO. 253

RENEWED FACILITY OPERATING LICENSE NO. DPR-24

AND LICENSE AMENDMENT NO. 257

RENEWED FACILITY OPERATING LICENSE NO. DPR-27

DOCKET NOS. 50-266 AND 50-301

Replace the following pages of Renewed Facility Operating License Nos. DPR-24 and DPR-27, and Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License

REMOVE

-3-

INSERT

-3-

Technical Specifications

<u>REMOVE</u>	<u>INSERT</u>	<u>REMOVE</u>	<u>INSERT</u>	<u>REMOVE</u>	<u>INSERT</u>
1.1-5	1.1-5	3.4.5-2	3.4.5-2	3.7.7-2	3.7.7-2
3.1.1-1	3.1.1-1	3.4.6-2	3.4.6-2/3.4.6-3	3.7.8-4	3.7.8-4
3.1.2-2	3.1.2-2	3.4.7-2	3.4.7-2	3.7.9-4	3.7.9-4
3.1.4-4	3.1.4-4	3.4.7-3	3.4.7-3	3.7.10-1	3.7.10-1
3.1.5-2	3.1.5-2	3.4.8-2	3.4.8-2	3.7.11-1	3.7.11-1
3.1.6-2	3.1.6-2	3.4.9-2	3.4.9-2	3.7.13-1	3.7.13-1
3.1.6-3	3.1.6-3	3.4.11-3	3.4.11-3	3.7.14-1	3.7.14-1/3.7.14-2
3.1.8-2	3.1.8-2	3.4.12-4	3.4.12-4	3.8.1-5	3.8.1-5
3.2.1-4	3.2.1-4	3.4.12-5	3.4.12-5	3.8.1-6	3.8.1-6
3.2.1-5	3.2.1-5	3.4.13-2	3.4.13-2	3.8.1-7	3.8.1-7
3.2.1-6	3.2.1-6	3.4.15-3	3.4.15-3	3.8.1-8	3.8.1-8
3.2.2-3	3.2.2-3	3.4.16-2	3.4.16-2	3.8.2-2	3.8.2-2
3.2.3-3	3.2.3-3	3.5.1-2	3.5.1-2/3.5.1-3	3.8.2-3	3.8.2-3
3.2.4-4	3.2.4-4	3.5.2-1	3.5.2-1	3.8.3-2	3.8.3-2
3.3.1-7	3.3.1-7	3.5.2-2	3.5.2-2	3.8.4-1	3.8.4-1
3.3.1-8	3.3.1-8	3.5.4-2	3.5.4-2	3.8.4-2	3.8.4-2
3.3.1-9	3.3.1-9	3.6.2-5	3.6.2-5	3.8.4-3	3.8.4-3/3.8.4-4
3.3.1-10	3.3.1-10	3.6.3-4	3.6.3-4	3.8.6-2	3.8.6-2
3.3.1-11	3.3.1-11	3.6.3-5	3.6.3-5	3.8.6-3	3.8.6-3
3.3.1-12	3.3.1-12	3.6.4-1	3.6.4-1	3.8.7-2	3.8.7-2
3.3.2-4	3.3.2-4	3.6.5-1	3.6.5-1	3.8.8-1	3.8.8-1
3.3.2-5	3.3.2-5	3.6.6-2	3.6.6-2	3.8.9-2	3.8.9-2
3.3.3-3	3.3.3-3	3.6.6-3	3.6.6-3/3.6.6-4	3.8.10-2	3.8.10-2
3.3.4-2	3.3.4-2	3.6.7-2	3.6.7-2	3.9.1-1	3.9.1-1
3.3.4-3	3.3.4-3	3.7.2-2	3.7.2-2	3.9.2-2	3.9.2-2
3.3.5-1	3.3.5-1	3.7.3-2	3.7.3-2	3.9.3-2	3.9.3-2
3.3.5-2	3.3.5-2	3.7.4-2	3.7.4-2	3.9.4-2	3.9.4-2
3.3.6-1	3.3.6-1	3.7.5-4	3.7.5-4	3.9.5-2	3.9.5-2
3.4.1-2	3.4.1-2	3.7.5-5	3.7.5-5	3.9.6-1	3.9.6-1
3.4.2-1	3.4.2-1	3.7.6-1	3.7.6-1	5.5-18	5.5-18
3.4.3-2	3.4.3-2				
3.4.4-1	3.4.4-1				

- D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NextEra Energy Point Beach to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - E. Pursuant to the Act and 10 CFR Parts 30 and 70, NextEra Energy Point Beach to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.
4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR 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 below:
- A. Maximum Power Levels

NextEra Energy Point Beach is authorized to operate the facility at reactor core power levels not in excess of 1800 megawatts thermal.
 - B. Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 253, are hereby incorporated in the renewed operating license. NextEra Energy Point Beach shall operate the facility in accordance with Technical Specifications.
 - C. Spent Fuel Pool Modification

The licensee is authorized to modify the spent fuel storage pool to increase its storage capacity from 351 to 1502 assemblies as described in licensee's application dated March 21, 1978, as supplemented and amended. In the event that the on-site verification check for poison material in the poison assemblies discloses any missing boron plates, the NRC shall be notified and an on-site test on every poison assembly shall be performed.

- C. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NextEra Energy Point Beach to receive, possess and use at any time any byproduct, source, and special nuclear material as sealed neutron sources for reactor startup, sealed source for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - D. Pursuant to the Act and 10 CFR Parts 30, 40 and 70, NextEra Energy Point Beach to receive, possess and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - E. Pursuant to the Act and 10 CFR Parts 30 and 70, NextEra Energy Point Beach to possess such byproduct and special nuclear materials as may be produced by the operation of the facility, but not to separate such materials retained within the fuel cladding.
4. This renewed operating license shall be deemed to contain and is subject to the conditions specified in the following Commission regulations: 10 CFR Part 20, Section 30.34 of 10 CFR Part 30, Section 40.41 of 10 CFR Part 40, Sections 50.54 and 50.59 of 10 CFR Part 50, and Section 70.32 of 10 CFR 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 below:
- A. Maximum Power Levels

NextEra Energy Point Beach is authorized to operate the facility at reactor core power levels not in excess of 1800 megawatts thermal.
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1.1 Definitions

RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of 1800 MWt.
SHUTDOWN MARGIN (SDM)	<p>SDM shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming:</p> <ol style="list-style-type: none">All rod cluster control assemblies (RCCAs) are fully inserted except for the single RCCA of highest reactivity worth, which is assumed to be fully withdrawn. However, with all RCCAs verified fully inserted by two independent means, it is not necessary to account for a stuck RCCA in the SDM calculation;With any RCCA not capable of being fully inserted, the reactivity worth of the RCCA must be accounted for in the determination of SDM; andIn MODES 1 and 2, the fuel and moderator temperatures are changed to the nominal zero power design level.
SLAVE RELAY TEST	A SLAVE RELAY TEST shall consist of energizing all slave relays in the channel required for OPERABILITY and verifying the OPERABILITY of each required slave relay. The SLAVE RELAY TEST shall include a continuity check of associated required testable actuation devices. The SLAVE RELAY TEST may be performed by means of any series of sequential, overlapping, or total channel steps.
DELETED	
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

3.1 REACTIVITY CONTROL SYSTEMS

3.1.1 SHUTDOWN MARGIN (SDM)

LCO 3.1.1 SDM shall be within the limits provided in the COLR.

APPLICABILITY: MODE 2 with $k_{\text{eff}} < 1.0$,
MODES 3, 4, and 5.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. SDM not within limit.	A.1 Initiate boration to restore SDM to within limit.	15 minutes

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.1.1 Verify SDM to be within limits.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.1.2.1 -----NOTE----- The predicted reactivity values may be adjusted (normalized) to correspond to the measured core reactivity prior to exceeding a fuel burnup of 60 effective full power days (EFPD) after each fuel loading. ----- Verify measured core reactivity is within $\pm 1\% \Delta k/k$ of predicted values.</p>	<p>Once prior to entering MODE 1 after each refueling <u>AND</u> -----NOTE----- Only required after 60 EFPD ----- In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.1.4.1 Verify individual rod positions are within the following alignment limits:</p> <p>a. ± 18 steps of demanded position (as allowed by Table 3.1.4-1) in MODE 1 > 85 percent RTP when bank demand position is < 215 steps;</p> <p><u>AND</u></p> <p>b. ± 24 steps of demanded position (as allowed by Table 3.1.4-2) in MODE 1 > 85 percent RTP when bank demand position is ≥ 215 steps;</p> <p><u>AND</u></p> <p>c. ± 24 steps of demanded position in MODE 1 ≤ 85 percent RTP or in MODE 2.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.1.4.2 Verify rod freedom of movement (trippability) by moving each rod not fully inserted in the core ≥ 10 steps in either direction.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.1.4.3 Verify rod drop time of each rod, from the fully withdrawn position, is ≤ 2.2 seconds from the beginning of decay of stationary gripper coil voltage to dashpot entry, with:</p> <p>a. $T_{avg} \geq 500^{\circ}\text{F}$; and</p> <p>b. All reactor coolant pumps operating.</p>	<p>Prior to reactor criticality after each removal of the reactor head</p>

Shutdown Bank Insertion Limits
3.1.5

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.5.1	Verify each shutdown bank is within the limits specified in the COLR.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Control bank sequence or overlap limits not met.	B.1.1 Verify SDM to be within the limits provided in the COLR.	1 hour
	<u>OR</u>	
	B.1.2 Initiate boration to restore SDM to within limit.	1 hour
	<u>AND</u>	
	B.2 Restore control bank sequence and overlap to within limits.	2 hours
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 2 with $k_{eff} < 1.0$.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.6.1	Verify estimated critical control bank position is within the limits specified in the COLR.	Within 4 hours prior to achieving criticality
SR 3.1.6.2	Verify each control bank insertion is within the limits specified in the COLR.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.1.6.3	Verify sequence and overlap limits specified in the COLR are met for control banks not fully withdrawn from the core.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. RCS lowest loop average temperature not within limit.	C.1 Restore RCS lowest loop average temperature to within limit.	15 minutes
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3.	15 minutes

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.1.8.1 Verify the RCS lowest loop average temperature is $\geq 530^{\circ}\text{F}$.	In accordance with the Surveillance Frequency Control Program
SR 3.1.8.2 Verify THERMAL POWER is $\leq 5\%$ RTP.	In accordance with the Surveillance Frequency Control Program
SR 3.1.8.3 Verify SDM to be within the limits provided in the COLR.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

-----NOTE-----

During power escalation at the beginning of each cycle, THERMAL POWER may be increased until an equilibrium power level has been achieved, at which a power distribution map is obtained.

