NEXTera ENERGY POINT BEACH

August 20, 2009

NRC 2009-0080
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 241
Alternative Source Term
Response to Request for Additional Information

References: (1) FPL Energy Point Beach, LLC letter to NRC, dated December 8, 2008, License Amendment Request 241, Alternative Source Term (ML083450683)

(2) NRC letter to NextEra Energy Point Beach, LLC, dated July 24, 2009, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information from Containment and Ventilation Branch RE: Alternate Source Term (TAC Nos. ME0219 and ME0220) (ML091950072)

NextEra Energy Point Beach, LLC (NextEra) submitted License Amendment Request (LAR) 241 (Reference 1) for Commission review and approval pursuant to 10 CFR 50.90. The license amendment would revise the current licensing basis to implement the alternative source term (AST) through reanalysis of the radiological consequences of the Point Beach Nuclear Plant (PBNP) Final Safety Analysis Report Chapter 14 accidents.

Via letter dated July 24, 2009 (Reference 2), the NRC staff determined that additional information was required to enable the staff's review of the amendment request. Enclosure 1 provides the NextEra response to the NRC staff's request for additional information.

In response to Question SCVB#1a of Reference (2), it was identified that the proposed Technical Specification (TS) Surveillance Requirement (SR) 3.7.9.6, submitted in Reference (1), required revision. The proposed revision to SR 3.7.9.6 and corresponding revision to the Bases for SR 3.7.9.6 are contained in Enclosure 2.

The revised SR 3.7.9.6 does not alter the no significant hazards consideration contained in Reference (1) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment.

The revision to proposed SR 3.7.9.6 has been reviewed by the Plant Operations Review Committee.

Summary of Regulatory Commitments

This letter contains no new regulatory commitments. In response to Question SCVB#1b of Reference (2), the Regulatory Commitment provided in Reference (1) that stated, "FPL Energy Point Beach will submit a LAR addressing CR habitability surveillance methodology in accordance with TSTF-448, as modified by TSTF-508, within 60 days of approval of the AST LAR," is revised as follows:

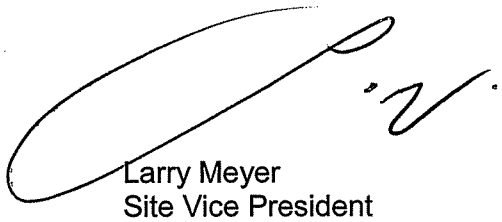
- NextEra Energy Point Beach, LLC (NextEra) will submit a license amendment request addressing control room habitability surveillance methodology in accordance with TSTF-448 within 60 days of approval of License Amendment Request 241.

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 August 20, 2009.

Very truly yours,

NextEra Energy Point Beach, LLC



Larry Meyer
Site Vice President

Enclosures

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 241
ALTERNATIVE SOURCE TERM
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

Via letter dated July 24, 2009 (Reference 1), the NRC staff determined that additional information was required to enable the Containment and Ventilation Branch to complete its review of License Amendment Request (LAR) 241, Alternative Source Term (AST) (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's request.

Question SCVB#1a

The license amendment request (LAR) proposes to modify the control room emergency filtration system (CREFS) to create a new alignment for the accident mode that provides a combination of filtered outside air and filtered recirculation air. In addition, it is proposed that the CREFS fans will be automatically loaded onto their associated diesel generator during a loss of offsite power coincident with a Loss of Coolant Accident (LOCA).

a. *In the proposed change to Surveillance Requirement (SR) 3.7.9.6, the capability of the CREFS fan to maintain a positive pressure of ≥0.125 inches water gauge in the control room envelope (CRE) during emergency mode is verified at a flow rate of 4950 cubic feet per minute (cfm) ± 10%. The proposed amendment requires a combination of filtered and re-circulated air with a minimum requirement of 1955 cfm re-circulated. Please explain the significance of the 1955 cfm to the alternate source term (AST) amendment and why it is not necessary to verify this air quantity by the SR (i.e. in addition to verifying the total flow rate).*

