



April 21, 2010

NRC 2010-0034  
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  
Extended Power Uprate  
Response to Request for Additional Information

- References: (1) FPL Energy Point Beach, LLC letter to NRC, dated April 7, 2009, License Amendment Request 261, Extended Power Uprate (ML091250564)
- (2) NRC letter to NextEra Energy Point Beach, LLC, dated March 31, 2010, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information from Containment and Ventilation Branch Re: Extended Power Uprate (TAC Nos. ME1044 and ME1045) (ML100780477)

NextEra Energy Point Beach, LLC (NextEra) submitted License Amendment Request (LAR) 261 (Reference 1) to the NRC pursuant to 10 CFR 50.90. The proposed license amendment would increase each unit's licensed thermal power level from 1540 megawatts thermal (MWt) to 1800 MWt, and revise the Technical Specifications to support operation at the increased thermal power level.

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

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

The information contained in this letter 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 of an environmental assessment.

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 21, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in black ink, appearing to read 'Larry Meyer', with a stylized flourish at the end.

Larry Meyer  
Site Vice President

Enclosure

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 EXTENDED POWER UPRATE RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The NRC staff determined that additional information was required (Reference 1) to enable the Containment and Ventilation Branch to complete its review of License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's request.

#### **RAI SCVB-1**

*Provide a discussion regarding the effect of a shock or pressure wave from a large break loss-of-coolant accident (LOCA) with Extended Power Uprate (EPU) on the structural capability of the containment ventilation system with and without a loss of offsite power. What is the maximum pressure differential across the housing?*

#### **NextEra Response**

Point Beach Nuclear Plant (PBNP) containment heating, ventilation and air conditioning (HVAC) ducts have pressure relieving devices installed to prevent damage and potential collapse of the containment duct work during a loss-of-coolant accident (LOCA) due to the pressure differential that occurs between containment atmosphere and the lagging duct interior pressure. The pressure relieving devices are designed to limit the duct differential pressure to less than 2 psid based on a linear containment pressure buildup of 15 psi/sec. The impact of the worst case EPU LOCA events (double-ended hot leg break, double-ended pump suction break with minimum safeguards and a double-ended pump suction break with maximum safeguards) were reviewed to determine the worst case containment pressure increase rate during the event. The maximum safeguards and minimum safeguards cases correspond to conditions with and without offsite power available, respectively.

The worst case containment pressure buildup occurred at the initiation of both the double-ended pump suction breaks (refer to Table 1 below) with an increase of 13.52 psi/sec. The design basis of the pressure relieving valves bounds the worst case EPU containment pressure buildup, which ensures the maximum pressure differential across the ventilation system ducts is less than 2 psid.

<b>Table 1 Maximum Containment Pressure Buildup during LOCA Events</b>			
<b>Event</b>	<b>Maximum Containment Pressure Buildup (psi/sec)</b>	<b>Time (sec)</b>	<b>Containment Temperature (°F)</b>
Double-Ended Hot Leg Break	12.51	1.0	199.85
Double-Ended Pump Suction Break, Minimum Safeguards	13.52	1.0	203.03
Double-Ended Pump Suction Break, Maximum Safeguards	13.52	1.0	203.04

In addition to the pressure relieving devices discussed above, containment accident fan motor heat exchangers are protected against differential pressures resulting from a LOCA. As noted in PBNP Final Safety Analysis Report Section 6.3, an air-to-water heat exchanger is connected to each containment accident fan motor to form an entirely enclosed cooling system. Air is ducted from the motor through the cooling coils and back to the motor. Two vent valves per unit permit accident ambient (increasing containment) pressure to enter the motor-air system so the bearings will not be subjected to differential pressure. It also assures pressure equalization as the containment pressure is reduced by the containment cooling systems.

**RAI SCVB-2**

*Provide a discussion regarding the effect of a shock or pressure wave from a large break LOCA with EPU on the containment ventilation fan. Is there any potential to over speed the fan?*

**NextEra Response**

The containment accident recirculation fans are designed to support 90 psig ambient pressure at 318°F during the first hour of an event. The fans were designed to support a pressure surge of 90 psig in 10 seconds and to withstand these conditions for the first hour. During the worst case LOCA event, containment pressure will surge to 55.35 psig (70.05 psia) within 10 seconds. Therefore, the containment fan design bounds the EPU operating conditions during a LOCA event.

The pressure relieving devices installed on containment HVAC ductwork limit the pressure differential between the ductwork and the containment atmosphere to less than 2 psid during containment pressurization, following a LOCA. The pressure relieving devices ensure that pressure is equalized between the ductwork and the containment atmosphere, ensuring the fan does not experience a pressure differential greater than 2 psid. This small pressure differential does not have a significant impact on the fan operation and potential over speed of the fan.

### **RAI SCVB-3**

*Section 2.6.1.2.4 of Attachment 5, EPU Licensing Report, of the licensing action request, states the limiting containment pressure case for the EPU is a large double-ended rupture of the main steam line break initiated from 30 percent power with a single failure of the feedwater isolation valve. What is the peak containment pressure and temperature for the EPU with a large double-ended rupture of the main steam line initiated at 100 percent power with a single failure of the feedwater isolation valve?*

### **NextEra Response**

The peak containment pressure and temperature for the EPU analysis with a large double-ended rupture of the main steam line initiated at full power with a single failure of the feedwater isolation valve are 53.62 psig and 277.8°F, respectively. LAR 261, Attachment 5, Licensing Report Section 2.6.3.2, Mass and Energy Release Analysis for Secondary Pipe Ruptures, provides additional information on the limiting case.

### **References**

- (1) NRC letter to NextEra Energy Point Beach, LLC, dated March 31, 2010, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information from Containment and Ventilation Branch Re: Extended Power Uprate (TAC Nos. ME1044 and ME1045) (ML100780477)
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