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify $F_Q^C(Z)$ is within limit.	<p>Once after each refueling prior to THERMAL POWER exceeding 75% RTP</p> <p><u>AND</u></p> <p>Once within 12 hours after achieving equilibrium conditions after exceeding, by $\geq 10\%$ RTP, the THERMAL POWER at which $F_Q^C(Z)$ was last verified</p> <p><u>AND</u></p> <p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.2.1.2 -----NOTE----- If F_Q^W(Z) measurements indicate that the</p> <p style="text-align: center;">maximum over z $\left[\frac{F_Q^C(Z)}{K(Z)} \right]$</p> <p>has increased since the previous evaluation of F_Q^C(Z):</p> <p>a. Increase F_Q^W(Z) by the greater of a factor of 1.02 or by an appropriate factor specified in the COLR and reverify F_Q^W(Z) is within limits; or</p> <p>b. Repeat SR 3.2.1.2 once per 7 EFPD until either a. above is met, or two successive flux maps indicate that the</p> <p style="text-align: center;">maximum over z $\left[\frac{F_Q^C(Z)}{K(Z)} \right]$</p> <p>has not increased.</p> <p>-----</p> <p>Verify F_Q^W(Z) is within limit.</p>	<p>Once after each refueling prior to THERMAL POWER exceeding 75% RTP</p> <p><u>AND</u></p> <p>(continued)</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.1.2 (continued)	<p>Once within 12 hours after achieving equilibrium conditions after exceeding, by $\geq 10\%$ RTP, the THERMAL POWER at which $F_Q^W(Z)$ was last verified.</p> <p><u>AND</u></p> <p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.2.1 Verify $F_{\Delta H}^N$ is within limits specified in the COLR.	Once after each refueling prior to THERMAL POWER exceeding 75% RTP <u>AND</u> In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.3.1	Verify AFD within limits for each OPERABLE excore channel.	In accordance with the Surveillance Frequency Control Program
SR 3.2.3.2	Update target flux difference.	Once within 31 EFPD after each refueling <u>AND</u> In accordance with the Surveillance Frequency Control Program
SR 3.2.3.3	<p>-----NOTE----- The initial target flux difference after each refueling may be determined for design predictions. -----</p> <p>Determine, by measurement, the target flux difference.</p>	<p>Once within 31 EFPD after each refueling</p> <p><u>AND</u></p> <p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.2.4.1 -----NOTES-----</p> <ol style="list-style-type: none"> 1. With input from one Power Range Neutron Flux channel inoperable and THERMAL POWER \leq 75% RTP, the remaining three power range channels can be used for calculating QPTR. 2. SR 3.2.4.2 may be performed in lieu of this Surveillance. <p>-----</p> <p>Verify QPTR is within limit by calculation.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.2.4.2 -----NOTE-----</p> <p>Not required to be performed until 12 hours after input from one or more Power Range Neutron Flux channels are inoperable with THERMAL POWER $>$ 75% RTP.</p> <p>-----</p> <p>Verify QPTR is within limit using the movable incore detectors.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.1-1 to determine which SRs apply for each RPS Function.

SURVEILLANCE		FREQUENCY
SR 3.3.1.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.2	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Adjust NIS channel if absolute difference is $> 2\%$. 2. Not required to be performed until 12 hours after THERMAL POWER is $\geq 15\%$ RTP. <p>-----</p> <p>Compare results of calorimetric heat balance calculation to Nuclear Instrumentation System (NIS) channel output.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Adjust NIS channel if absolute difference is $\geq 3\%$. 2. Not required to be performed until 24 hours after THERMAL POWER is $\geq 50\%$ RTP. <p>-----</p> <p>Compare results of the incore detector measurements to NIS AFD.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.4 -----NOTE----- This Surveillance must be performed on the reactor trip bypass breaker prior to placing the bypass breaker in service. ----- Perform TADOT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.5 -----NOTES----- 1. Not required to be performed for the Source Range Neutron Flux Trip Function until 8 hours after power is below P-6. 2. Not required to be performed for the RCP Breaker Position (Two Loops), Reactor Coolant Flow — Low (Two Loops) and Underfrequency Bus A01 and A02 Trip Functions and the P-6, P-7, P-8, P-9 and P-10 Interlocks. ----- Perform ACTUATION LOGIC TEST.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.3.1.6 -----NOTE----- Not required to be performed until 24 hours after THERMAL POWER is $\geq 50\%$ RTP. ----- Calibrate excore channels to agree with incore detector measurements.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.7 -----NOTE----- Not required to be performed for source range instrumentation prior to entering MODE 3 from MODE 2 until 4 hours after entry into MODE 3. ----- Perform COT.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.1.8 -----NOTE----- - This Surveillance shall include verification that interlocks P-6 and P-10 are in their required state for existing unit conditions. ----- -- Perform COT.</p>	<p>-----NOTE----- Only required when not performed within the frequency specified in the Surveillance Frequency Control Program ----- Prior to reactor startup <u>AND</u> Four hours after reducing power below P-10 for power and intermediate range instrumentation <u>AND</u> Four hours after reducing power below P-6 for source range instrumentation <u>AND</u> In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.1.9	Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.10	<p>-----NOTE----- This Surveillance shall include verification that the time delays are adjusted to the prescribed values. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.11	<p>-----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.12	Perform COT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.1.13	Perform TADOT.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
SR 3.3.1.14 Perform TADOT.	Prior to exceeding the P-9 interlock whenever the unit has been in MODE 3, if not performed within previous 31 days.
<div> <div> SR 3.3.1.15 <div> <p>-----NOTE-----</p> <p>This Surveillance must be performed on the RCP Breaker Position (Two Loop), Reactor Coolant Flow - Low (Two Loop) and Underfrequency Bus A01 and A02 Trip Functions and the P-6 , P-7, P-8, P-9 and P-10 Interlocks.</p> <p>-----</p> <p>Perform ACTUATION LOGIC TEST.</p> </div> </div> </div>	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>-----NOTE----- Separate Condition entry is allowed for each AFW pump. -----</p> <p>J. One channel inoperable.</p>	<p>J.1 Restore channel to OPERABLE status.</p> <p><u>OR</u></p> <p>J.2 Declare associated AFW pump inoperable.</p>	48 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.2-1 to determine which SRs apply for each ESFAS Function.

SURVEILLANCE		FREQUENCY
SR 3.3.2.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.2	<p>-----NOTE----- The continuity check may be excluded. -----</p> <p>Perform ACTUATION LOGIC TEST.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.3	Perform COT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.4	Perform MASTER RELAY TEST.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.3.2.5	Perform SLAVE RELAY TEST.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.6	Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.7	Perform TADOT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.2.8	<p>-----NOTE----- This Surveillance shall include verification that the time constants are adjusted to the prescribed values. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

-----NOTE-----

SR 3.3.3.1 applies to each PAM instrumentation Function in Table 3.3.3-1. SR 3.3.3.2 applies to each PAM instrumentation Function in Table 3.3.3-1, except Function 12. SR 3.3.3.3 applies to Function 12 only.

SURVEILLANCE		FREQUENCY
SR 3.3.3.1	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	<p>-----NOTE-----</p> <p>CHANNEL CALIBRATION of Containment Area Radiation (High Range) detectors shall consist of verification of a response to a source.</p> <p>-----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.3.3.3	Perform TADOT.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A for 4.16 kV Functions or Condition B not met.	C.1 Enter applicable Condition(s) and Required Action(s) for the associated standby emergency power source made inoperable by LOP DG start instrumentation.	Immediately
D. Two or more 480 V loss of voltage channels per bus inoperable.	D.1 Restore all but one channel to OPERABLE status.	1 hour
E. Required Action and associated Completion Time of Condition A for 480 V loss of voltage Function or Condition D not met.	E.1 Be in MODE 3.	6 hours
	<u>AND</u> E.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.4.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.4.2 Perform TADOT.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.3.4.3 Perform CHANNEL CALIBRATION with Allowable Value as follows:</p> <ul style="list-style-type: none"> a. 4.16 kV loss of voltage Allowable Value ≥ 3156 V with a time delay of ≥ 1.8 seconds and ≤ 2.3 seconds (Bus Loss of Voltage Relay) and ≥ 1.95 seconds and ≤ 3.55 seconds (EDG Breaker Close Delay Relay). b. 4.16 kV degraded voltage Allowable Value ≥ 3937 V with a time delay of < 5.68 seconds (Bus Degraded Voltage Relay) and < 39.14 seconds (Bus Time Delay Relay). c. 480 V loss of voltage Allowable Value $256 \text{ V} \pm 3\%$ with a time delay of ≥ 1.15 seconds and ≤ 1.6 seconds. 	<p>In accordance with the Surveillance Frequency Control Program</p>

3.3 INSTRUMENTATION

3.3.5 Control Room Emergency Filtration System (CREFS) Actuation Instrumentation

LCO 3.3.5 The CREFS actuation instrumentation for each Function in Table 3.3.5-1 shall be OPERABLE.

APPLICABILITY: According to Table 3.3.5-1.

ACTIONS

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions inoperable.	A.1 Place CREFS in the emergency mode of operation.	7 days
B. Required Action and associated Completion Time not met.	-----NOTE----- Required Action B.1 is not applicable for inoperability of the Containment Isolation actuation function. -----	
	B.1 Suspend movement of irradiated fuel assemblies.	Immediately
	<u>AND</u>	
	B.2 Be in MODE 3.	6 hours
	<u>AND</u>	
	B.3 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

-----NOTE-----
Refer to Table 3.3.5-1 to determine which SRs apply for each CREFS Actuation Function.

SURVEILLANCE	FREQUENCY
SR 3.3.5.1 Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.2 Perform COT.	In accordance with the Surveillance Frequency Control Program
SR 3.3.5.3 Perform CHANNEL CALIBRATION.	In accordance with the Surveillance Frequency Control Program

3.3 INSTRUMENTATION

3.3.6 Boron Dilution Alarm

LCO 3.3.6 Boron Dilution Alarm shall be OPERABLE.

APPLICABILITY: MODE 5.

ACTIONS

CONDITION	REQUIRED ACTIONS	COMPLETION TIME
A. Boron Dilution Alarm inoperable.	A.1 Close unborated water source isolation valve(s).	1 hour

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.3.6.1 Perform TADOT.	In accordance with the Surveillance Frequency Control Program

RCS Pressure, Temperature, and Flow DNB Limits
3.4.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.1.1	Verify pressurizer pressure is greater than or equal to the limits specified in the COLR.	In accordance with the Surveillance Frequency Control Program
SR 3.4.1.2	Verify RCS average temperature is within the limits specified in the COLR.	In accordance with the Surveillance Frequency Control Program
SR 3.4.1.3	<p>-----NOTE----- Not required to be performed until 24 hours after $\geq 90\%$ RTP. -----</p> <p>Verify by precision heat balance that RCS total flow rate is $\geq 178,000$ gpm and greater than or equal to the limit specified in the COLR.</p>	In accordance with the Surveillance Frequency Control Program

RCS Minimum Temperature for Criticality
3.4.2

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.2 RCS Minimum Temperature for Criticality

LCO 3.4.2 Each RCS loop average temperature (T_{avg}) shall be $\geq 540^{\circ}\text{F}$.

