NEXTera ENERGY POINT BEACH

October 14, 2010

NRC 2010-0157
10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Point Beach Nuclear Plant, Units 1 and 2
Dockets 50-266 and 50-301
Renewed License Nos. DPR-24 and DPR-27

License Amendment Request 261, Supplement 10
Extended Power Uprate

References:
(1) FPL Energy Point Beach, LLC letter to NRC, dated April 7, 2009, License Amendment Request 261, Extended Power Uprate (ML091250564)
(2) NextEra Energy Point Beach, LLC letter to NRC, dated June 17, 2009, License Amendment Request 261, Extended Power Uprate, Supplement 1 (ML091690090)
(3) NextEra Energy Point Beach, LLC letter to NRC, dated April 22, 2010, License Amendment Request 261, Extended Power Uprate, Implementation of New Auxiliary Feedwater System at Current Licensed Power Level (ML101130030)
(4) NextEra Energy Point Beach, LLC letter to NRC, dated July 28, 2010, License Amendment Request 261, Extended Power Uprate, Supplement 6 (ML102110116)

Pursuant to 10 CFR 50.90, NextEra Energy Point Beach, LLC (NextEra) submits Supplement 10 to License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 1) for Point Beach Nuclear Plant (PBNP) Units 1 and 2. This supplement provides proposed changes for Technical Specification (TS) 3.3.2, "Engineered Safety Feature Actuation System (ESFAS) Instrumentation," Function 6.e – Auxiliary Feedwater Pump Suction Transfer on Suction Pressure Low.

Separate license amendments were proposed for implementation of revised non-EPU and EPU Reactor Protection System/ESFAS (RPS/ESFAS) setpoints per References (2) and (4), respectively. Implementation of the new Auxiliary Feedwater (AFW) System at current licensed power level was proposed via Reference (3). TS 3.3.2, Function 6.e is currently part of the RPS/ESFAS LAR, which incorporates the requirements of Technical Specifications Task Force (TSTF)-493, "Clarify Application of Setpoint Methodology for [limiting safety system settings] LSSS Functions," Revision 4. Because implementation of AFW is currently expected to precede full implementation of the RPS/ESFAS LAR, TS 3.3.2, Function 6.e needs to be approved with the AFW LAR per Reference (3).

In a teleconference on September 22, 2010, NextEra agreed to provide a separate proposed TS 3.3.2, Function 6.e, consistent with the current PBNP RPS/ESFAS TS format, but addressing certain aspects of TSTF-493, Revision 4. Accordingly, Enclosure 1 provides a description of the proposed TS changes, and Enclosure 2 provides a markup of the proposed TS changes. Enclosure 3 contains a markup of proposed TS Bases changes. The TS Bases changes are provided for information only. NRC approval is not being requested for the TS Bases changes.

The No Significant Hazards Consideration determinations provided in References (1), (2), (3), and (4) are not altered and are applicable to this change.

The proposed changes continue to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment.

The proposed TS changes have been reviewed by the Plant Operations Review Committee.

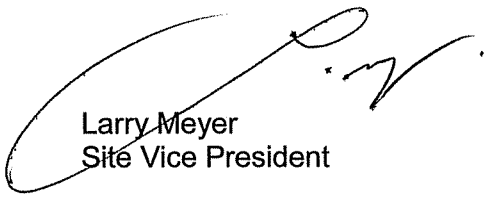
This letter contains no new Regulatory Commitments and no revisions to existing Regulatory Commitments.

In accordance with 10 CFR 50.91, a copy of this letter is being provided to the designated Wisconsin Official.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on October 14, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC



Larry Meyer
Site Vice President

Enclosures (3)

cc: Administrator, Region III, USNRC
Project Manager, Point Beach Nuclear Plant, USNRC
Resident Inspector, Point Beach Nuclear Plant, USNRC
PSCW

ENCLOSURE 1

NEXTERA ENERGY POINT BEACH, LLC
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

LICENSE AMENDMENT REQUEST 261, SUPPLEMENT 10
EXTENDED POWER UPRATE

EVALUATION OF PROPOSED CHANGES TO TECHNICAL SPECIFICATION 3.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

5 pages follow

1.0 SUMMARY DESCRIPTION

In accordance with 10 CFR 50.90, NextEra Energy Point Beach, LLC (NextEra), provides revised proposed changes to the Technical Specifications (TS) for Point Beach Nuclear Plant (PBNP) Units 1 and 2, in support of License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 1).