NextEra Response

The control room emergency filtration system (CREFS) minimum requirement of ≥ 1955 cubic feet per minute (cfm) of filtered return air flow is credited and was previously provided in the AST radiological analyses (Reference 2). The results of a sensitivity analysis showed that when the amount of filtered return air flow increased, the corresponding control room dose decreased. A filtered return air flow rate of ≥ 1955 cfm provides for adequate activity cleanup to ensure that radiation exposure to control room occupants shall not exceed the 10 CFR 50.67 Total Effective Dose Equivalent (TEDE) dose of 5 rem.

Verification of the required ≥ 1955 cfm filtered return air flow is being added to proposed Technical Specification (TS) Surveillance Requirement (SR) 3.7.9.6. This approach is similar to that taken by Hatch and approved by the NRC in a letter dated July 12, 2002 (Reference 3), for SR 3.7.4.4 for the main control room environmental control (MCREC) system, in which two separate flow rates (total and outside air) are verified. CREFS at Point Beach Nuclear Plant (PBNP) and the MCREC system at Hatch perform comparable functions.

The proposed revision to SR 3.7.9.6 and corresponding revision to the Bases for SR 3.7.9.6 are contained in Enclosure 2.

The revised SR 3.7.9.6 does not alter the no significant hazards consideration contained in Reference (2) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment.

Question SCVB#1b

b. *The LAR proposes to revise the licensee's commitment from "to provide technical specification changes to reference an acceptable surveillance methodology (and plans for any associated plant modifications to the CRE) to support requested information in GL 2003-01, Item (c), for PBNP no later than 180 days following Nuclear Regulatory Commission (NRC) approval of technical specification task force (TSTF)-448," to "FPL Energy Point Beach will submit a LAR addressing CR habitability surveillance methodology in accordance with TSTF-448, as modified by TSTF-508, within 60 days of approval of the AST LAR." The NRC staff has not completed its review of proposed TSTF-508 and a schedule for completion has not been established. The staff requests that the LAR for the control room surveillance methodology be separated into two parts, one that proposes adoption of approved TSTF-448 and, if desired, a second LAR to be submitted after TSTF-508 has been approved. This will prevent delaying review of your request to adopt TSTF-448 TS changes.*

NextEra Response

As discussed during the teleconference between NextEra and the NRC on June 23, 2009, the Regulatory Commitment provided in LAR 241 (Reference 2) that stated, "FPL Energy Point Beach will submit a LAR addressing CR habitability surveillance methodology in accordance with TSTF-448, as modified by TSTF-508, within 60 days of approval of the AST LAR," is revised as follows:

> NextEra Energy Point Beach, LLC (NextEra) will submit a license amendment request addressing control room habitability surveillance methodology in accordance with TSTF-448 within 60 days of approval of License Amendment Request 241.

Question SCVB#2a

The proposed change credits the non-safety related Control Room Ventilation System (VNCR) and also the non-safety related Primary Auxiliary Building Ventilation (VNPAB) System in the dose analysis. This means that non-safety related structures, systems and components will be used to perform a safety-related function. The LAR further states that VNCR has already been upgraded to augmented quality status in the current licensing basis and that VNPAB will be upgraded to augmented quality as part of the effort to adopt AST. These statements imply that at PBNP, non-safety related components with an augmented quality status are allowed to perform and taken credit for a safety-related function.

a. *Please provide a detailed explanation of what augmented quality means and how this status is achieved and maintained at PBNP.*

NextEra Response

The three classifications for systems and components at PBNP are safety related, augmented quality, and non-safety related. Augmented quality (or quality related) is defined in the Quality Assurance Topical Report (Reference 4) for PBNP as follows:

"This classification is applied to selected equipment, components, structures and services designed to support and/or protect the safety function of safety related equipment. Quality Assurance Program elements are applied with a graded approach to quality to an extent that is commensurate with the item's importance to safety. Implementing documents establish program element applicability.