APPLICABILITY: MODE 1,
 MODE 2 with $k_{eff} \geq 1.0$.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. T_{avg} in one or more RCS loops not within limit.	A.1 Be in MODE 2 with $k_{eff} < 1.0$.	30 minutes

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.2.1 Verify RCS T_{avg} in each loop $\geq 540^{\circ}\text{F}$.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. -----NOTE----- Required Action C.2 shall be completed whenever this Condition is entered. ----- Requirements of LCO not met any time in other than MODE 1, 2, 3, or 4.	C.1 Initiate action to restore parameter(s) to within limits. <u>AND</u> C.2 Determine RCS is acceptable for continued operation.	Immediately Prior to entering MODE 4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.3.1	<p>-----NOTE-----</p> <p>Only required to be performed during RCS heatup and cooldown operations and RCS inservice leak and hydrostatic testing with $k_{eff} < 1.0$.</p> <p>-----</p> <p>Verify RCS pressure, RCS temperature, and RCS heatup and cooldown rates are within the limits specified in the PTLR.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.4 RCS Loops — MODES 1 and 2

LCO 3.4.4 Two RCS loops shall be OPERABLE and in operation.

APPLICABILITY: MODES 1 and 2.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Requirements of LCO not met.	A.1 Be in MODE 3.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.4.1 Verify each RCS loop is in operation.	In accordance with the Surveillance Frequency Control Program

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Two RCS loops inoperable. <u>OR</u> No RCS loop in operation.	C.1 Place the Rod Control System in a condition incapable of rod withdrawal.	Immediately
	<u>AND</u> C.2 Suspend all operations involving a reduction of RCS boron concentration.	Immediately
	<u>AND</u> C.3 Initiate action to restore one RCS loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.5.1 Verify one RCS loop is in operation.	In accordance with the Surveillance Frequency Program
SR 3.4.5.2 Verify steam generator secondary side water levels are $\geq 35\%$ narrow range for required RCS loops.	In accordance with the Surveillance Frequency Program
SR 3.4.5.3 Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	In accordance with the Surveillance Frequency Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required RHR loop inoperable. <u>AND</u> Two required RCS loops inoperable.	B.1 Be in MODE 5.	24 hours
C. Required RCS or RHR loops inoperable. <u>OR</u> No RCS or RHR loop in operation.	C.1 Suspend all operations involving a reduction of RCS boron concentration. <u>AND</u> C.2 Initiate action to restore one loop to OPERABLE status and operation.	Immediately Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.6.1 Verify one RHR or RCS loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.2 Verify SG secondary side water levels are $\geq 35\%$ narrow range for required RCS loops.	In accordance with the Surveillance Frequency Control Program
SR 3.4.6.3 Verify correct breaker alignment and indicated power are available to the required pump that is not in operation.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.6.4	<p>-----NOTE-----</p> <p>Not required to be performed until 12 hours after entering MODE 4.</p> <p>-----</p> <p>Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.</p>	In accordance with the Surveillance Frequency Control Program

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One RHR loop inoperable. <u>AND</u> Required SG secondary side water level not within limits.	A.1 Initiate action to restore a second RHR loop to OPERABLE status.	Immediately
	<u>OR</u> A.2 Initiate action to restore required SG secondary side water level to within limit.	Immediately
B. Required RHR loops inoperable. <u>OR</u> No RHR loop in operation.	B.1 Suspend all operations involving a reduction of RCS boron concentration.	Immediately
	<u>AND</u> B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.7.1 Verify one RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.2 Verify SG secondary side water level is $\geq 35\%$ narrow range in the required SG.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.7.3	Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.7.4	Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required RHR loops inoperable. <u>OR</u> No RHR loop in operation.	B.1 Suspend all operations involving reduction in RCS boron concentration.	Immediately
	<u>AND</u> B.2 Initiate action to restore one RHR loop to OPERABLE status and operation.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.8.1 Verify one RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.8.2 Verify correct breaker alignment and indicated power are available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.4.8.3 Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.9.1	Verify pressurizer water level is $\leq 52\%$ in MODE 1 <u>OR</u> $\leq 88\%$ in MODES 2 and 3.	In accordance with the Surveillance Frequency Control Program
SR 3.4.9.2	Verify capacity of required pressurizer heaters is ≥ 100 kW.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. Two block valves inoperable.	<p>-----NOTE----- Required Action F.1 does not apply when block valve is inoperable solely as a result of complying with Required Actions B.2 or E.2 -----</p>	
	F.1 Restore one block valve to OPERABLE status.	2 hours
G. Required Action and associated Completion Time of Condition F not met.	G.1 Be in MODE 3.	6 hours
	<p><u>AND</u></p> <p>G.2 Reduce T_{avg} to < 500°F.</p>	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.11.1 -----NOTE----- Not required to be met with block valve closed in accordance with the Required Action of Condition B or E. -----</p> <p>Perform a complete cycle of each block valve.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.4.11.2 Perform a complete cycle of each PORV.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.1	Verify a maximum of one SI pump is capable of injecting into the RCS.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.2	<p>-----NOTE-----</p> <p>Only required when accumulator pressure is \geq the maximum RCS pressure for existing cold leg temperature allowed by the P/T limit curves provided in the PTLR.</p> <p>-----</p> <p>Verify each accumulator is isolated.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.3	<p>-----NOTE-----</p> <p>Only required to be performed when complying with LCO 3.4.12.c.2.</p> <p>-----</p> <p>Verify required RCS vent path with venting capability equivalent to or greater than a PORV.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.4	Verify required trains of LTOP armed.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.5	Perform a COT on each required PORV, excluding actuation.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.4.12.6	Perform CHANNEL CALIBRATION for each required PORV actuation channel.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.7	Perform a complete cycle of each required PORV solenoid air control valve and check valve on the nitrogen gas bottles.	In accordance with the Surveillance Frequency Control Program
SR 3.4.12.8	Perform a complete cycle of each required PORV.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.4.13.1 -----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed until 12 hours after establishment of steady state operation. 2. Not applicable to primary to secondary LEAKAGE. <p>-----</p> <p>Verify RCS Operational LEAKAGE is within limits by performance of RCS water inventory balance.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.4.13.2 -----NOTE-----</p> <p>Not required to be performed until 12 hours after establishment of steady state operation.</p> <p>-----</p> <p>Verify primary to secondary LEAKAGE is ≤ 150 gallons per day through any one SG.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.15.1	Perform CHANNEL CHECK of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.2	Perform CHANNEL CALIBRATION of the required containment sump level alarm.	In accordance with the Surveillance Frequency Control Program
SR 3.4.15.3	Perform CHANNEL CALIBRATION of the required containment atmosphere radioactivity monitor.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. Required Action and associated Completion Time of Condition A or B not met. OR DOSE EQUIVALENT I-131 >50 µCi/gm.	C.1 Be in MODE 3.	6 hours
	<u>AND</u> C.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.16.1 -----NOTE----- Only required to be performed in MODE 1. ----- Verify reactor coolant DOSE EQUIVALENT Xe-133 Specific Activity ≤ 300 µCi/gm.	In accordance with the Surveillance Frequency Control Program
SR 3.4.16.2 -----NOTE----- Only required to be performed in MODE 1. ----- Verify reactor coolant DOSE EQUIVALENT I-131 specific activity ≤ 0.5 µCi/gm.	In accordance with the Surveillance Frequency Control Program AND Between 2 and 6 hours after a THERMAL POWER change of $\geq 15\%$ RTP within a 1 hour period

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.1.1	Verify each accumulator isolation valve is fully open.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.2	Verify borated water volume in each accumulator is $\geq 1100 \text{ ft}^3$ and $\leq 1136 \text{ ft}^3$.	In accordance with the Surveillance Frequency Control Program
SR 3.5.1.3	Verify nitrogen cover pressure in each accumulator is $\geq 700 \text{ psig}$ and $\leq 800 \text{ psig}$.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.5.1.4 Verify boron concentration in each accumulator is ≥ 2700 ppm and ≤ 3100 ppm.</p>	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>-----NOTE----- Only required to be performed for affected accumulators -----</p> <p>Once within 24 hours after each solution volume increase of $\geq 5\%$ of indicated level that is not the result of addition from the refueling water storage tank with boron concentration ≥ 2700 ppm and ≤ 3100 ppm</p>
<p>SR 3.5.1.5 Verify power is removed from each accumulator isolation valve operator when RCS pressure is > 1000 psig.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.2 ECCS – Operating

LCO 3.5.2 Two ECCS trains shall be OPERABLE.

-----NOTE-----
In MODE 3, both safety injection (SI) pump flow paths may be isolated by closing the isolation valves for up to 2 hours to perform pressure isolation valve testing per SR 3.4.14.1.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ECCS train inoperable.	A.1 Restore train to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.5.2.1 -----NOTE----- Not required to be met for system vent flow paths opened under administrative controls. ----- Verify each ECCS manual, power operated, and automatic valve in the flow path, that is not locked, sealed, or otherwise secured in position, is in the correct position.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.5.2.2	Verify ECCS locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.3	Verify each ECCS pump's developed head at the test flow point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.5.2.4	Verify each ECCS automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.5	Verify each ECCS pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.5.2.6	Verify, by visual inspection, each ECCS train containment sump suction inlet is not restricted by debris and the suction inlet debris screens show no evidence of structural distress or abnormal corrosion.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.5.4.1	Verify RWST borated water temperature is $\geq 42.5^{\circ}\text{F}$ and $\leq 97.5^{\circ}\text{F}$.	In accordance with the Surveillance Frequency Control Program
SR 3.5.4.2	Verify RWST borated water volume is $\geq 275,000$ gallons.	In accordance with the Surveillance Frequency Control Program
SR 3.5.4.3	Verify RWST boron concentration is ≥ 2800 ppm and ≤ 3200 ppm.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.2.1</p> <p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. An inoperable air lock bulkhead does not invalidate the previous successful performance of the overall air lock leakage test. 2. Results shall be evaluated against acceptance criteria applicable to SR 3.6.1.1. <p>-----</p> <p>Perform required air lock leakage rate testing in accordance with the Containment Leakage Rate Testing Program.</p>	<p>In accordance with the Containment Leakage Rate Testing Program</p>
<p>SR 3.6.2.2</p> <p>Verify only one bulkhead door and its associated equalizing valve in the air lock can be opened at a time.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Required Action and associated Completion Time not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	D.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.3.1	Deleted	
SR 3.6.3.2	<p>-----NOTE----- Valves and blind flanges in high radiation areas may be verified by use of administrative controls. -----</p> <p>Verify each containment isolation manual valve and blind flange that is located outside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.6.3.3</p> <p>-----NOTE----- Valves and blind flanges in high radiation areas may be verified by use of administrative means. -----</p> <p>Verify each containment isolation manual valve and blind flange that is located inside containment and not locked, sealed, or otherwise secured and required to be closed during accident conditions is closed, except for containment isolation valves that are open under administrative controls.</p>	<p>Prior to entering MODE 4 from MODE 5 if not performed within the previous 92 days</p>
<p>SR 3.6.3.4</p> <p>Verify the isolation time of each automatic power operated containment isolation valve is within Inservice Testing Program limits.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.6.3.5</p> <p>Verify each automatic containment isolation valve that is not locked, sealed or otherwise secured in position, actuates to the isolation position on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