NextEra proposes to add Function 6.e, Auxiliary Feedwater (AFW) pump suction transfer on suction pressure-low, to TS Table 3.3.2-1, "Engineered Safety Feature Actuation System [ESFAS] Instrumentation," as part of the AFW system portion of LAR 261. The proposed changes would also add new table notes, add a new Condition J to TS 3.3.2, and make administrative changes. The changes would be implemented as part of the AFW upgrades that were described in Reference (1). Upon implementation of the LAR to implement changes to the TS for Reactor Protection System (RPS) and ESFAS, the corresponding TS pages that were submitted in Reference (5) would apply. The interim change is necessary to support the phased implementation plan of the EPU on both units, including the AFW system modifications.

2.0 DETAILED DESCRIPTION

NextEra submitted LAR 261, Reference (1), to increase the licensed thermal power level for PBNP Units 1 and 2 to 1800 megawatts thermal (MWt). The LAR includes a description of planned modifications to the AFW system to have unitized pumps and an automatic suction transfer on low suction pressure from the condensate storage tanks (CSTs) to the safety-related service water system. Details of the AFW system modifications were provided in Attachment 5, Section 2.5.4.5, "Auxiliary Feedwater," of Reference (1). The LAR included a commitment to provide the values for the AFW pump suction transfer on suction pressure-low and the CST surveillance requirement.

In Reference (2), NextEra proposed a TS Action Condition (TSAC) for TS 3.3.2, Condition J, which would apply to the new Function 6.e when one channel is inoperable. The basis for the changes demonstrated that the AFW system would supply the required flow under design flow conditions, regardless of the water source. A change to the TS surveillance requirement for CST level to support the modified AFW system at EPU conditions was also provided in this submittal. In Reference (2), NextEra addressed the commitment in Reference (1) to provide the setpoint for the proposed Function 6.e, "AFW Pump Suction Transfer on Suction Pressure-Low," to TS Table 3.3.2-1.

In Reference (5), NextEra provided revised proposed TS changes for the RPS and ESFAS instrumentation tables that were previously submitted in References (1) and (3) that addressed the need to perform calculations that include double-sided random uncertainties. The revised pages addressed Technical Specifications Task Force (TSTF) 493, "Clarify Application of Setpoint Methodology for [limiting safety system settings] LSSS Functions," Revision 4, Reference (7). Table 3.3.2-1 was changed to a new format that included a new column for nominal trip setpoint (NTSP). The proposed changes also included two new notes that applied to Table 3.3.2-1, and a footnote (f) that linked the notes to the table. The notes addressed guidance based on joint NRC and industry efforts to clarify the application of setpoint methodology for LSSS setpoints. The new notes would apply to the proposed Function 6.e. Revisions were also necessary to reflect an acceptable methodology for calculating setpoints. The proposed allowable value for Function 6.e was changed to ≥ 5.8 psig.

In Reference (4), NextEra requested NRC approval for implementation of the proposed AFW changes submitted in LAR 261 for the current licensed power level. The request included a list of TS changes that were associated with the AFW modifications. This list included the addition of Function 6.e to TS 3.3.2.

In a September 22, 2010 teleconference, NextEra agreed to submit a proposed TS change to include Table 3.3.2-1, Function 6.e, for AFW pump suction transfer on suction pressure low, in the LAR for the AFW changes. Although this function had been previously provided, the most recent version (Reference 5) is in a different format than the current PBNP TS. The AFW portion of LAR 261 does not involve the remaining functions in Table 3.3.2-1, so, from a human factors perspective, it is appropriate to present information consistently.

Accordingly, NextEra proposes to add Function 6.e to TS Table 3.3.2-1 consistent with the current table format for the AFW portion of LAR 261. NextEra is also revising the proposed change to new Condition J of TS 3.3.2, which is linked to Function 6.e. Condition J was described in References (1) and (2). NextEra is also proposing to revise the Required Action by replacing "out of service" with "inoperable" to be consistent with Standard Technical Specifications language per Reference (6). Incorporating the changes to TS 3.3.2 with the AFW portion of the LAR ensures that appropriate controls will be in place when the opposite unit's EPU (RPS/ESFAS amendment) is implemented.

