NEXTera ENERGY POINT BEACH

October 12, 2010

NRC 2010-0164
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 Clarification Request

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 July 8, 2010, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (ML101940363)
(3) NextEra Energy Point Beach, LLC letter to NRC dated July 27, 2010, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (ML102160163)

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 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.

During a telephone conference with the Containment and Ventilation Branch on September 29, 2010, the NRC staff requested clarification of information provided in References (2) and (3). Enclosure 1 provides the NextEra response to the NRC staff's request for clarification.

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

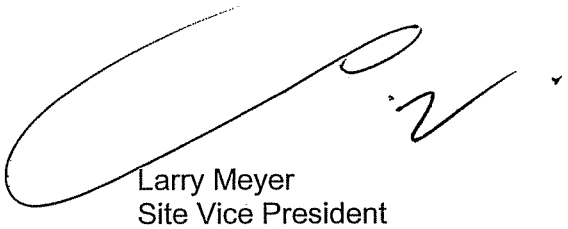
The information contained in this letter does not alter the no significant hazards consideration contained in Reference (1) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements of an environmental assessment.

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 October 12, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC



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 CLARIFICATION REQUEST

During a telephone conference on September 29, 2010, the NRC staff requested clarification of information provided in References (1) and (2) to enable the Containment and Ventilation Branch to complete the review of License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 3). The requested clarification is described below.

Request for Clarification

In Attachment 14 to the July 8, 2010 letter from NextEra Energy Point Beach, LLC, to the NRC, Table A.6, "Volume Initial Conditions," the first sentence states the following: "The initial conditions in all control volumes are 14.375 psia pressure, 90°F temperature, and 37% relative humidity with the exception of the following volumes." This implies that the values of initial temperature and relative humidity in all volumes are 90°F and 37% relative humidity, respectively, with the exception of the volumes listed in Table A.6.

In the electronic file "pb-pab-base.gth" provided in the response to Question 3 in Enclosure 1 to the July 27, 2010 letter from NextEra Energy Point Beach, LLC to the NRC, the default values in the initial conditions menu for temperature and relative humidity are listed as 85°F and 50% respectively.

Please explain the apparent discrepancy.

Additionally, please provide the basis for the 37% relative humidity initial condition.

NextEra Response:

The electronic file "pb-pab-base.gth" provided in the response to Question 3 in Enclosure 1 of Reference (2) was the original GOTHIC™ base model for the Point Beach Nuclear Plant (PBNP) primary auxiliary building (PAB). Subsequent high energy line break (HELB) analyses for PBNP considered the information presented in Table A.6 of Attachment 14 to Reference (1). Based on the September 29, 2010, conference call with the NRC staff, NextEra agreed to provide a revision to the PBNP PAB GOTHIC™ model to be consistent with Table A.6 of Attachment 14 to Reference (1).

NextEra has completed this revision and a disc accompanies this submittal which contains the electronic version of the "GTH" files requested by the NRC. The revised model is designated as pb-pab-base-a.gth. The "-a" addition to the file name is made to distinguish the revised model from the original model.

Limiting pressure and temperature sensitivity cases were performed to determine the effect of the differing initial condition assumptions for temperature and humidity. Utilizing the data from Table A.6 of Attachment 14 to Reference (1), in lieu of the data in electronic file "pb-pab-base.gth" provided in the response to Question 3 in Enclosure 1 of Reference (2), resulted in an insignificant maximum pressure decrease of 0.001 psi for the limiting pressure case, and an insignificant maximum temperature increase of 0.12°F for the limiting temperature case.

The basis for the 37% relative humidity initial condition assumption is the Climatic Design Conditions for Manitowoc, Wisconsin in the hottest month of July. The weather data in Chapter 28 of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Handbook Fundamentals, 2005 Edition, contains the design dry bulb and mean coincident wet bulb temperatures for the hot days and also the design wet bulb and mean coincident dry bulb temperatures for the humid days. The humidity ratio of the outside air for these days was examined to determine a conservative value or relative humidity for the GOTHIC™ model.

The humidity ratio is determined by using the psychrometric chart in Figure 1 of Chapter 6 of the ASHRAE Handbook Fundamentals, 2005 Edition. The humidity ratios of the outside air, *W*, at the 0.4%, 1% and 2% design conditions on the hot days, in units of lbm of water vapor per lb of dry air (lb_{wv}/lb_{da}) are as follows:

Design Condition [%]	Monthly Design Dry Bulb [°F]	Mean Coincident Wet Bulb [°F]	*W* [lb_{wv}/lb_{da}]
0.4	89.7	72.4	0.0132
1	86.3	71.2	0.0130
2	84	70.7	0.0131

Likewise, the humidity ratios of the outside air at the 0.4%, 1% and 2% design conditions on the humid days are as follows:

Design Condition [%]	Monthly Design Dry Bulb [°F]	Mean Coincident Wet Bulb [°F]	*W* [lb_{wv}/lb_{da}]
0.4	85.6	77.6	0.0187
1	84.1	75.8	0.0174
2	81.2	74.1	0.0166

When outside air is used as ventilation air, the moisture content in the room is directly related to the moisture content of the outside air. A lower moisture content in the outside air will result in lower moisture content in the room for room heatup calculations. A lower moisture content in the room will yield a quicker temperature rise and higher room temperature due to (1) lower heat capacity of the dryer air compared to moist air, and (2) lower radiative heat transfer from the water vapor in the warm air to the heat sinks in the room. Therefore, a conservative low value of relative humidity should be used in the GOTHIC™ model. The above results show that the minimum humidity ratio is 0.0130 lb_{wv}/lb_{da} and that the humidity ratio is relatively constant for the hot days. Using this humidity ratio and a maximum outside air temperature of 95°F, the relative humidity is determined from the psychrometric chart to be 37%.

References

(1) NextEra Energy Point Beach, LLC letter to NRC dated July 8, 2010, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (ML101940363)

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