3.6 CONTAINMENT SYSTEMS

3.6.4 Containment Pressure

LCO 3.6.4 Containment pressure shall be ≥ -1.0 psig and $\leq +1.0$ psig.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment pressure not within limits.	A.1 Restore containment pressure to within limits.	1 hour
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.4.1 Verify containment pressure is within limits.	In accordance with the Surveillance Frequency Control Program

3.6 CONTAINMENT SYSTEMS

3.6.5 Containment Air Temperature

LCO 3.6.5 Containment average air temperature shall be:

- a. $\leq 116.3^{\circ}\text{F}$ based on three averaged temperature channels,
- b. $\leq 115.7^{\circ}\text{F}$ based on two averaged temperature channels, or
- c. $\leq 112.5^{\circ}\text{F}$ based on a single temperature channel.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Containment average air temperature not within limit.	A.1 Restore containment average air temperature to within limit.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.6.5.1 Verify containment average air temperature is within limit.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One required accident fan cooler unit service water outlet valve inoperable.	D.1 Restore required accident fan cooler unit outlet valve to OPERABLE status.	72 hours <u>AND</u> 144 hours from discovery of failure to meet the LCO
E. Required Action and associated Completion Time of Condition C or D not met.	E.1 Be in MODE 3. <u>AND</u> E.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.6.6.1 -----NOTE----- Not required to be met for system vent flow paths opened under administrative controls. -----</p> <p>Verify each containment spray 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
SR 3.6.6.2 Operate each containment cooling accident fan.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.3	Verify each containment fan cooler unit can achieve a cooling water flow rate within design limits with a fan cooler service water outlet valve open.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.4	Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head.	In accordance with the Inservice Testing Program
SR 3.6.6.5	Verify each automatic containment spray and containment fan cooler unit service water outlet valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.6	Verify each containment spray pump starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.7	Verify each containment fan cooler unit accident fan starts automatically on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.8	Verify proper operation of the accident fan cooler unit backdraft dampers.	In accordance with the Surveillance Frequency Control Program
		(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.6.6.9	Verify each spray nozzle is unobstructed.	In accordance with the Surveillance Frequency Control Program
SR 3.6.6.10	Verify containment spray locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.6.7.1	Verify each spray additive 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 3.6.7.2	Verify spray additive tank solution volume is $\geq 43\%$.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.3	Verify spray additive tank NaOH solution concentration is $\geq 30\%$ and $\leq 33\%$ by weight.	In accordance with the Surveillance Frequency Control Program
SR 3.6.7.4	Verify each spray additive automatic valve in the flow path that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. (continued)	C.3 Verify MSIV and non-return check valve in the affected flowpath are closed and the MSIV is de-activated.	Once per 7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u> D.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.2.1	<p>-----NOTE----- Only required to be performed in MODE 1. -----</p> <p>Verify closure time of each MSIV is within limits.</p>	In accordance with the Inservice Testing Program
SR 3.7.2.2	<p>-----NOTE----- Only required to be performed in MODE 1. -----</p> <p>Verify each MSIV actuates to the isolation position on an actual or simulated actuation signal.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.7.2.3	Verify each main steam non-return check valve can close.	In accordance with the Inservice Testing Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. Two valves in the same flowpath inoperable.	D.1 Isolate affected flow path	8 hours
E. Required Action and associated Completion Time not met.	E.1 Be in MODE 3. <u>AND</u>	6 hours
	E.2 Be in MODE 4.	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.3.1	Verify each MFIV, MFRV, and MFRV bypass valve, actuate to the isolation position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.7.3.2	Verify each MFIV, MFRV, and MFRV Bypass Valve isolation time is within limits.	In accordance with the Inservice Testing Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.4.1	Verify one complete manual cycle of each ADV.	In accordance with the Surveillance Frequency Control Program
SR 3.7.4.2	Verify one complete manual cycle of each ADV block valve.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.5.1 -----NOTE----- AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. ----- Verify each AFW manual, power operated, and automatic valve in each water flow path, and in both steam supply flow paths to the steam turbine driven pump, 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 3.7.5.2 -----NOTE----- Not required to be performed for the turbine driven AFW pump until 24 hours after THERMAL POWER exceeds 2% RTP. ----- Verify the developed head of each required AFW pump at the flow test point is greater than or equal to the required developed head.</p>	<p>In accordance with the Inservice Testing Program</p>
<p>SR 3.7.5.3 -----NOTE----- AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. ----- Verify each AFW automatic valve that is not locked, sealed, or otherwise secured in position, actuates to the correct position on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

SURVEILLANCE REQUIREMENTS (continued)

SR 3.7.5.4	<p>-----NOTES-----</p> <ol style="list-style-type: none"> 1. Not required to be performed for the turbine driven AFW pump until 24 hours after ≥ 1000 psig in the steam generator. 2. AFW pump system(s) may be considered OPERABLE during alignment and operation for steam generator level control, if it is capable of being manually realigned to the AFW mode of operation. <p>-----</p> <p>Verify each AFW pump starts automatically on an actual or simulated actuation signal.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>
SR 3.7.5.5	<p>Verify proper alignment of the required AFW flow paths by verifying flow from the condensate storage tank to each steam generator supplied by the respective AFW pump system.</p>	<p>Prior to THERMAL POWER exceeding 2% RTP whenever unit has been in MODE 5, MODE 6, or defueled for a cumulative period of > 30 days</p>

3.7 PLANT SYSTEMS

3.7.6 Condensate Storage Tank (CST)

LCO 3.7.6 The CST shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CST inoperable.	A.1 Restore CST to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 4, without reliance on steam generator for heat removal.	18 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.6.1.A Verify the CST level is $\geq 21,150$ gallons. (2 CSTs either cross-tied or individually aligned) <u>OR</u>	In accordance with the Surveillance Frequency Control Program
SR 3.7.6.1.B Verify the CST level is $\geq 35,837$ gallons. (1 CST supplying two units) <u>OR</u>	
SR 3.7.6.1.C Verify the CST level is $\geq 14,100$ gallons. (2 CSTs supplying one unit)	

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	<p>-----NOTE-----</p> <p>Isolation of CC flow to individual components does not render the CC System inoperable.</p> <p>-----</p> <p>Verify each CC manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Required Action and associated Completion Time not met.	H.1 Be in MODE 3.	6 hours
	<u>AND</u> H.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.7.8.1 -----NOTE----- Isolation of SW flow to individual components does not render the SW System inoperable. ----- Verify each SW manual, power operated, and automatic valve in the flow path servicing safety related equipment, that is not locked, sealed, or otherwise secured in position, is in the correct position.</p>	In accordance with the Surveillance Frequency Control Program
<p>SR 3.7.8.2 Verify each required SW automatic non-essential-SW-load isolation valve that is not locked, sealed, or otherwise secured in the closed position, actuates to the closed position on an actual or simulated actuation signal.</p>	In accordance with the Surveillance Frequency Control Program
<p>SR 3.7.8.3 Verify each SW pump starts automatically on an actual or simulated actuation signal.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate the CREFS for ≥ 15 minutes.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with the VFTP
SR 3.7.9.3	Verify each CREFS emergency and recirculation fan actuates on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.4	Verify each CREFS automatic damper in the emergency mode flow path actuates to the correct position on an actual or simulated actuation signal.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.5	Verify CREFS manual start capability and alignment.	In accordance with the Surveillance Frequency Control Program
SR 3.7.9.6	Perform required CRE unfiltered air inleakage testing in accordance with the Control Room Envelope Habitability Program.	In accordance with the Control Room Envelope Habitability Program

3.7 PLANT SYSTEMS

3.7.10 Fuel Storage Pool Water Level

LCO 3.7.10 The fuel storage pool water level shall be ≥ 23 ft over the top of irradiated fuel assemblies seated in the storage racks.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. 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 fuel storage pool.</p>	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.10.1 Verify the fuel storage pool water level is ≥ 23 ft above the top of the irradiated fuel assemblies seated in the storage racks.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.11 Fuel Storage Pool Boron Concentration

LCO 3.7.11 The fuel storage pool boron concentration shall be ≥ 2100 ppm.

APPLICABILITY: When fuel assemblies are stored in the spent fuel storage pool.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Fuel storage pool boron concentration not within limit.	-----NOTE----- LCO 3.0.3 is not applicable. -----	
	A.1 Suspend movement of fuel assemblies in the fuel storage pool.	Immediately
	<u>AND</u> A.2 Initiate action to restore fuel storage pool boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.11.1 Verify the fuel storage pool boron concentration is within limit.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.13 Secondary Specific Activity

LCO 3.7.13 The specific activity of the secondary coolant shall be $\leq 0.1 \mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limit.	A.1 Be in MODE 3.	6 hours
	<u>AND</u> A.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.7.13.1 Verify the specific activity of the secondary coolant is $\leq 0.1 \mu\text{Ci/gm}$ DOSE EQUIVALENT I-131.	In accordance with the Surveillance Frequency Control Program

3.7 PLANT SYSTEMS

3.7.14 Primary Auxiliary Building Ventilation (VNPAB)

LCO 3.7.14 VNPAB shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. VNPAB inoperable.	A.1 Restore VNPAB to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.14.1	Operate the VNPAB filter and stack fans for ≥ 15 minutes. Verify the associated low flow lights for filter fans and for stack fans are not lit.	In accordance with the Surveillance Frequency Control Program
SR 3.7.14.2	Verify the VNPAB system can maintain a PAB pressure less than atmospheric pressure and less than turbine building pressure.	In accordance with the Surveillance Frequency Control Program
SR 3.7.14.3	Verify VNPAB manual start capability and alignment.	In accordance with the Surveillance Frequency Control Program