A detailed description of the proposed TS changes is provided below. Proposed markups for TS 3.3.2 are provided in Enclosure 2. Additionally, proposed markups for the Bases for Section 3.3.2 are provided in Enclosure 3 for NRC staff information.

2.1 Proposed Change:

1. TS Table 3.3.2-1, new Function 6.e:

Add:

	FUNCTION	APPLICABLE MODES	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
e.	AFW Pump Suction Transfer on Suction Pressure Low	1,2,3	1 per pump	J	SR 3.3.2.1 SR 3.3.2.3(f) SR 3.3.2.8(f)	≥ 5.8 psig

and

Footnote (f) Table 3.3.2-1 Notes 1 and 2 are applicable

Basis for the Change:

The proposed change adds the function for AFW pump suction transfer on low suction pressure to the list of functions in TS Table 3.3.2-1. The AFW system is being upgraded to increase the capability of the system. Details of the AFW system modifications are provided in Section 2.5.4.5.2, "Auxiliary Feedwater" of the Licensing Report, which is included in Reference (1). The AFW system upgrade adds a provision for automatic switchover of pump suction to service water on loss of the CST suction source. A low pressure signal in the AFW pump suction line protects the AFW pumps against a loss of the normal supply of water (the CST) for the pumps.

The function would be applicable in MODES 1, 2, and 3, consistent with the analyzed transients and conditions that rely on this protective function. Proposed Surveillance Requirements (SRs) include a channel check every twelve hours, a channel operational test every 92 days, and a channel calibration every 18 months. These surveillances provide assurance that the instrumentation will actuate. As described in Reference (5), the Allowable Value was determined by calculation based on an analytical limit of 5.241 psig as the minimum suction pressure at each individual AFW pump, with all instrument uncertainties taken into account.

The requirements for SR 3.3.2.3 and SR 3.3.2.8 include a reference to new footnote (f), which ties the surveillances to new Notes 1 and 2, which are described below.

2. TS Table 3.3.2-1, new notes

Add:

Note 1:

If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.

Note 2:

The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and the as-left tolerances are specified in FSAR Section 7.2.

Basis for the Change:

The new Notes are applied to the channel operational test (COT) surveillance and the channel calibration surveillance for Function 6.e. This function has an adjustable setpoint, and an as-found value will be recorded during the surveillance. The notes require actions based on the as-found channel setpoint value recorded during the surveillance relative to the as-left tolerance band and the as-found tolerance band that are established in the calibration procedures. Surveillance limits are established to verify that the instrumentation operates within the boundaries of applicable safety analyses, considering all instrument uncertainties. These limits are implemented by plant procedures. The procedures also include the NTSP. Determination of as-left setting tolerance and as-found criteria is described in Enclosure 5 to Reference (5).

3. TS 3.3.2, Add new Condition J

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

Basis for the Change:

The proposed condition supports the new Function 6.e for AFW pump suction transfer. Forty-eight hours is a reasonable amount of time to restore a channel to operable status considering the nature of the function, available redundancy, and low probability of an event occurring during the proposed interval. If the channel is not restored within the 48-hour Completion Time, the associated AFW pump is considered inoperable and the appropriate conditions for TS 3.7.5.B apply.

4. TS 3.3.2, Administrative Changes

The changes described above create the need for administrative changes. Adding new Condition J adds a new page to TS 3.3.2. As a result, page numbering must be changed for the subsequent pages. Adding the notes to Table 3.3.2-1 causes the table to increase from three pages to four pages. The heading on each page of the table is changed accordingly.

Basis for the Change:

The administrative changes are consistent with Standard Technical Specifications language per Reference (6).

3.0 TECHNICAL EVALUATION

The technical evaluations for the above changes were provided in References (1), (2), (4), and (5).

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The applicable regulatory requirements and criteria for the above changes were previously provided in References (1), (2), (4), and (5).

4.2 Precedent

None

4.3 No Significant Hazards Consideration Determination

NextEra evaluated whether or not the proposed changes involved a No Significant Hazards Consideration involving the addition of Function 6.e and Condition J to TS 3.3.2 in References (1), (2), (4), and (5). The proposed changes provided in this supplement do not affect the previously provided determinations.