These include those items or related services that are not safety related and are in one or more of the following categories:

1. Equipment, components and structures designed to meet seismic requirements or whose failure could:

   (a) damage safety related equipment such that the equipment would be prevented from performing its safety function, or

   (b) result in releases exceeding the exposure guidelines of the Offsite Dose Calculation Manual.

2. Fire protection equipment:

   (a) required to protect safety related equipment, or

   (b) whose failure could result in water damage to safety related equipment which could prevent the equipment from performing its safety function, or

   (c) required to maintain the integrity of a fire barrier necessary to protect safety related equipment.

3. A partial or total loss of function of a radioactive confinement system that could result in an accidental, unplanned, or uncontrolled release of radioactivity exceeding the Offsite Dose Calculation Manual limits.

4. Equipment whose failure under normal operating conditions or an anticipated transient, results in:

   (a) exceeding a safety limit specified in the Technical Specifications, or

   (b) initiation of a FSAR Design Basis Accident, or

   (c) the reactor coolant system not being in a controlled or design condition while operating or shutdown.

5. Instrumentation, equipment, components, or structures required to be operable by the Technical Specifications.

6. Instrumentation that is essential to preventing or monitoring release of radioactive material to the environment which could exceed the guidelines of the Offsite Dose Calculation Manual."

If it is determined that a system or component falls into one or more of the above categories, the equipment is classified as augmented quality. Procurement, maintenance and operational activities associated with augmented quality components are addressed by the 10 CFR 50, Appendix B, Quality Assurance Program, which ensures that the augmented quality status is maintained. The Control Room Ventilation System (VNCR) is required to be operable per TS 3.7.9, Control Room Emergency Filtration System. Proposed TS for the Primary Auxiliary Building Ventilation System (VNPAB) were provided to the NRC staff via Reference (5).

Question SCVB#2b

b. Temporarily withdrawn.

NextEra Response

None required.

Question SCVB#2c

c. The LAR states that VNPAB will be manually started during post-accident conditions. Can the system be started from the control room (CR), if not, what actions are required external to the CR?

NextEra Response

The VNPAB fans can be manually started from the control room. The fan switches are located on the back of the 1C-04 main control board, which are located in the control room. There are no required actions that are external to the control room.

Question SCVB#3

In your letter dated February 20, 2009, you stated that the CREFS, which is a portion of VNCR that supports the radiological habitability of the CR is currently in PBNP technical specification (TS), and that it is also within the scope of the Maintenance Rule (10 CFR 50.65) and License Renewal (10 CFR 54.37(b)). The letter also stated that VNPAB will be added to the TS, Maintenance Rule, and the License Renewal Program. By letter dated April 17, 2009, you submitted proposed TS for VNPAB. The staff notes that the proposed TS for VNPAB did not include verification of flow quantity. Did the AST dose analysis take credit for this system to operate at a minimum air flow quantity, if so, why is verification of the flow rate not included in the TS?

NextEra Response

The AST dose analysis does not take credit for a minimum air flow quantity from the VNPAB. Therefore, verification of a minimum flow rate was not included in the TS. The loss-of-coolant accident (LOCA) control room dose analysis assumes that the emergency core cooling system (ECCS) equipment leakage activity release pathway χ/Q to be at the location of the primary

auxiliary building vent stack. Operation of the VNPAB exhaust fans assures this release point and therefore, validates the dose analysis assumption.

In the proposed TS in Reference (5), NextEra proposed SR 3.7.14.1 to operate the VNPAB for $\geq$ 15 minutes every 31 days. Operating the system fans for $\geq$ 15 minutes demonstrates that the fans can perform the primary auxiliary building release function by exhausting primary auxiliary building air to the primary auxiliary building vent stack and that any blockage, damper, fan, or motor failure can be detected for corrective action.