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
H. Required Action and associated Completion Time not met.	H.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	H.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.1.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.2	<p>-----NOTES-----</p> <ol style="list-style-type: none"> All standby emergency power source starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. A modified standby emergency power source start involving idling and gradual acceleration to synchronous speed may be used for this SR as recommended by the manufacturer. <p>-----</p> <p>Verify each standby emergency power source starts from standby conditions and achieves rated voltage and frequency.</p>	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	<p>-----NOTES-----</p> <ol style="list-style-type: none"> Standby emergency power source loadings may include gradual loading. Momentary transients outside the load range do not invalidate this test. 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 standby emergency power source is synchronized and loaded and operates for ≥ 60 minutes at a load ≥ 2500 kW and ≤ 2850 kW.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.1.4	Verify the fuel oil transfer system operates to automatically transfer fuel oil from storage tank to the day tank.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.5 -----NOTE----- This surveillance shall not normally be performed with the associated unit in MODE 1, 2, 3, or 4. However, portions of the Surveillance may be performed to reestablish OPERABILITY provided an assessment determines the safety of the plant is maintained or enhanced. ----- Verify on an actual or simulated loss of offsite power signal in conjunction with an actual or simulated ESF actuation signal:</p> <ul style="list-style-type: none"> a. De-energization of emergency buses; b. Load shedding from emergency buses; and c. Standby emergency power source auto-starts from standby condition and: <ul style="list-style-type: none"> 1. energizes permanently connected loads, 2. energizes auto-connected emergency loads through load logic and sequencer, 3. achieves steady state voltage within limits, 4. achieves steady state frequency within limits, and 5. supplies permanently connected and auto-connected emergency loads for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.1.6 Verify each standby emergency power source:</p> <ul style="list-style-type: none"> a. Synchronizes with offsite power source while loaded with emergency loads upon a simulated restoration of offsite power; b. Transfers loads to offsite power source; and c. Returns to ready-to-load operation. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.1.7 -----NOTES-----</p> <ul style="list-style-type: none"> 1. Momentary transients outside the load and power factor ranges do not invalidate this test. 2. This 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. 3. If performed with the standby emergency power source synchronized with offsite power, it shall be performed at a power factor ≤ 0.87. 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>Verify each standby emergency power source operates for ≥ 24 hours at ≥ 2850 kW (G01/G02), ≥ 2848 kW (G03/04).</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One required standby emergency power source inoperable.	B.1 Declare affected required feature(s) with no standby emergency power source available inoperable.	Immediately
	<u>AND</u> B.2 Initiate action to restore required standby emergency power source to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.2.1	Verify correct breaker alignment and indicated power availability for each required offsite circuit.	In accordance with the Surveillance Frequency Control Program
SR 3.8.2.2	<p>-----NOTE----- All standby emergency power source starts may be preceded by an engine prelube period and followed by a warmup period prior to loading. -----</p> <p>Verify each required standby emergency power source starts from standby conditions and achieves rated voltage and frequency.</p>	In accordance with the Surveillance Frequency Control Program
SR 3.8.2.3	Verify the fuel oil transfer system operates to automatically transfer fuel oil from storage tank to the day tank.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.2.4 -----NOTE----- The following SR is not required to be performed if it is not met solely due to an expired frequency. -----</p> <p>Verify on an actual or simulated loss of offsite power signal:</p> <ol style="list-style-type: none"> 1. De-energization of the safeguards buses; 2. Load shedding of the 480 V safeguards bus; 3. Standby emergency power source auto-starts from standby condition and energizes the safeguards buses, and 4. supplies bus loads for ≥ 5 minutes. 	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.2.5 -----NOTE----- The following SR is not required to be performed if it is not met solely due to an expired frequency. -----</p> <p>Verify each standby emergency power source synchronizes with offsite power source upon a simulated restoration of offsite power and returns to ready-to-load operation.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
D. One or more standby emergency power sources with inoperable starting air system(s).	D.1 Declare associated standby emergency power source(s) inoperable.	Immediately
E. Required Action and associated Completion Time not met. <u>OR</u> One or more standby emergency power sources' diesel fuel oil not within limits for reasons other than Condition A, B or C.	E.1 Declare associated standby emergency power source(s) inoperable.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.3.1 Verify each fuel oil storage tank contains $\geq 86.2\%$ of fuel.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.2 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 3.8.3.3 Verify each standby emergency power source air start bottle bank pressure is ≥ 165 psig.	In accordance with the Surveillance Frequency Control Program
SR 3.8.3.4 Check for and remove accumulated water from each fuel oil storage tank.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.4 DC Sources—Operating

LCO 3.8.4 The D-01, D-02, D-03, and D-04 DC electrical power subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One DC electrical power subsystem inoperable.	-----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems—Operating," when any DC bus is de-energized. -----	
	A.1 Restore DC electrical power subsystem to OPERABLE status.	2 hours
B. Required Action and Associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.8.4.1 Verify correct battery terminal voltage is within limits on float charge.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.2	Verify no visible corrosion at battery terminals and connectors. <u>OR</u> Verify battery connection resistance is within limits.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.3	Verify battery cells, cell plates, and racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.4	Remove visible terminal corrosion, and verify battery cell to cell and terminal connections are coated with anti-corrosion material.	In accordance with the Surveillance Frequency Control Program
SR 3.8.4.5	Verify battery connection resistance is within limits.	In accordance with the Surveillance Frequency Control Program

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE	FREQUENCY
<p>SR 3.8.4.6 Verify battery chargers D-07, D-08, and D-09, while operating at the current limit setting, each supply ≥ 320 amps at greater than or equal to the minimum established float voltage for ≥ 8 hours, and battery chargers D-107, D-108, and D-109, while operating at the current limit setting, each supply ≥ 420 amps at greater than or equal to the minimum established float voltage for ≥ 8 hours.</p> <p><u>OR</u></p> <p>Verify each 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>	<p>In accordance with the Surveillance Frequency Control Program</p>
<p>SR 3.8.4.7 -----NOTES----- The modified performance discharge test in SR 3.8.4.8 may be performed in lieu of SR 3.8.4.7. -----</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.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.4.8		In accordance with the Surveillance Frequency Control Program
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><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
<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 < 60°F.</p> <p><u>OR</u></p> <p>One or more batteries with one or more battery cell parameters not within Table 3.8.6-1 Category C values.</p>	<p>B.1 Declare associated battery inoperable.</p>	<p>Immediately</p>

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
<p>SR 3.8.6.1 Verify battery cell parameters meet Table 3.8.6-1 Category A limits.</p>	<p>In accordance with the Surveillance Frequency Control Program</p>

(continued)

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.6.2	Verify battery cell parameters meet Table 3.8.6-1 Category B limits.	<p>In accordance with the Surveillance Frequency Control Program</p> <p><u>AND</u></p> <p>Once within 24 hours after a battery discharge < 105 V</p> <p><u>AND</u></p> <p>Once within 24 hours after a battery overcharge > 142.8 V</p>
SR 3.8.6.3	Verify average electrolyte temperature of representative cells is $\geq 60^{\circ}\text{F}$.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.7.1	Verify correct inverter voltage, and alignment to required AC vital instrument buses.	In accordance with the Surveillance Frequency Control Program

3.8 ELECTRICAL POWER SYSTEMS

3.8.8 Inverters—Shutdown

LCO 3.8.8 Inverters shall be OPERABLE to support the onsite Class 1E AC vital instrument bus electrical power distribution subsystem(s) required by LCO 3.8.10, "Distribution Systems—Shutdown."

APPLICABILITY: MODES 5 and 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required inverters inoperable.	A.1 Declare affected required feature(s) inoperable.	Immediately
	<u>AND</u>	
	A.2 Initiate action to restore required inverters to OPERABLE status.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.8.1	Verify correct inverter voltage and alignments to required AC vital instrument buses.	In accordance with the Surveillance Frequency Control Program

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more electrical power distribution subsystem inoperable.	A.1 Declare associated supported required feature(s) inoperable.	Immediately
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u>	6 hours
	B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.9.1	Verify correct breaker alignments and power available for required AC, DC, and AC vital instrument bus electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.8.10.1	Verify correct breaker alignments and power available for required AC, DC, and AC vital instrument bus electrical power distribution subsystems.	In accordance with the Surveillance Frequency Control Program

3.9 REFUELING OPERATIONS

3.9.1 Boron Concentration

LCO 3.9.1 Boron concentrations of the Reactor Coolant System, the refueling canal, and the refueling cavity shall be maintained within the limit specified in the COLR.

APPLICABILITY: MODE 6.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Boron concentration not within limit.	A.1 Suspend positive reactivity additions.	Immediately
	<u>AND</u> A.2 Initiate action to restore boron concentration to within limit.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.1.1 Verify boron concentration is within the limit specified in the COLR.	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.2.1	Perform CHANNEL CHECK.	In accordance with the Surveillance Frequency Control Program
SR 3.9.2.2	<p>-----NOTE----- Neutron detectors are excluded from CHANNEL CALIBRATION. -----</p> <p>Perform CHANNEL CALIBRATION.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.3.1	Verify each required containment penetration is in the required status.	In accordance with the Surveillance Frequency Control Program
SR 3.9.3.2	<p>-----NOTE-----</p> <p>Not applicable to containment purge and exhaust valve(s) in penetrations closed to comply with LCO 3.9.3.c.1.</p> <p>-----</p> <p>Verify each required containment purge and exhaust valve actuates to the isolation position on an actual or simulated actuation signal.</p>	In accordance with the Surveillance Frequency Control Program

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.4.1	Verify one RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.9.4.2	Verify required RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

RHR and Coolant Circulation—Low Water Level
3.9.5

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.9.5.1	Verify one RHR loop is in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.9.5.2	Verify correct breaker alignment and indicated power available to the required RHR pump that is not in operation.	In accordance with the Surveillance Frequency Control Program
SR 3.9.5.3	Verify RHR loop locations susceptible to gas accumulation are sufficiently filled with water.	In accordance with the Surveillance Frequency Control Program

3.9 REFUELING OPERATIONS

3.9.6 Refueling Cavity Water Level

LCO 3.9.6 Refueling cavity water level shall be maintained ≥ 23 ft above the top of reactor vessel flange.

APPLICABILITY: During movement of irradiated fuel assemblies within containment.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Refueling cavity water level not within limit.	A.1 Suspend movement of irradiated fuel assemblies within containment.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.9.6.1 Verify refueling cavity water level is ≥ 23 ft above the top of reactor vessel flange.	In accordance with the Surveillance Frequency Control Program

5.5 Programs and Manuals

5.5.18 Control Room Envelope Habitability Program (continued)

- g. An adequate supply of self contained breathing apparatus (SCBA) units in the CRE to protect CRE occupants from a hazardous chemical release.
- h. Portable smoke ejection equipment per the Fire Protection Evaluation Report and Safe Shutdown Analysis Report to address a potential smoke challenge.

5.5.19 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 Operations are met:

- a. The Surveillance Frequency Control Program shall contain a list of frequencies of those 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 NOS. 253 and 257

TO RENEWED FACILITY OPERATING LICENSE NOS. DPR-24 AND DPR-27

NEXTERA ENERGY POINT BEACH, LLC

POINT BEACH NUCLEAR PLANT UNITS 1 AND 2

DOCKET NOS. 50-266 AND 50-301

1.0 INTRODUCTION

By application dated July 3, 2014, as supplemented by letters dated December 8, 2014; March 19, 2015; and May 28, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML14190A267, ML14342A416, ML15082A018, and ML15148A413, respectively), NextEra Energy Point Beach, LLC (NextEra, the licensee) requested changes to the Technical Specifications (TSs) for Point Beach Nuclear Plant (Point Beach or PBNP) Units 1 and 2. The supplements dated December 8, 2014; March 19, 2015; and May 28, 2015, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the staff's original proposed no significant hazards consideration determination as published in the *Federal Register* (FR) on November 12, 2014 (79 FR 67203).