4.4 Conclusions

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

5.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

(1) FPL Energy Point Beach, LLC, letter to NRC, dated April 7, 2009, License Amendment Request 261, Extended Power Uprate (ML091250564)

(2) NextEra Energy Point Beach, LLC, letter to NRC, dated June 17, 2009, License Amendment Request 261, Extended Power Uprate, Supplement 1 (ML091690090)

(3) NextEra Energy Point Beach, LLC letter to NRC, dated December 8, 2009, License Amendment Request 261, Extended Power Uprate, Supplement 3 (ML093430114)

(4) NextEra Energy Point Beach, LLC letter to NRC, dated April 22, 2010, License Amendment Request 261, Extended Power Uprate, Implementation of New Auxiliary Feedwater System at Current Licensed Power Level (ML101130030)

(5) NextEra Energy Point Beach, LLC letter to NRC, dated July 28, 2010, License Amendment Request 261, Extended Power Uprate, Supplement 6 (ML102110116)

(6) NUREG-1431, Revision 3, dated June 30, 2004, Standard Technical Specifications Westinghouse Plants June 2004 (ML041830612 and ML041830205)

(7) Technical Specifications Task Force (TSTF), TSTF-493, "Clarify Application of Setpoint Methodology for [limiting safety system settings] LSSS Functions," Revision 4, July 31, 2009 (ML092150990)

ENCLOSURE 2

NEXTERA ENERGY POINT BEACH, LLC
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

LICENSE AMENDMENT REQUEST 261 SUPPLEMENT 10
EXTENDED POWER UPRATE

PROPOSED CHANGES TO
TECHNICAL SPECIFICATION 3.3.2
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

6 pages follow

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. One channel inoperable.	F.1 Restore channel to OPERABLE status.	1 hour
	OR	
	F.2.1 Be in MODE 3.	7 hours
	AND	
	F.2.2 Be in MODE 4.	13 hours
G. One train inoperable.	G.1 Restore train to OPERABLE status.	6 hours
	OR	
	G.2.1 Be in MODE 3.	12 hours
	AND	
	G.2.2 Be in MODE 4.	18 hours
H. One channel inoperable.	H.1 Place channel in trip.	6 hours
	OR	
	H.2 Be in MODE 3.	12 hours
I. One or more channels inoperable.	I.1 Verify interlock is in required state for existing unit condition.	1 hour
	OR	
	I.2.1 Be in MODE 3.	7 hours
	AND	
	I.2.2 Be in MODE 4.	13 hours

(continued)

ACTIONS (continued)

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

Table 3.3.2-1 (page 1 of ~~34~~)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
1. Safety Injection					
a. Manual Initiation	1,2,3,4	2	B	SR 3.3.2.7	NA
b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.5	NA
c. Containment Pressure—High	1,2,3	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\leq$ 6 psig
d. Pressurizer Pressure—Low	1,2,3(a)	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\geq$ 1715 psig
e. Steam Line Pressure—Low	1,2,3(b)	3 per steam line	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\geq$ 500(c) psig
2. Containment Spray					
a. Manual Initiation	1,2,3,4	2	E	SR 3.3.2.7	NA
b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.5	NA
c. Containment Pressure—High High	1,2,3	2 sets of 3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\leq$ 30 psig

(continued)

(a) Pressurizer Pressure > 1800 psig.

(b) Pressurizer Pressure > 1800 psig, except during Reactor Coolant System hydrostatic testing.

(c) Time constants used in the lead/lag controller are $t_1 \geq 12$ seconds and $t_2 \leq 2$ seconds.

Table 3.3.2-1 (page 2 of ~~34~~)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
3. Containment Isolation					
a. Manual Initiation	1,2,3,4	2	B	SR 3.3.2.7	NA
b. Automatic Actuation Logic and Actuation Relays	1,2,3,4	2 trains	C	SR 3.3.2.4 SR 3.3.2.5	NA
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements, except Manual SI initiation.				
4. Steam Line Isolation					
a. Manual Initiation	$1,2^{(d)},3^{(d)}$	1/loop	F	SR 3.3.2.7	NA
b. Automatic Actuation Logic and Actuation Relays	$1,2^{(d)},3^{(d)}$	2 trains	G	SR 3.3.2.2 SR 3.3.2.5	NA
c. Containment Pressure—High High	$1,2^{(d)},3^{(d)}$	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\leq$ 20 psig
d. High Steam Flow	$1,2^{(d)},3^{(d)}$	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\leq \Delta p$ corresponding to 0.66×10^6 lb/hr at 1005 psig
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
and					
Coincident with T_{avg}—Low	$1,2^{(d)},3^{(d)}$	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\geq 540^{\circ}F$
e. High High Steam Flow	$1,2^{(d)},3^{(d)}$	2 per steam line	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	$\leq \Delta p$ corresponding to 4×10^6 lb/hr at 806 psig
Coincident with Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				