Question SCVB#4a

The LAR proposes to revise TS Section 5.5.15, "Containment Leakage Rate Testing Program," item c, to change the maximum allowable containment leakage rate, L_a at P_a from 0.4 percent to 0.2 percent of containment air weight per day. Please provide the leakage margins available at PBNP.

a. *When was the most recent integrated leak rate test performed? Based on the margins available in this test, can the proposed change be achieved without any modifications, if not, what modifications are planned in order to achieve the results in the proposed TS change?*

NextEra Response

The most recent integrated leak rate test (ILRT) for Unit 1 was completed on October 24, 1997, with a result of 0.0465 percent of containment air weight per day (% wt/day). The most recent ILRT for Unit 2 was completed on July 16, 1997, with a result of 0.1087 % wt/day. Since both tests met the proposed new TS limit of 0.2 % wt/day with leakage margins of 0.1535 % wt/day and 0.0913 % wt/day for Units 1 and 2, respectively, no modifications are necessary to implement the proposed TS change.

Question SCVB#4b

b. *Please summarize the results of your most recent integrated leak rate test and the two most recent local leak rate tests.*

NextEra Response

The most recent ILRT for Unit 1 was completed on October 24, 1997, with a result of 0.0465 % wt/day. This total was calculated by adding 0.0432 % wt/day (ILRT results at 95 % upper confidence level (UCL)), 0.0029 % wt/day (Type B and C penalty additions), 0 % wt/day (net free volume changes), 0.0004 % wt/day (miscellaneous additions), and 0 % wt/day (leakage improvements realized from penetration repairs).

The most recent ILRT for Unit 2 was completed on July 16, 1997, with a result of 0.1087 % wt/day. This total was calculated by adding 0.0946 % wt/day (ILRT results at 95 % UCL), 0.0059 % wt/day (Type B and C penalty additions), 0 % wt/day (net free volume changes), 0.0004 % wt/day (miscellaneous additions), and 0.0078 % wt/day (leakage improvements realized from penetration repairs).

The most recent local leak rate tests (LLRTs) for Unit 1 were completed on November 9, 2008, and April 30, 2007, with the following results:

November 9, 2008:

1. Containment leak rate is less than 199,800 standard cubic centimeters per minute (sccm) (199,840 sccm equates to 0.2 % wt/day).
2. Type B and C testing uncontrolled leakage is less than 119,900 sccm. Total Type B and C leakage was recorded as 7,041 sccm.
3. Overall airlock leak rate is less than 9,950 sccm.
4. Each airlock door seal leak rate is less than 200 sccm.
5. Total leakage determined by Leakage Reduction and Preventive Maintenance Program tests for emergency core cooling system (ECCS) for refueling shutdown is less than or equal to 400 sccm. Total ECCS and containment spray system leakage was recorded as 165 sccm.

April 30, 2007:

1. Containment leak rate is less than 199,800 standard cubic centimeters per minute (sccm) (199,840 sccm equates to 0.2 % wt/day).
2. Type B and C testing uncontrolled leakage is less than 119,900 sccm. Total Type B and C leakage was recorded as 11,471 sccm.
3. Overall airlock leak rate is less than 9,950 sccm.
4. Each airlock door seal leak rate is less than 200 sccm.
5. Total leakage determined by Leakage Reduction and Preventive Maintenance Program tests for emergency core cooling system (ECCS) for refueling shutdown is less than or equal to 400 sccm. Total ECCS and containment spray system leakage was recorded as 128 sccm.

The most recent LLRTs for Unit 2 were completed on May 5, 2008, and November 12, 2006, with the following results:

May 5, 2008

1. Containment leak rate is less than 199,800 sccm.
2. Type B and C testing uncontrolled leakage is less than 119,900 sccm. Total Type B and C leakage was recorded as 8,224 sccm.
3. Overall airlock leak rate is less than 9,950 sccm.
4. Each airlock door seal leak rate is less than 200 sccm.
5. Total leakage determined by Leakage Reduction and Preventive Maintenance Program tests for ECCS for refueling shutdown is less than or equal to 400 sccm. Total ECCS and containment spray system leakage was recorded as 147 sccm.