The proposed changes would revise the Point Beach TSs by relocating specific surveillance requirement (SR) frequencies to a licensee-controlled program. The changes to such surveillance frequencies will be made in accordance with Nuclear Energy Institute (NEI) 04-10, Revision 1, "Risk-Informed Technical Specifications Initiative 5b, Risk-Informed Method for Control of Surveillance Frequencies" (hereinafter "NEI 04-10") (ADAMS Accession No. ML071360456). The requested change is the adoption of U.S. Nuclear Regulatory Commission (NRC)-approved Technical Specification Task Force (TSTF)-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control -RITSTF [Risk-Informed TSTF] Initiative 5b" (ADAMS Accession No. ML090850642). The FR notice published on July 6, 2009 (74 FR 31996), announced the availability of TSTF-425, Revision 3.

2.0 REGULATORY EVALUATION

2.1 Description of the Proposed Changes

The licensee proposed to modify the Point Beach TSs by relocating specific surveillance frequencies to a licensee-controlled program (i.e., the Surveillance Frequency Control Program (SFCP)) in accordance with NEI 04-10. The licensee stated that the proposed change is

consistent with the adoption of NRC-approved TSTF-425, Revision 3. When implemented, TSTF-425, Revision 3, relocates most periodic frequencies of TS surveillances to the SFCP and provides requirements for the new program in the Administrative Controls section of the TSs. All surveillance frequencies can be relocated except the following:

- Frequencies that reference other approved programs for the specific interval, such as the Inservice 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"); and
- Frequencies that are related to specific conditions (e.g., battery degradation, age, and capacity) or conditions for the performance of a SR (e.g., "drywell to suppression chamber differential pressure decrease").

The licensee proposed to add the SFCP to TSs, Section 5.0, "Administrative Controls," Subsection 5.5, "Programs and Manuals." The SFCP describes the requirements for the program to control changes to the relocated surveillance frequencies. The TS Bases for each affected surveillance are revised to state that the frequency is controlled under the SFCP. The proposed Bases changes revise only those Bases that currently discuss surveillance frequencies. Changes to the TS Bases are incorporated in accordance with the TS Bases Control Program. The proposed changes to the Administrative Controls sections of the TSs to incorporate the SFCP include a specific reference to NEI 04-10 as the basis for making any changes to the surveillance frequencies once they are relocated out of the TSs.

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

The licensee proposed other changes and deviations from TSTF-425, which are discussed in Section 3.3 of this SE.

2.2 Applicable Commission Policy Statements

In the "Final Policy Statement: Technical Specifications for Nuclear Power Plants," dated July 22, 1993 (58 FR 39132), the NRC addressed the use of Probabilistic Safety Analysis (PSA, currently referred to as probabilistic risk assessment or PRA) in STS. In this 1993 publication, the NRC states:

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 Title 10 of the

Code of Federal Regulations (10 CFR), Section 50.36] to be deleted from Technical Specifications based solely on PSA (Criterion 4). However, if the results of PSA indicate that Technical Specifications can be relaxed or removed, a deterministic review will be performed....

The Commission Policy in this regard is consistent with its Policy Statement on "Safety Goals for the Operation of Nuclear Power Plants," 51 FR 30028, published on August 21, 1986. The Policy Statement on Safety Goals states in part, " * * * probabilistic results should also be reasonably balanced and supported through use of deterministic arguments. In this way, judgments can be made * * * about the degree of confidence to be given these [probabilistic] estimates and assumptions. This is a key part of the process for determining the degree of regulatory conservatism that may be warranted for particular decisions. This defense-in-depth approach is expected to continue to ensure the protection of public health and safety."

The Commission will continue to use PSA, consistent with its policy on Safety Goals, as a tool in evaluating specific line item improvements to Technical Specifications, new requirements, and industry proposals for risk-based Technical Specification changes.

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

The Commission believes that an overall policy on the use of PRA methods in nuclear regulatory activities should be established so that the many potential applications of PRA can be implemented in a consistent and predictable manner that would promote regulatory stability and efficiency. In addition, the Commission believes that the use of PRA technology in NRC regulatory activities should be increased to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC's deterministic approach....

PRA addresses a broad spectrum of initiating events by assessing the event frequency. Mitigating system reliability is then assessed, including the potential for multiple and common cause failures. The treatment therefore goes beyond the single failure requirements in the deterministic approach. The probabilistic approach to regulation is, therefore, considered an extension and enhancement of traditional regulation by considering risk in a more coherent and complete manner....

Therefore, the Commission believes that an overall policy on the use of PRA in nuclear regulatory activities should be established so that the many potential applications of PRA can be implemented in a consistent and predictable manner that promotes regulatory stability and efficiency. This policy statement sets forth the Commission's intention to encourage the use of PRA and to expand the

scope of PRA applications in all nuclear regulatory matters to the extent supported by the state-of-the-art in terms of methods and data....

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

- (1) The use of PRA technology should be increased in all regulatory matters to the extent supported by the state-of-the-art in PRA methods and data and in a manner that complements the NRC's deterministic approach and supports the NRC's traditional defense-in-depth philosophy.
- (2) PRA and associated analyses (e.g., sensitivity studies, uncertainty analyses, and importance measures) should be used in regulatory matters, where practical within the bounds of the state-of-the-art, to reduce unnecessary conservatism associated with current regulatory requirements, regulatory guides, license commitments, and staff practices. Where appropriate, PRA should be used to support the proposal for additional regulatory requirements in accordance with 10 CFR 50.109 (Backfit Rule). Appropriate procedures for including PRA in the process for changing regulatory requirements should be developed and followed. It is, of course, understood that the intent of this policy is that existing rules and regulations shall be complied with unless these rules and regulations are revised.
- (3) PRA evaluations in support of regulatory decisions should be as realistic as practicable and appropriate supporting data should be publicly available for review.
- (4) The Commission's safety goals for nuclear power plants and subsidiary numerical objectives are to be used with appropriate consideration of uncertainties in making regulatory judgments on the need for proposing and backfitting new generic requirements on nuclear power plant licensees.

2.3 Applicable Regulations

In 10 CFR, Section 50.36, the NRC established its regulatory requirements related to the content of TSs. Pursuant to 10 CFR 50.36, TSs 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. These categories will remain in the Point Beach TSs.

Paragraph 50.36(c)(3) of 10 CFR states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." The FR notice published on July 6, 2009 (74 FR 31996), which announced the availability of TSTF-425, Revision 3, states that the addition of the SFCP to the TSs provides the necessary administrative controls to require that surveillance frequencies 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. The FR notice also states that 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 are required to be documented.

Existing regulatory requirements such as 10 CFR 50.65, "Requirements for monitoring the effectiveness of maintenance at nuclear power plants" (i.e., the Maintenance Rule), and 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," require licensee monitoring of surveillance test failures and implementing corrective actions to address such failures. Such failures can result in the licensee increasing the frequency at which a surveillance test is performed. In addition, by having the TSs require that changes to the frequencies listed in the SFCP be made in accordance with NEI 04-10, the licensee will be required to monitor the performance of SSCs for which surveillance frequencies are decreased to assure reduced testing does not adversely impact the SSCs.

2.4 Applicable NRC Regulatory Guides and Review Plans

Regulatory Guide (RG) 1.174, Revision 2, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis" (hereinafter "RG 1.174") (ADAMS Accession No. ML100910006), describes an acceptable risk-informed approach for assessing the nature and impact of proposed permanent licensing-basis changes by considering engineering issues and applying risk insights. This regulatory guide 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," Revision 1 (hereinafter "RG 1.177") (ADAMS Accession No. ML100910008), describes an acceptable risk-informed approach specifically for assessing proposed TS changes.

RG 1.200, Revision 2, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities" (hereinafter "RG 1.200") (ADAMS Accession No. ML090410014), 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 decisionmaking for light-water reactors (LWRs).

General guidance for evaluating the technical basis for proposed risk-informed changes is provided in NUREG-0800, "Standard Review Plan [SRP] for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 19, Section 19.2, "Review of Risk Information Used to Support Permanent Plant-Specific Changes to the Licensing Basis: General Guidance" (ADAMS Accession No. ML071700658). Guidance on evaluating PRA technical adequacy is provided in SRP, Chapter 19, Section 19.1, "Determining the Technical Adequacy of Probabilistic Risk Assessment for Risk-Informed License Amendment Requests After Initial Fuel Load," Revision 3 (ADAMS Accession No. ML12193A107). More specific guidance related to risk-informed TS changes is provided in SRP, Chapter 16, Section 16.1,

"Risk-Informed Decisionmaking: Technical Specifications," Revision 1 (ADAMS Accession No. ML070380228), which includes changes to surveillance test intervals (STIs) (i.e., surveillance frequencies) as part of risk-informed decisionmaking. Section 19.2 of the SRP references the same criteria as RG 1.177 and RG 1.174 and states that a risk-informed application should be evaluated to ensure that the proposed changes meet the following key principles:

- The proposed change meets the current regulations, unless it explicitly relates to a requested exemption or rule change.
- The proposed change is consistent with the defense-in-depth philosophy.
- The proposed change maintains sufficient safety margins.
- When proposed changes result in an increase in core damage frequency (CDF) or risk, the increase(s) should be small and consistent with the intent of the Commission's Safety Goal Policy Statement.

The impact of the proposed change should be monitored using performance measurement strategies.

3.0 TECHNICAL EVALUATION

The licensee's adoption of TSTF-425, Revision 3, provides for administrative relocation of applicable surveillance frequencies, and it provides for the addition of the SFCP to the Administrative Controls section of the TSs. The changes to the Administrative Controls section of the TSs will also require the application of NEI 04-10 for any changes to surveillance frequencies within the SFCP. The licensee's application for the changes described in TSTF-425, Revision 3, included documentation regarding the PRA technical adequacy consistent with RG 1.200. NEI 04-10 states that PRA methods are used with plant performance data and other considerations to identify and justify modifications to the surveillance frequencies of equipment at nuclear power plants. This is consistent with guidance provided in RG 1.174 and RG 1.177 in support of changes to STIs.

3.1 Review Methodology

RG 1.177 identifies five key safety principles to be applied to risk-informed changes to TSs. Each of these principles is addressed by NEI 04-10.

3.1.1 The Proposed Change Meets Current Regulations

Paragraph 50.36(c)(3) of 10 CFR requires that TSs 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." The licensee is required by its TSs to perform surveillance tests, calibration, or inspection on specific safety-related equipment (e.g., reactivity control, power distribution, electrical, and instrumentation) to verify system operability.

Surveillance frequencies 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 complements the deterministic approach and supports the NRC's traditional defense-in-depth philosophy.

The SRs themselves would remain in the TSs as required by 10 CFR 50.36(c)(3). This change is analogous with other NRC-approved TS changes in which the SRs are retained in TSs, but the related surveillance frequencies are relocated to licensee-controlled documents, such as surveillances performed in accordance with the Inservice Testing Program and the Primary Containment Leakage Rate Testing Program. Thus, this proposed change complies with 10 CFR 50.36(c)(3) by retaining the 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 LCOs will be met.

The regulatory requirements in 10 CFR 50.65 and 10 CFR 50, Appendix B, 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. The licensee's SFCP ensures that SRs specified in the TSs are performed at intervals sufficient to assure the above regulatory requirements are met. In light of the above, the staff concludes that the 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

The defense-in-depth philosophy (i.e., 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.

