

October 9, 2009

NRC 2009-0108  
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 Acceptance Review Questions

- 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 August 25, 2009, Point Beach Nuclear Plant, Units 1 and 2 - Extended Power Uprate (EPU) Acceptance Review (TAC Nos. ME1044 and ME1045) (ML092250008)
  - (3) NRC electronic mail to NextEra Energy Point Beach, LLC, dated September 24, 2009, Point Beach Draft Acceptance Review Question from Balance of Plant Branch Re: EPU (ML092670347)
  - (4) NRC electronic mail to NextEra Energy Point Beach, LLC, dated October 1, 2009, Question on EPU (ML092740143)
  - (5) NRC electronic mail to NextEra Energy Point Beach, LLC, dated October 2, 2009, Draft EPU Acceptance Review Question from the Mechanical and Civil Engineering Branch (ML092750600)

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.

Reference (2) indicated that the NRC staff had begun the acceptance review of LAR 261. Via References (3), (4) and (5), NRC staff determined that additional information was required to enable the staff's acceptance review. Enclosure 1 provides the NextEra response to the NRC staff's acceptance review questions.

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 for an environmental assessment.

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

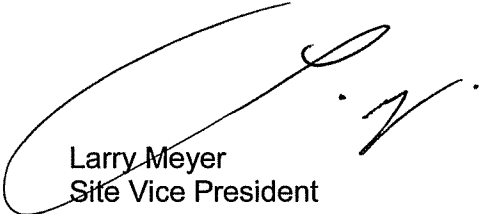
Questions regarding the information in this submittal should be directed to Mr. Steve Hale, Point Beach Extended Power Upgrade Licensing Manager, at 561/691-2592.

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

Executed on October 9, 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 261 EXTENDED POWER UPRATE

#### RESPONSE TO ACCEPTANCE REVIEW QUESTIONS

Via electronic mail (References 1, 2 and 3), the NRC staff determined that additional information is required to complete the staff's acceptance review of the License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 4). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's questions.

##### **Question 1**

*In Section 2.5.1.2 of Attachment 5 to the LAR, the licensee states:*

*Evaluation of the effects of these plant modifications (e.g., feedwater and condensate pump capacity increases) on internal flooding will be performed as part of the modification process.*

*I consider this unacceptable because the feedwater and condensate flow increase is an inherent part of the EPU. If the licensee is unsure of the bounding values for peak flow, the licensee can specify the regulatory process (i.e., 10 CFR 50.59 change evaluation), the methodology for the flooding evaluation that could be used without prior NRC review and approval pursuant to 10 CFR 50.59, and the associated acceptance criteria. Otherwise, the licensee should provide a complete evaluation for internal flooding.*

##### **NextEra Response**

The changes and modifications required for EPU implementation were evaluated per the requirements of Point Beach Nuclear Plant (PBNP) Final Safety Analysis Report (FSAR) Appendix A.7, Plant Internal Flooding, to assess whether the existing design and licensing basis internal flooding evaluations are affected. This review concluded that based on the planned modifications, the existing internal flooding evaluation and conclusions are not changed and that the existing flood mitigation features incorporated into the plant design continue to be adequate for EPU.

For the areas of the plant where feedwater and condensate piping exist, these systems do not represent the bounding break for flooding that was previously evaluated in PBNP FSAR Appendix A.7, Plant Internal Flooding. While the system flow rate is increased in portions of the feedwater and condensate system for EPU, the available volume of water for these systems is not significantly changed and postulated breaks in the systems remain bounded by other systems such as service water or condenser circulating water.

The internal flooding evaluations are complete for the planned EPU modifications and are available for staff review.

## **Question 2**

*Pipe evaluations for MFW, steam lines, and AFW piping at EPU conditions need to have been completed (at EPU application submittal) and pipe stress summaries need to be submitted including HELB evaluations to support the licensee's statements that there are no changes in the existing HELB evaluations and that these lines are structurally acceptable for EPU conditions. In addition, detail descriptions of affected piping and supports are also required to be completed (at EPU application submittal) and affected summaries of results of pipe support evaluations to be available for staff review.*

*If these items (above) are not available at time of EPU staff review, the [staff] finds the proposed EPU LAR unacceptable with opportunity to supplement. Confirm that the analyses for all piping systems and supports for the above systems are now complete.*

## **NextEra Response**

Pipe stress analysis calculations and support evaluations for the main feedwater and steam lines at EPU conditions have been completed and found to be acceptable. High energy line break (HELB) analyses have also been completed and found to be acceptable for EPU Conditions. As confirmed with the staff on October 7, 2009, these evaluations are available for staff review, in lieu of providing them with this response.