(continued)

(d) Except when all MSIVs are closed and de-activated.

Table 3.3.2-1 (page 3 of ~~34~~)
Engineered Safety Feature Actuation System Instrumentation

FUNCTION	APPLICABLE MODES	REQUIRED CHANNELS	CONDITIONS	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
5. Feedwater Isolation					
a. Automatic Actuation Logic and Actuation Relays	1,2(e),3(e)	2 trains	G	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.5	NA
b. SG Water Level—High	1,2(e),3(e)	3 per SG	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	NA
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
6. Auxiliary Feedwater					
a. Automatic Actuation Logic and Actuation Relays	1,2,3	2 trains	G	SR 3.3.2.2	NA
b. SG Water Level—Low Low	1,2,3	3 per SG	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	≥ 20%
c. Safety Injection	Refer to Function 1 (Safety Injection) for all initiation functions and requirements.				
d. Undervoltage Bus A01 and A02	1,2	2 per bus	H	SR 3.3.2.6 SR 3.3.2.8	≥ 3120 V
e. AFW Pump Suction Transfer on Suction Pressure - Low	1,2,3	1 per pump	J	SR 3.3.2.1 SR 3.3.2.3(f) SR 3.3.2.8(f)	≥ 5.8 psig
7. Condensate Isolation					
a. Containment Pressure—High	1,2(e),3(e)	3	D	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	≤ 6 psig
b. Automatic Actuation Logic and Actuation Relays	1,2(e),3(e)	2 trains	G	SR 3.3.2.2 SR 3.3.2.4 SR 3.3.2.5	N/A
8. SI Block-Pressurizer Pressure	1,2,3	3	I	SR 3.3.2.1 SR 3.3.2.3 SR 3.3.2.8	≤ 1800 psig

(e) Except when all MFRVs and associated bypass valves are closed and de-activated.

(f) Table 3.3.2-1 Notes 1 and 2 are applicable

Table 3.3.2-1 (page 4 of 4)
Engineered Safety Feature Actuation System Instrumentation

Note 1:

If the as-found channel setpoint is outside its predefined as-found tolerance, then the channel shall be evaluated to verify that it is functioning as required before returning the channel to service.

Note 2:

The instrument channel setpoint shall be reset to a value that is within the as-left tolerance around the Nominal Trip Setpoint (NTSP) at the completion of the surveillance; otherwise, the channel shall be declared inoperable. Setpoints more conservative than the NTSP are acceptable provided that the as-found and as-left tolerances apply to the actual setpoint implemented in the Surveillance procedures (field setting) to confirm channel performance. The methodologies used to determine the as-found and the as-left tolerances are specified in FSAR Section 7.2

ENCLOSURE 3

NEXTERA ENERGY POINT BEACH, LLC
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

LICENSE AMENDMENT REQUEST 261, SUPPLEMENT 10
EXTENDED POWER UPRATE

PROPOSED TECHNICAL SPECIFICATION 3.3.2 BASES CHANGES

(FOR INFORMATION ONLY)

8 pages follow

BASES

BACKGROUND (continued)

providing the unit is operated from within the LCOs at the onset of the DBA and the equipment functions as designed.

Each channel can be tested on line to verify that the signal processing equipment and setpoint accuracy is within the specified allowance requirements. Once a designated channel is taken out of service for testing, a simulated signal is injected in place of the field instrument signal. The process equipment for the channel in test is then tested, verified, and calibrated. SRs for the channels are specified in the SR section.

The Allowable Values listed in Table 3.3.2-1, except for Function 6.e, are based on the methodology described in Reference 5, which incorporates all of the known uncertainties applicable for each channel. The magnitudes of these uncertainties are factored into the determination of each Allowable Value. The Allowable Value for Function 6.e is based on double-sided random instrument uncertainties. All field sensors and signal processing equipment for these channels are assumed to operate within the allowances of these uncertainty magnitudes.