November 12, 2006:

1. Containment leak rate is less than 199,800 standard cubic centimeters per minute (sccm) (199,840 sccm equates to 0.2 % wt/day).
2. Type B and C testing uncontrolled leakage is less than 119,900 sccm. Total Type B and C leakage was recorded as 14,649 sccm.

3. Overall airlock leak rate is less than 9,950 sccm.
4. Each airlock door seal leak rate is less than 200 sccm.
5. Total leakage determined by Leakage Reduction and Preventive Maintenance Program tests for emergency core cooling system (ECCS) for refueling shutdown is less than or equal to 400 sccm. Total ECCS and containment spray system leakage was recorded as 242 sccm.

Question SCVB#4c

c. When is the next integrated leak rate scheduled?

NextEra Response

The next Unit 1 ILRT is scheduled for the fall 2011 refueling outage (U1R33) and the next Unit 2 ILRT is scheduled for the spring 2011 refueling outage (U2R31).

Question SCVB#5

The LAR proposes to direct continued containment spray (CS) while on sump recirculation, if radiological conditions and/or core damage indicates it is required. In addition, the LAR proposes to modify CS and residual heat removal (RHR) systems to provide throttling capability of CS and RHR during the emergency core cooling system recirculation phase. What effects will these actions have on post-accident containment pressure and temperature, short term or long term? Also confirm that these changes will have no impact in satisfying review guidance in Standard Review Plan (NUREG-0800) Section 6.2.1.1.A, which states that containment pressure should be reduced to less than 50 percent of peak calculated pressure for the design-basis LOCA within 24 hours after the postulated accident.

NextEra Response

The proposed modifications to Containment Spray (CS) and Residual Heat Removal (RHR) systems do not negatively impact the post-LOCA containment integrity analysis. The current LOCA containment integrity analysis did not model or credit containment recirculation spray. Current LOCA containment integrity analysis credits the termination of CS flow once the Refueling Water Storage Tank (RWST) is calculated to reach its empty level alarm. Crediting continuing recirculation spray would only enhance containment cooling and containment depressurization during the ECCS recirculation phase.

Throttling ECCS flow provides for the necessary recirculation spray flow. Adequate ECCS flow to the core remains, which exceeds the decay heat boiloff rate assumed in the current LOCA containment integrity analysis, assuring the cooling of containment will not be impaired. The current LOCA containment integrity analysis, without crediting containment spray during recirculation, remains bounding at AST conditions, with the continued operation of CS while on sump recirculation and the throttled operation of the CS and RHR systems during the ECCS recirculation phase.

The existing post-LOCA containment pressure curve shows a peak containment pressure of approximately 53 psig (compared to a containment design pressure of 60 psig). Although PBNP is not licensed to the Standard Review Plan (NUREG-0800), the pressure at 24 hours is shown to fall to less than half of the peak pressure for the worst-case conditions (approximately 17 psig).

References

(1) NRC letter to NextEra Energy Point Beach, LLC, dated July 24, 2009, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information from Containment and Ventilation Branch RE: Alternate Source Term (TAC Nos. ME0219 and ME0220) (ML091950072)

(2) FPL Energy Point Beach, LLC letter to NRC, dated December 8, 2008, License Amendment Request 241, Alternative Source Term (ML083450683)

(3) NRC letter to Southern Nuclear Operating Company, Inc., dated July 12, 2002, Edwin I. Hatch Nuclear Plant, Units 1 and 2 RE: Issuance of Amendments (TAC Nos. MB2965 and MB2967) (ML040570298)

(4) NextEra Energy Point Beach, LLC, Quality Assurance Topical Report (FPL-1), Revision 4, dated June 29, 2009 (ML091820158)

