

April 17, 2009

NRC 2009-0039  
10 CFR 50.90

U.S Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555-0001

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

Response to Request for Additional Information  
License Amendment Request 241, Alternative Source Term

- References:
- (1) FPL Energy Point Beach, LLC, License Amendment Request 241, dated December 8, 2008, Alternative Source Term (ML083450683)
  - (2) FPL Energy Point Beach, LLC letter to NRC, dated January 16, 2009, Supplement to License Amendment Request 241, Summary of PBNP Sump PH Calculation Inputs, Assumptions, Methodology, and Results (ML090160571)
  - (3) NRC to FPL Energy Point Beach, LLC Letter dated March 20, 2009, Point Beach Nuclear Plant, Units 1 and 2 – Request For Additional Information From CSGB Branch Related to License Amendment Request No. 241 Alternate Source Term (TAC NOS. ME0219 AND ME0220) (ML090711061)

NextEra Energy Point Beach, LLC submitted Point Beach Nuclear Plant (PBNP) Units 1 and 2, proposed License Amendment Request 241 and subsequent supplemental information for Commission review and approval pursuant to 10 CFR 50.90 (References 1 and 2). The amendment requests revision to the current licensing basis in order to implement the alternate source term through reanalysis of the radiological consequences of the design basis accidents.

Enclosure 1 provides the NextEra Energy Point Beach response to the NRC staff request for additional information (Reference 3). Enclosure 2 provides Tables 2 and 3 from PBNP Calculation Number 2000-0036, Revision 2, "pH of Post-LOCA Containment Sump and Containment Spray."

This letter contains no new commitments and no revisions to existing commitments.

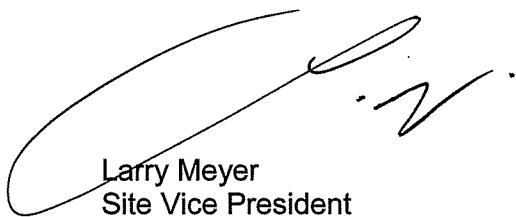
In accordance with 10 CFR 50.91, a copy of this letter is being provided to the designated Wisconsin Official.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 17, 2009.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in black ink, appearing to read 'Larry Meyer', is written over the printed name and title.

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, UNTS 1 AND 2

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

The following information is provided by NextEra Energy Point Beach, LLC in response to NRC staff's request for additional information dated March 20, 2009.

##### **Question 1:**

*Please provide the minimum and maximum times required for the completion of the NaOH addition from the spray additive tank. Also please clarify if the long term analysis of the pH on page 7 of the letter dated January 16, 2009, bounds the 30 day post-LOCA pH value.*

##### **NextEra Energy Point Beach Response:**

The minimum NaOH injection time is 64.77 minutes (equal to a minimum containment spray injection time of 69.11 minutes minus the NaOH injection time delay of 4.34 minutes). This minimum injection time assumes two trains of containment spray, residual heat removal (RHR), and safety injection (SI) are available. The NaOH injection time delay is due to delays in the valve control circuitry, valve opening time, and time for the NaOH to flow to the containment building.

The maximum NaOH injection time is 149.55 minutes, equal to the maximum containment spray injection time with one train of containment spray, RHR, and SI available. The maximum NaOH injection time conservatively neglects the NaOH injection time delay.

In the context of PBNP Calculation Number 2000-0036, Revision 2, "pH of Post-LOCA Containment Sump and Containment Spray," the minimum long term pH is the pH at 30 days post-LOCA. A sensitivity analysis was performed to address the pH effects of long term radiolysis of air, water, and chloride bearing electrical cable, as well as the release of reactor core inventory into the sump, with the greatest impact on sump pH coming at 30 days post-LOCA. The final minimum pH on page 7 bounds the 30 day post-LOCA pH value.

**Question 2:**

*Please explain the discrepancy in the parameter values on page 3 and page 6 from letter dated January 16, 2009. For example, the volume of the water in the sump, the boron concentration, and the NaOH concentration have different values in the two tables.*

**NextEra Energy Point Beach Response:**

The water volumes, boron concentrations, and NaOH concentrations on page 3 are not directly comparable to those on page 7.

The water volumes from the various sources contained on page 3 were converted to mass, based on the density at the fluid source pressure/temperature. These values of mass were then converted back to volume based on the density at the assumed sump temperature, resulting in slightly different volumes than if the total page 3 volumes (RCS, accumulators, RWST, and SAT) in cubic feet were converted directly to liters. The resulting volume is then used to determine the various concentrations.

To assist in the Commission's review of this response, Enclosure 2 of this submittal provides Tables 2 and 3 from PBNP Calculation Number 2000-0036, Revision 2, "pH of Post-LOCA Containment Sump and Containment Spray." Table 2, "Sump pH Input Derivation," provides the inputs listed on page 3, as well as those fluid conditions that determine the density used to convert those volumes of water to mass. Table 3, "Sump pH Ionic Concentration Determination," provides the sump fluid conditions used to convert the mass of water back to a volume. It also provides the resulting boron and NaOH concentrations found on page 7.

**ENCLOSURE 2**

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

**TRANSMITTAL OF TABLES 2 AND 3 FROM PBNP CALCULATION  
NUMBER 2000-0036, Rev. 2, "pH OF POST-LOCA CONTAINMENT  
SUMP AND CONTAINMENT SPRAY"**

**1 page follows**

**Case 1 and 2 - Calculation of Maximum and Minimum Sump pH:**

Tables 2 and 3 present the results of the determination of maximum and minimum boron and sodium concentrations in the containment sump.

Table 2 - Sump pH Input Derivation

[illegible]

Table 3 - Sump pH Ionic Concentration Determination

[illegible]