Relay Logic Racks

The Relay Logic Rack equipment is used for the decision logic processing of outputs from the signal processing equipment bistables. To meet the redundancy requirements, two trains of Relay Logic Racks, each performing the same functions, are provided.

The Relay Logic Racks perform the decision logic for most ESF equipment actuation; generates the electrical output signals that initiate the required actuation; and provides the status, permissive, and annunciator output signals to the main control room of the unit.

The bistable outputs from the signal processing equipment are sensed by the Relay Logic Rack equipment and combined into logic matrices that represent combinations indicative of various transients. If a required logic matrix combination is completed, the system will send actuation signals via master and slave relays to those components whose aggregate Function best serves to alleviate the condition and restore the unit to a safe condition. Examples are given in the Applicable Safety Analyses, LCO, and Applicability sections of this Bases.

The actuation of ESF components is accomplished through master and slave relays. The Relay Logic Racks energize the master relays appropriate for the condition of the unit. Each master relay then energizes one or more slave relays, which then cause actuation of the end devices.

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY (continued)

c. Feedwater Isolation-Safety Injection

Feedwater Isolation is also initiated by all Functions that initiate SI. The Feedwater Isolation Function requirements for these Functions are the same as the requirements for their SI function.

Therefore, the requirements are not repeated in Table 3.3.2-1. Instead Function 1, SI, is referenced for all initiating functions and requirements.

Feedwater Isolation Functions must be OPERABLE in MODES 1 and 2 and 3 except when all MFRVs, and associated bypass valves are closed and de-activated. In MODES 4, 5, and 6, the MFW System is not in service and this Function is not required to be OPERABLE.

6. Auxiliary Feedwater

The AFW System is designed to provide a secondary side heat sink for the reactor in the event that the MFW System is not available. The system has ~~two~~a motor driven pump~~s~~ and a turbine driven pump, making it available during normal unit operation, during a loss of AC power, a loss of MFW, and during a Feedwater System pipe break. The normal source of water for the AFW System is the condensate storage tank (CST) (not safety related). Upon a low ~~level in the CST,~~pressure in the AFW pump suction piping, the suction source will automatically ~~the operators can manually~~ realign the pump suctions to the Service Water System, which is the safety related water source. The AFW System is aligned so that upon a pump start, flow is initiated to the respective SGs immediately.

a. Auxiliary Feedwater-Automatic Actuation Logic and Actuation Relays

Automatic actuation logic and actuation relays consist of the same features and operate in the same manner as described for ESFAS Function 1.b.

b. Auxiliary Feedwater-Steam Generator Water Level-Low Low

SG Water Level-Low Low provides protection against a loss of heat sink. A loss of MFW would result in a loss of SG water level. SG Water Level-Low Low in either SG will cause both motor driven pumps to start. The system is aligned so that upon start of the pumps, water immediately begins to flow to the SGs. SG Water Level-Low Low in both SGs will cause the turbine driven AFW pump to start.

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY (continued)

~~With the transmitters (d/p cells) located inside containment and thus possibly experiencing adverse environmental conditions (feed line break), the Allowable Value reflects the inclusion of both steady state and adverse environmental instrument uncertainties.~~

c. Auxiliary Feedwater-Safety Injection

An SI signal starts ~~the motor driven~~both AFW pumps. The AFW initiation functions are the same as the requirements for their SI function. Therefore, the requirements are not repeated in Table 3.3.2-1. Instead, Function 1, SI, is referenced for all initiating functions and requirements.

Functions 6.a through 6.c must be OPERABLE in MODES 1, 2, and 3 to ensure that the SGs remain the heat sink for the reactor. SG Water Level-Low Low in any operating SG will cause the motor driven and turbine driven AFW pumps to start. The system is aligned so that upon a start of the pump, water immediately begins to flow to the SGs. ~~SG Water Level-Low Low in both SGs will cause the turbine driven pump to start.~~ These Functions do not have to be OPERABLE in MODES 5 and 6 because there is not enough heat being generated in the reactor to require the SGs as a heat sink. In MODE 4, AFW actuation does not need to be OPERABLE because either AFW or residual heat removal (RHR) will already be in operation to remove decay heat or sufficient time is available to manually place either system in operation.

d. Auxiliary Feedwater-Undervoltage Bus A01 and A02

The LCO requires two channels per bus to be OPERABLE. A channel consists of an undervoltage relay and one set of associated contacts.