The changes to the Administrative Controls section of the TSs will require the application of NEI 04-10 for any changes to surveillance frequencies within the SFCP. NEI 04-10 uses both the 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 (CCFs). 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 CCFs. The staff concludes that 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 plants' licensing bases, including the Updated Final Safety Analysis Report and TS Bases, because 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. On this basis, the staff concludes that 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 CDF 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, which requires 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. The changes to the Administrative Controls section of the TSs will require 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 by providing the technical methodology to support risk-informed TSs for control of surveillance frequencies.

3.1.4.1 Quality of the PRA

The quality of the licensee's PRA must be commensurate with the safety significance of the proposed TS change and the role the PRA plays in justifying the change. That is, the greater the 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 provides regulatory guidance for assessing the technical adequacy of a PRA. The current revision (i.e., Revision 2) of this RG endorses (with clarifications and qualifications) the use of (1) 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" (i.e., the PRA Standard), (2) NEI 00-02, Revision 1, "Probabilistic Risk Assessment (PRA) Peer Review Process Guidance" (ADAMS Accession Nos. ML061510619 and ML063390593), and (3) NEI 05-04, Revision 2, "Process for Performing Internal Events PRA Peer Reviews Using the ASME/ANS PRA Standard" (ADAMS Accession No. ML083430462).

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 of the endorsed PRA standard is the target capability level for supporting requirements for the internal events PRA for this application. Any identified deficiencies to those requirements are assessed further to determine any impacts to proposed decreases to surveillance frequencies, including the use of sensitivity studies where appropriate, in accordance with NEI 04-10.

In Attachment 2 of its application dated July 3, 2014, the licensee stated that the initial peer review of the PBNP PRA model was performed by the Westinghouse Owners Group in June 2001, and that several additional full-scope and focused-scope peer reviews have been completed since the initial review. Full-scope peer reviews of the internal events PRA, fire PRA, and high winds PRA were performed in November 2010, June 2011, and May 2012, respectively. Focused-scope peer reviews of the internal flooding PRA and internal events PRA were performed in August 2011 and October 2011, respectively. Finally, two additional focused-scope peer reviews of the PBNP fire PRA were performed in May 2013 and June 2013. The licensee also noted that the internal events PRA model was further updated in 2013 and 2014 and that the current model of record complies with ASME/ANS RA-Sa-2009, as endorsed by RG 1.200.

Attachment A to Attachment 2 of the application dated July 3, 2014, lists the significant peer review Facts and Observations (F&Os) findings for the PBNP Internal Events and Internal Flooding PRA which were considered unresolved after the focused-scope peer reviews. Attachment A includes eight internal flooding F&Os (six of which remained from the full-scope review) and 31 internal events F&Os (27 of which remained from the full-scope review), for a total of 39 F&O findings. The licensee explained that the PRA was assessed following the model update and that only two findings were not resolved and no additional gaps were identified. Attachment B to Attachment 2 provides the two open F&Os - F&Os AS-B7-01 and LE-F3-01), which do not currently meet Capability Category II as identified by the licensee. (These F&Os are also included in Attachment A.) The NRC staff reviewed (1) the summary of

the peer review finding, (2) the licensee's resolution to the finding, and (3) the licensee's assessment of the impact on this application, for the F&Os listed in Attachments A and B of the application dated July 3, 2014, to identify whether any gaps in the PRA model were identified that could impact the application.

The resolution of 2011 full-scope peer review finding F&O IE-A1-01 indicates that the CDF due to a failed 4.16kV AC vital switchgear bus initiator is not considered risk significant, and therefore, not included in the internal events PRA. The NRC staff notes that while only providing a small risk contribution to the total baseline CDF, excluding this initiator may impact the risk-informed STI extensions associated with a vital switchgear bus. In its letter dated May 28, 2015, the licensee responded to request for additional information (RAI) 4 and explained that the PBNP SFCP would evaluate STI changes in accordance with NEI 04-10. The licensee stated, "[f]or those STI changes that could be adversely affected by this F&O [IE-A1-01], a sensitivity study case will be performed to determine the impact on the CDF and LERF results. Those results will be compared to the RG 1.174 limits to determine the next step, as described in Step 14 of NEI 04-10, Revision 1." The NRC staff concludes that the licensee's disposition of F&O IE-A1-01 is acceptable for this application because it is consistent with the methodology described in NEI 04-10.

Attachment B to Attachment 2 of the application dated July 3, 2014, discusses the impact of F&Os which are considered open, or only partially resolved. The NRC staff noted that for F&O AS-B7-01, the resolution of the 2011 full-scope peer review states:

LOOP [loss of offsite power] recovery is applied to only SBO [station blackout] sequences and DC battery life is not considered (i.e. assumed to fail at 0 hours). This is conservative since recoveries which could be applied to reduce CDF and LERF are not applied. Removing these conservatisms may be considered in the future...

The NRC staff also noted that while the total risk may be conservative, the delta risk when evaluating a change in the STI may be underestimated. In its letter dated May 28, 2015, the licensee responded to RAI 5 and confirmed that the risk associated with an STI extension for batteries could potentially be underestimated. The licensee stated:

[T]he current DC battery model allows for only limited recovery of offsite power, i.e., the recovery of offsite power does not account for the extra time afforded by battery depletion. ... [I]f an STI extension is being considered for the batteries, an assessment will be performed to determine if the current modeling of the recovery of offsite power results in an underestimation of the delta risk impact. If it does, the delta risk for the battery STI extension will be modified appropriately to account for the conservative modeling.

Given that the potential impact on surveillance frequency extensions for the batteries will be accounted for, the NRC staff concludes that the licensee's disposition of F&Os AS-B7-01 is acceptable for this application.

The NRC staff notes that the licensee's August 28, 2014, response (ADAMS Accession No. ML14241A267) to the NRC's PRA RAI 02, associated with the licensee's request to adopt

National Fire Protection Association Standard 805 (NFPA 805), further addresses the disposition of F&Os QU-D7-01, LE-B1-01, and LE-F3-01. For F&O QU-D7-01 (2010 peer review finding), the NFPA 805 RAI response explained that a review of risk significant basic events was performed to resolve the F&O. For F&O LE-B1-01 (2011 peer review finding), the NFPA 805 RAI response clarified that repairs are not credited in the PBNP Internal Events PRA model. Finally, for F&O LE-F3-01, the NFPA 805 RAI response characterized the impact of LERF modeling assumptions. In Attachment B to Attachment 2 of its application dated July 3, 2014, the licensee also noted that the documentation should be updated as part of the next revision to the PBNP PRA. The NRC staff notes that any sensitivities performed as part of this documentation update may also need to be considered as part of the SFCP, in accordance with NEI 04-10. (Sensitivity studies are discussed further in Section 3.1.4.5 of this SE.) Given the additional information provided in the response to NFPA 805 PRA RAI 02, the NRC staff concludes that the licensee's dispositions of F&Os QU-D7-01, LE-B1-01, and LE-F3-01 are acceptable for this application.

Based on the licensee's assessments using the currently applicable PRA standard and revision of RG 1.200, the NRC staff concludes that the level of PRA quality, combined with the proposed evaluation and disposition of gaps, 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 changes to the Administrative Controls section of the TSs will require the licensee 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 (CDF and LERF) from internal events, fires, seismic, other external events, and shutdown conditions. In cases where a PRA of sufficient scope or quantitative risk models is unavailable, the licensee uses bounding analyses, or other conservative quantitative evaluations. A qualitative screening analysis may be used when the surveillance frequency impact on plant risk is shown to be negligible or zero.

The licensee has an at-power internal events and internal flooding PRA model, as well as an at-power fire PRA model to support the adoption of NFPA 805. In accordance with NEI 04-10, the licensee will use these models to perform quantitative evaluations to support the development of changes to surveillance frequencies in the SFCP. In Attachment 2 to its application dated July 3, 2014, the licensee noted that the PBNP NFPA 805 fire PRA produces a conservative estimate of core damage risk due to fire, and that the PBNP fire PRA model will be exercised to obtain quantitative fire risk insights, but refinements may need to be made on a case-by-case basis. The NRC staff finds this approach acceptable because NEI 04-10 allows for more refined analysis to be performed to support changes to surveillance frequencies in the SFCP.

As described in Attachment 2 to its application dated July 3, 2014, the licensee has a seismic PRA which was developed following the guidance in NUREG-1407, "Procedural and Submittal Guidance for the Individual Plant Examination of External Events (IPEEE) for Severe Accident Vulnerabilities" (ADAMS Accession No. ML063550238) and NUREG/CR-2300, "PRA Procedures Guide – A Guide to the Performance of Probabilistic Risk Assessments for Nuclear Power Plants" (ADAMS Accession Nos. ML063560439 and ML063560440). (The NRC staff

notes that this would not be considered a RG 1.200 compliant seismic PRA.) However, the licensee noted that Point Beach is sited in an area of very low seismicity. The licensee also stated that it recently performed additional seismic walkdowns in response to Near-Term Task Force Recommendation 2.3 to identify and address plant degraded, non-conforming, or unanalyzed conditions, with respect to the current seismic licensing basis and that no operability concerns were identified. The licensee referenced the NFPA 805 estimates for the Point Beach seismic risk of $1\text{E-}5/\text{year}$ and $1\text{E-}6/\text{year}$ for CDF and LERF, respectively. The NRC staff notes that these values are consistent with the NRC memorandum on Generic Issue 199 (ADAMS Accession No. ML100270582) which discusses recent updates to estimates of the seismic hazard in the central and eastern United States. This analysis reported a seismic CDF estimate of $7.3\text{E-}6$ per year for Point Beach using the "simple average" approach based on the 2008 U.S. Geologic Survey seismic hazard curves and a bounding estimate of $1.1\text{E-}5$ per year. This supports the licensee's conclusion that seismic risk is low but would still be considered as a factor for the Point Beach SFCP. The licensee stated that a qualitative or a bounding approach will be used in most cases for assessing other hazard groups covered under external events.

Point Beach also has a high winds PRA model as referenced in Sections 2.2 and 5.0 of Attachment 2 of its application dated July 3, 2014; however, it was not clear how the PBNP High Winds PRA model would be used as part of the Point Beach SFCP. The licensee stated:

The risk analyses of the other external hazards were performed and published in the Point Beach IPE [Individual Plant Examination for Severe Accident Vulnerabilities] and the IPEEE [Individual Plant Examination of External Events for Severe Accident Vulnerabilities] in the 1990s and have not been updated since. These analyses were typically bounding and screening evaluations and not well-suited for configuration-specific risk applications. Therefore, in performing the assessments for the other hazard groups, a qualitative or a bounding approach will be used in most cases.

In its letter dated May 28, 2015, the licensee responded to RAI 3 and clarified, "[i]n the case of the Point Beach High Winds PRA, as well as for other external events including fire, a qualitative or bounding approach will be used in most cases." The NRC staff concludes that this approach is acceptable for this application because it is consistent with the methodology described in NEI 04-10.