(5) NextEra Energy Point Beach, LLC letter to NRC, dated April 17, 2009, Supplement to License Amendment Request 241, Proposed Technical Specifications for Primary Auxiliary Building Ventilation (VNPAB) (ML091100182)

ENCLOSURE 2

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

LICENSE AMENDMENT REQUEST 241
ALTERNATIVE SOURCE TERM
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

PROPOSED CHANGES TO TECHNICAL SPECIFICATION
SURVEILLANCE REQUIREMENT 3.7.9.6 AND BASES

In License Amendment Request (LAR) 241, Alternative Source Term (Reference 1), the following revision to the Technical Specification (TS) Surveillance Requirement (SR) 3.7.9.6, was proposed:

SR 3.7.9.6 Verify each CREFS emergency fan can maintain a positive pressure of ≥ 0.125 inches water gauge in the CR envelope, relative to the adjacent turbine building during the emergency mode of operation at a flow rate of 4950 cfm ±10%.

A revision to SR 3.7.9.6 to add "and ≥ 1955 cfm of filtered return air" to the SR is proposed, which is revised to read:

SR 3.7.9.6 Verify each CREFS emergency fan can maintain a positive pressure of ≥ 0.125 inches water gauge in the CR envelope, relative to the adjacent turbine building during the emergency mode of operation at a flow rate of 4950 cfm ±10% and ≥ 1955 cfm of filtered return air.

Reference (1) states, "The radiological analyses provided in Section 6 of this enclosure [Radiological Accident Analysis] assume a total flow rate of 4950 cfm ± 10% with ≥ 1955 cfm filtered return air." NextEra Energy Point Beach, LLC determined that the proposed wording for SR 3.7.9.6 needed an additional change to address the ≥ 1955 cfm filtered return air requirement.

The revised SR 3.7.9.6 does not alter the no significant hazards consideration contained in Reference (1) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements for an environmental assessment.

The following pages contain the proposed revision to SR 3.7.9.6 and corresponding revision to the Bases for SR 3.7.9.6.

References

(1) FPL Energy Point Beach, LLC letter to NRC, dated December 8, 2008, License Amendment Request 241, Alternative Source Term (ML083450683)

2 pages follow

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.9.1	Operate the CREFS for ≥ 15 minutes.	31 days
SR 3.7.9.2	Perform required CREFS filter testing in accordance with the Ventilation Filter Testing Program (VFTP).	In accordance with VFTP
SR 3.7.9.3	Verify each CREFS emergency ~~make-up~~ fan actuates on an actual or simulated actuation signal.	18 months
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.	18 months
SR 3.7.9.5	Verify CREFS manual start capability and alignment.	18 months
SR 3.7.9.6	Verify each CREFS emergency ~~make-up~~ fan can maintain a positive pressure of ≥ 0.125 inches water gauge in the control room envelope, relative to the adjacent turbine building during the emergency mode of operation at a ~~makeup~~ flow rate of 4950 cfm ± 10% and ≥ 1955 cfm of filtered return air.	18 months

BASES

SURVEILLANCE REQUIREMENTS (continued)

designed to pressurize the control room ≥ 0.125 inches water gauge positive pressure with respect to adjacent areas in order to minimize unfiltered inleakage. The CREFS is designed to maintain ~~this~~a positive pressure with one emergency ~~make-up~~ fan in operation at a ~~makeup~~ total flow rate of ± 10% of the nominal ~~make-up pressurization~~ flow rate of approximately 4950 cfm which includes ≥ 1955 cfm of filtered return air. The Frequency of 18 months is consistent with the guidance provided in NUREG-0800 (Ref. 4).

REFERENCES

1. FSAR. Section 9.8.
2. FSAR. Section 14.3.5.
3. Regulatory Guide 1.52, Rev. 2.
4. NUREG-0800, Section 6.4, Rev. 2, July 1981.