A loss of power on the A01 and A02 buses provides indication of a pending loss of both Main Feedwater pumps and the subsequent need for some method of decay heat removal. A loss of power to Buses A01 and A02 will start ~~the turbine driven~~both AFW pumps to ensure that ~~at least one~~ the SGs contain~~s~~ enough water to serve as the heat sink for reactor decay heat and sensible heat removal following the reactor trip.

Function 6.d must be OPERABLE in MODES 1 and 2. This ensures that ~~at least one~~the SGs ~~is~~are provided with water to serve as the heat sink to remove reactor decay heat and

BASES

APPLICABLE SAFETY ANALYSES, LCO, AND APPLICABILITY (continued)

sensible heat in the event of an accident. In MODES 3, 4, and 5, the MFW pumps may be normally shut down, and thus a pump trip is not indicative of a condition requiring automatic AFW initiation.

This function is not credited for FSAR Chapter 14, "Accident Analysis." Reference 1

e. AFW Pump Suction Transfer on Suction Pressure-Low

A low pressure signal in the AFW pump suction lines protects the AFW pumps against a loss of the normal supply of water for the pumps. The pressure switches are located on the AFW pump suction lines from the CSTs. A low pressure signal sensed by the pump suction switches will cause the safety-related source of water, Service Water, to be automatically aligned to the AFW pumps. The alignment of the Service Water System will maintain at least one of the SGs per unit as the heat sink for reactor decay heat and sensible heat removal.

This Function must be OPERABLE in MODES 1, 2, and 3 to ensure a safety grade supply of water for the AFW System to maintain the SGs as the heat sink for the reactor. In MODE 4, AFW automatic suction transfer does not need to be OPERABLE because RHR will already be in operation, or sufficient time is available to place RHR in operation, to remove decay heat.

Table 3.3.2-1 Notes 1 and 2 are applicable.

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ACTIONS (continued) H.1 and H.2

Condition H applies to the Undervoltage Bus A01 and A02 Function.

If one channel is inoperable, 6 hours are allowed to restore one channel to OPERABLE status or place it in the tripped condition. If placed in the tripped condition, this Function is then in a partial trip condition where one-out-of-two logic will result in actuation. The 6 hours to place the channel in the tripped condition is necessary due to plant design requiring maintenance personnel to effect the trip of the channel outside of the control room. Failure to restore the inoperable channel to OPERABLE status or place it in the tripped condition within 6 hours requires the unit to be placed in MODE 3 within the following 6 hours. The allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems. In MODE 3, this Function is no longer required OPERABLE.

I.1, I.2.1 and I.2.2

Condition I applies to the Pressurizer Pressure SI Block.

With one or more channels inoperable, the operator must verify that the interlock is in the required state for the existing unit condition. This action manually accomplishes the function of the block. Determination must be made within 1 hour. The 1 hour Completion Time is equal to the time allowed by LCO 3.0.3 to initiate shutdown actions in the event of a complete loss of ESFAS function. If the block is not in the required state (or placed in the required state) for the existing unit condition, the unit must be placed in MODE 3 within the next 6 hours and MODE 4 within the following 6 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems. Placing the unit in MODE 4 removes all requirements for OPERABILITY of the Pressurizer Pressure SI block.

J.1 and J.2

Condition J applies to the AFW Pump Suction Transfer on Suction Pressure-Low.

If one channel on an individual Auxiliary Feedwater pump is inoperable, 48 hours are allowed to restore the channel to OPERABLE status or declare the associated AFW pump inoperable. The 48 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature.

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ACTIONS (continued) Additionally, the 48 hour Completion Time takes into account the capacity of the remaining AFW sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period. If the Completion Time for the inoperable channel is not met, then the automatic transfer of the safety-related water source is considered inoperable. The applicable Conditions and Required Actions of LCO 3.7.5, "Auxiliary Feedwater System," must be entered for the AFW pump made inoperable by the inoperable actuation instrumentation.