In its letter dated May 28, 2015, the licensee responded to RAI 2 and explained that Point Beach does not currently have a shutdown PRA model that meets the guidance in RG 1.200. However, the licensee explained that the guidance in NEI 04-10 will also be applied for shutdown events. This includes the use of the Point Beach shutdown safety assessment developed in support of NUMARC 91-06, "Guidelines for Industry Actions to Assess Shutdown Management" (ADAMS Accession No. ML14365A203), sensitivity analyses, or application-specific analysis, consistent with NEI 04-10. The licensee stated, "[i]f shutdown risk can be quantified, then the CDF and LERF will be calculated ... and included in the cumulative risk of all changes assessed." The NRC staff concludes that this approach is acceptable for this application because it is consistent with the methodology described in NEI 04-10.

Thus, the staff concludes that through the application of NEI 04-10, Revision 1, 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's methodology includes the determination of 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 CCF 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.

Thus, the staff concludes that through the application of NEI 04-10, the Point Beach 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 PRAs may include a separate standby time-related contribution and a cyclic demand-related contribution. In its letter dated May 28, 2015, the licensee responded to RAI 1 and explained that the standby time-related contribution evaluation will be performed in accordance with NEI 04-10. NEI 04-10 criteria adjust the time-related failure contribution of SSCs affected by the proposed change to surveillance frequency. This is consistent with RG 1.177, Section 2.3.3, which permits separation of the failure rate contributions into demand and standby for evaluation of 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, such that the failure probability is assumed to increase linearly with time, and will be confirmed by the required monitoring and feedback implemented after the change in surveillance frequency is implemented. The NEI 04-10 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 benefits 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 not quantitatively assessed. Thus, the staff concludes that 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

By having the TSs require that changes to the frequencies listed in the SFCP be made in accordance with NEI 04 10, Revision 1, the licensee will be required to have sensitivity studies that assess the impact of uncertainties from key assumptions of the PRA, uncertainty in the failure probabilities of the affected SSCs, impact on the frequency of initiating events, and 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. The licensee will also be required to perform monitoring and feedback of SSC performance once the revised surveillance frequencies are implemented. Thus, the staff concludes that 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, consistent with Regulatory Position 2.3.5 of RG 1.177.

3.1.4.6 Acceptance Guidelines

The licensee will be required to 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 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 changes to CDF and LERF are consistent with the acceptance criteria of RG 1.174 for very small changes in risk. Where the RG 1.174 acceptance criteria are not met, the process in NEI 04-10 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 for comparison with the 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 less than $1\text{E-}5$ per year for change to CDF, and less than $1\text{E-}6$ per year for change to LERF. 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 values are consistent with the acceptance criteria of RG 1.174, as referenced by RG 1.177 for changes to surveillance frequencies.

Consistent with the NRC's SE dated September 19, 2007, for NEI 04-10, the TS SFCP will require the licensee to calculate the total change in risk (i.e., the cumulative risk) by comparing a baseline model that uses failure probabilities based on surveillance frequencies prior to being changed per the SFCP to a revised model that uses failure probabilities based on the 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 (i.e., 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. 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 acceptable methods for evaluating the risk increase associated with proposed changes to surveillance frequencies, consistent with Regulatory Position 2.4 of RG 1.177. Therefore, the staff concludes that 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, Revision 3, 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 be required by the Maintenance Rule. 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 staff concludes that the fifth key safety principle of RG 1.177 is satisfied.

3.2 Addition of SFCP to Administrative Controls

By letter dated March 19, 2015, the licensee proposes including the SFCP and specific requirements into the Point Beach TSs, Section 5.5.19, as follows:

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 that the associated Limiting Conditions for Operation are met.

- a. The Surveillance Frequency Control Program shall contain a list of Frequencies of those 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 therefore, the staff concludes that it is acceptable.

3.3 Deviations from TSTF-425 and Other Changes

3.3.1 Revised Clean TS Pages

In its application dated July 3, 2014, the licensee stated that revised (i.e., clean) TS pages are not included in the amendment request due to the number of TS pages affected, straightforward nature of the proposed changes, and outstanding license amendment requests that may affect some of the same TS pages. The licensee stated that providing only markups of the proposed TS changes satisfies the requirements of 10 CFR 50.90, "Application for amendment of license, construction permit, or early site permit", in that the markups fully describe the desired changes. The licensee stated that this is an administrative deviation from the NRC staff's model application dated July 6, 2009 (74 FR 31996), with no impact on the NRC staff's model SE published in the same FR notice. The licensee stated that as a result of this deviation, the contents and numbering of the attachments for this amendment request differ from the attachments specified in the NRC staff's model application. The NRC staff finds this acceptable.

3.3.2 Differences Between Point Beach Units 1 and 2 TSs and NUREG-1431

In its application dated July 3, 2014, the licensee stated that NUREG-1431, "Standard Technical Specifications – Westinghouse Plants", Revision 4, Volumes 1 and 2, April 30, 2012, contains surveillances that are not in the Point Beach TSs. The licensee stated that these surveillances identified in TSTF-425 for NUREG-1431 are not applicable to Point Beach. The licensee stated that this is an administrative deviation from TSTF-425 with no impact on the NRC staff's model SE dated July 6, 2009 (74 FR 31996). The NRC staff finds this acceptable.

Furthermore, the licensee stated that the Point Beach TSs include plant-specific surveillances that are not contained in NUREG-1431, and therefore, are not included in the NUREG-1431 surveillances provided in TSTF-425. The licensee stated that it has determined that the relocation of the frequencies for these Point Beach specific surveillances is consistent with TSTF-425, Revision 3, and with the NRC staff's model SE dated July 6, 2009 (74 FR 31996), including the scope exclusions identified in Section 1.0, "Introduction", of the model SE, due to the plant-specific surveillance frequencies involving fixed period frequencies. The licensee stated that the changes to the frequencies for these plant-specific surveillances would be controlled under the SFCP. The NRC staff finds this acceptable.

The licensee stated that the SFCP provides the necessary administrative controls to require that surveillances related to testing, calibration, and inspection are conducted at a frequency to assure that the necessary quality of the systems and components is maintained, the facility operation will be within safety limits, and that the LCOs will be met. The licensee stated that the changes to frequencies in the SFCP would be evaluated using the methodology and

probabilistic risk guidelines contained in NEI 04-10, as approved by NRC letter dated September 19, 2007.

The NEI 04-10 methodology includes qualitative considerations, risk analyses, sensitivity studies, and bounding analyses, as necessary, and recommended monitoring of the performance of systems, structures, and components (SCCs) for which frequencies are changed to assure that reduced testing does not adversely impact the SCCs. The NEI 04-10 methodology satisfies the five key safety principles specified in RG 1.177 relative to changes in surveillance frequencies. Therefore, the licensee stated that the proposed relocation of the PBNP-specific surveillance frequencies is consistent with TSTF 425 and with the NRC staff's model SE dated July 6, 2009 (74 FR 31996). The NRC staff finds this acceptable.

3.3.3 Bases Insert Revision

The insert provided in TSTF-425 for the TS Bases states, "The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk, and is controlled under the Surveillance Frequency Control Program". In a letter dated April 14, 2010, the NRC staff agreed that the insert applies to surveillance frequencies that are relocated and subsequently evaluated and changed in accordance with the SFCP, but does not apply to frequencies relocated to the SFCP, but not changed. Therefore, the licensee revised the insert for the Bases to, "The Surveillance Frequency is controlled under the Surveillance Frequency Control Program". This is an administrative deviation from TSTF-425 with no impact on the NRC staff's model SE dated July 6, 2009 (74 FR 31996). The NRC staff finds the changes submitted to the TS Bases consistent with the TS changes.

3.4 Summary and Conclusions

The NRC staff has reviewed the licensee's proposed relocation of some surveillance frequencies to a licensee controlled document, and controlling changes to surveillance frequencies in accordance with a new program, the SFCP, identified in the Administrative Controls of TSs. The NRC staff confirmed that this amendment does not relocate surveillance frequencies that reference other approved programs for the specific interval, are purely event-driven, are event-driven but have a time component for performing the surveillance on a one-time basis once the event occurs, or are related to specific conditions. The SFCP and TSs Section 5.0, Subsection 5.5.19, 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 TSs 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 TSs.

The proposed licensee adoption of TSTF-425, Revision 3, and risk-informed methodology of NEI 04-10, as referenced in the Administrative Controls of TSs, satisfies the key principles of risk-informed decisionmaking applied to changes to TSs 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.

Paragraph 50.36(c) of 10 CFR discusses the categories that will be included in TSs. Paragraph 50.36(c)(3) of 10 CFR discusses the specific category of SRs and states, "Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met." The NRC staff finds that with the proposed relocation of surveillance frequencies to a licensee-controlled document administratively controlled in accordance with the TS SFCP, the licensee continues to meet 10 CFR 50.36.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

These amendments change 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 or change a SR. The staff has determined that the amendments involve no significant increase in the amounts and no significant change in the types of any effluent that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously published a proposed finding that these amendments involve no significant hazards consideration and there has been no public comment on such finding (79 FR 67203). Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

6.0 CONCLUSION

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

Principal Contributor: D. Gennardo
A. Erickson
J. Evans

Date: July 28, 2015

July 28, 2015

Mr. Eric McCartney
Site Vice President
NextEra Energy Point Beach, LLC
6610 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT UNITS 1 AND 2 - ISSUANCE OF
AMENDMENTS REGARDING RELOCATION OF SURVEILLANCE
FREQUENCIES TO LICENSEE CONTROL (TAC NOS. MF4379 AND MF4380)

Dear Mr. McCartney:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 253 and 257 to Renewed Facility Operating License Nos. DPR-24 and DPR-27 for the Point Beach Nuclear Plant Units 1 and 2, respectively. The amendments consist of changes to the Technical Specifications (TSs) in response to your application dated July 3, 2014, as supplemented by letters dated December 8, 2014; March 19, 2015; and May 28, 2015.

These amendments revise the TSs by relocating specific surveillances to a licensee-controlled program. The proposed changes are consistent with the NRC-approved Technical Specifications Task Force (TSTF) Traveler, TSTF-425, Revision 3, "Relocate Surveillance Frequencies to Licensee Control - RITSTF [Risk-Informed TSTF] Initiative 5b."

A copy of our related safety evaluation is also enclosed. The Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,

/RA/

Mahesh L. Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosures:

1. Amendment No. 253 to DPR-24
2. Amendment No. 257 to DPR-27
3. Safety Evaluation

cc w/enclosures: Distribution via Listserv

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ADAMS Accession No.: ML15195A201

*by memo

OFFICE	DORL/LPL3-1/PM	DORL/LPL3-1/LA	NRR/DRA/APLA*	NRR/DSS/STSB
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DATE	7/27/2015	7/24/2015	6/24/2015	7/15/2015
OFFICE	OGC	DORL/LPL3-1/BC	DORL/LPL3-1/PM	
NAME	JLindell	DPelton	MChawla	
DATE	7/20/2015	7/28/2015	7/28/2015	

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