As discussed with the staff on October 7, 2009, for the auxiliary feedwater (AFW) system, piping analysis and support evaluations for new piping being installed as part of the AFW system modifications are approximately 40% complete. Final issue of the analyses is scheduled for December 15, 2009. The analyses will be available for staff review at this time in lieu of providing them with this response. The AFW system is classified as seismic Class I in accordance with FSAR Appendix A.5.2. The AFW piping and supports must be shown to meet the following criteria:

Pipe Stress Limits:

The terms and equations identified in this section are based on those used in ASME Section III and apply to seismic Class I and II piping.

### Piping Stress Combinations

Code Equation	Load Condition	Stress Combination
Eq. 8	NORMAL	$S_{ip} + S_{dw} \leq S_h$
Eq. 9B	UPSET	$S_{ip} + S_{dw} + S_{obe} \leq 1.2S_h$ or $S_{ip} + S_{dw} + S_{obe} + S_{sam} \leq 1.2S_h$
Eq. 9C	EMERGENCY	$S_{ip} + S_{dw} + S_{sse} \leq 1.8S_h$ or $S_{ip} + S_{dw} + S_{sse} + S_{sam} \leq 1.8S_h$
Eq. 10	THERMAL	$S_E + S_{sam} \leq S_A$ or $S_E \leq S_A$
Eq. 11		$S_{ip} + S_{dw} + S_E + S_{sam} \leq S_A + S_h$ or $S_{ip} + S_{dw} + S_E \leq S_A + S_h$

Where

- $S_{ip}$  = Longitudinal pressure stress
- $S_{dw}$  = Deadweight stress
- $S_{obe}$  = Operating Basis Earthquake stress
- $S_{sse}$  = Maximum Safe Shutdown earthquake stress
- $S_E$  = Maximum stress due to thermal expansion (including thermal anchor displacement)
- $S_{sam}$  = Seismic anchor movement stress due to OBE
- $S_h$  = Hot Allowable stress from the code (B31.1-1967)
- $S_c$  = Cold Allowable stress from the code (B31.1-1967)
- $S_A$  =  $f(1.25S_c + 0.25S_h)$
- $f$  = Stress range reduction factor for cyclic loads (1.0 for 7000 cycles or less)

Stresses due to operating basis earthquake (OBE) seismic anchor movements shall be combined with either Equations 9B and 9C or Equations 10 and 11.

Support Load Combinations:

Combined piping support loads are to be calculated to assess the qualifications of the piping support. The following support combinations are required as input to the support, nozzle, equipment, and penetration qualifications:

**Support Load Combinations**

Load Case	Load Combination
NORMAL	DW DW+THMx HYD (if applicable)
UPSET	DW+OBE+SAM <sub>obe</sub> DW+OBE+SAM <sub>obe</sub> +THMx
FAULTED	DW+SSE+SAM <sub>sse</sub> DW+SSE+SAM <sub>sse</sub> +THMx

Where

- DW = Support load due to dead weight
- HYD = Where the piping system normally holds only steam, and hydro testing of the system is required, a separate deadweight run including the weight of the system filled with water shall be made.
- THMx = The thermal mode that produces the largest total load in either the positive or negative direction, including the thermal expansion loads and loads imposed by the thermal anchor displacements.
- SAM<sub>obe</sub> = Support load due to Seismic Anchor Movements (OBE)
- SAM<sub>sse</sub> = Support load due to Seismic Anchor Movements (SSE)
- OBE = Support load due to Seismic OBE
- SSE = Support load due to Seismic SSE (= 2 x OBE)

Note that the Normal, Upset and Faulted load cases may alternatively be referred to as the Service Level A, B and D load cases, respectively.

**Question 3**

*The TS has no loading curves so the staff assumes that the licensee's current analysis is based on fresh fuel assumption (i.e., no burnup credit). Please confirm this assumption with the licensee.*

**NextEra Response**

The staff's assumption is correct. The current criticality analysis assumes that all fuel is fresh and there is no burnup credit.

#### **Question 4**

*Will EPU operation conform to the IFBA requirements or use fuel enrichment less than 4.6 w/o per the current TS?*

#### **NextEra Response**

Core design will continue to assume that the current Technical Specifications (TS) will be applicable for EPU and core design will specify fuel with nominal enrichment greater than 4.6 w/o to have the required number of integral fuel burnable absorber (IFBA) rods.

There are also administrative controls in the form of procedures that perform the surveillance requirement for fuel storage in the spent fuel pool (SFP) to ensure that fuel meets the current TS requirement for storage prior to placement of the fuel in the SFP.

#### **References**

- (1) NRC electronic mail to NextEra Energy Point Beach, LLC, dated September 24, 2009, Point Beach Draft Acceptance Review Question from Balance of Plant Branch Re: EPU (ML092670347)
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