SURVEILLANCE REQUIREMENTS

The SRs for each ESFAS Function are identified by the SRs column of Table 3.3.2-1.

A Note has been added to the SR Table to clarify that Table 3.3.2-1 determines which SRs apply to which ESFAS Functions.

Note that each channel of process protection supplies both trains of the ESFAS. When testing channel I, train A and train B must be examined. Similarly, train A and train B must be examined when testing channel II, channel III, and channel IV (if applicable). The CHANNEL CALIBRATION and COTs are performed in a manner that is consistent with the assumptions used in analytically calculating the required. channel accuracies.

SR 3.3.2.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the two instrument channels could be an indication of excessive instrument drift in one of the channels or of something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the unit staff, based on a combination of the channel instrument uncertainties, including indication and reliability. If a channel is outside the criteria, it may be an indication that the sensor or the signal processing equipment has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less

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SURVEILLANCE REQUIREMENTS (continued)

For Function 6.e, SR 3.3.2.3 is modified by two Notes as identified in Table 3.3.2-1. The first Note requires evaluation of channel performance for the condition where the as-found setting for the channel setpoint is outside its as-found tolerance but conservative with respect to the Allowable Value. Evaluation of channel performance will verify that the channel will continue to behave in accordance with the safety analysis assumptions and the channel performance assumptions in the setpoint methodology. The purpose of the assessment is to ensure confidence in the channel performance prior to returning the channel to service. The performance of these channels will be evaluated under the station's Corrective Action Program. Entry into the Corrective Action Program will ensure required review and documentation of the condition to establish a reasonable expectation for continued OPERABILITY.

The second Note requires that the as-left setting for the channel be returned to within the as-left tolerance of the nominal trip setpoint (NTSP). Where a setpoint more conservative than the NTSP is used in the plant surveillance procedures (field trip setpoint), the as-left and as-found tolerances, as applicable, will be applied to the surveillance procedure setpoint. This will ensure that sufficient margin to the Safety Limit and/or Analytical Limit is maintained. If the as-left channel setting cannot be returned to a setting within the as-left tolerance of the NTSP, then the channel shall be declared inoperable. For Function 6.e, the NTSP is located in plant procedures.

The second Note also requires that the methodologies for calculating the as-left and as-found tolerances be in the FSAR Chapter 7, Reference 2.

SR 3.3.2.4

SR 3.3.2.4 is the performance of a MASTER RELAY TEST. The MASTER RELAY TEST is the energizing of the master relay and verifying contact operation. This test is performed every 18 months.

SR 3.3.2.5

SR 3.3.2.5 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation MODE is either allowed to function, or is placed in a condition where the relay contact operation can be verified without operation of the equipment. This test is performed every 18 months.

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SURVEILLANCE REQUIREMENTS (continued)

For Function 6.e, SR 3.3.2.8 is modified by two Notes as identified in Table 3.3.2-1. The first Note requires evaluation of channel performance for the condition where the as-found setting for the channel setpoint is outside its as-found tolerance but conservative with respect to the Allowable Value. Evaluation of channel performance will verify that the channel will continue to behave in accordance with the safety analysis assumptions and the channel performance assumptions in the setpoint methodology. The purpose of the assessment is to ensure confidence in the channel performance prior to returning the channel to service. The performance of these channels will be evaluated under the station's Corrective Action Program. Entry into the Corrective Action Program will ensure required review and documentation of the condition to establish a reasonable expectation for continued OPERABILITY.

The second Note requires that the as-left setting for the channel be returned to within the as-left tolerance of the NTSP. Where a setpoint more conservative than the NTSP is used in the plant surveillance procedures (field trip setpoint), the as-left and as-found tolerances, as applicable, will be applied ot the surveillance procedure setpoint. This will ensure that sufficient margin to the Safety Limit and/or Analytical Limit is maintained. If the as-left tolerance of the NTSP, then the channel shall be declared inoperable. For Function 6.e, the NTSP is located in plant procedures.

The second Note also requires that the methodologies for calculating the as-left and as-found tolerances be in the FSAR Chapter 7, Reference 2.

REFERENCES

1. FSAR, Chapter 14.
2. FSAR, Chapter 7
3. IEEE-279-1968.
4. 10 CFR 50.49.
5. DGI-01, Instrument Setpoint Methodology.
6. NUREG-1218, April 1988.