



September 16, 2013

NRC 2013-0092  
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  
Docket 50-266 and 50-301  
Renewed License Nos. DPR-24 and DPR-27

License Amendment Request 271 Supplement 1  
Transition to 10 CFR 50.48(c) – NFPA 805

References:

1. NextEra Energy Point Beach, LLC, letter to NRC dated June 26, 2013, "Transition to 10 CFR 50.48(c) – NFPA 805, 'Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants,' 2001 Edition." (ML13182A350 & 353)
2. NRC to NextEra Energy Point Beach, LLC electronic mail dated September 9, 2013, "Point Beach Nuclear Plant, Units 1 and 2 – Acceptance Review Regarding the NFPA-805 License Amendment Request – Opportunity to Supplement (TAC Nos. MF2372 and NF2373)." (ML13256A197)

Pursuant to 10 CFR 50.90, NextEra Energy Point Beach, LLC (NextEra) hereby submits a supplement to License Amendment Request (LAR) 271 (Reference 1) for Point Beach Nuclear Plant (PBNP) Units 1 and 2. This supplement (see Enclosure) provides the NextEra response to the NRC LAR 271 acceptance review question transmitted on September 9, 2013 (Reference 2). NextEra requests approval of this supplement on the same schedule as LAR 271. The supplement will be implemented on the same schedule as that of LAR 271.

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

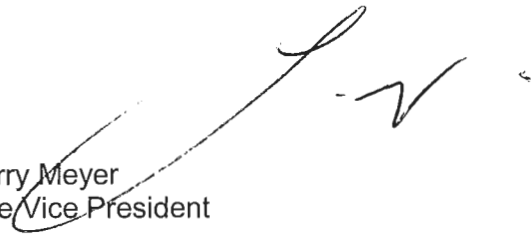
In accordance with 10 CFR 50.91, a copy of this letter is being provided to the designated Wisconsin Official.

If you have any questions please contact Mr. Michael Millen, Licensing Manager, at 920/755-7845.

I declare under penalty of perjury that the foregoing is true and correct. Executed on September 16, 2013.

Very truly yours,

NextEra Energy Point Beach, LLC



Larry Meyer  
Site Vice President

Enclosure

cc: Administrator, Region III, USNRC  
Resident Inspector, Point Beach Nuclear Plant, USNRC  
Project Manager, Point Beach Nuclear Plant, USNRC  
PSCW

## ENCLOSURE

### LICENSE AMENDMENT REQUEST 271, SUPPLEMENT 1 TRANSITION TO 10 CFR 50.48(c) – NFPA 805

#### **Introduction**

NextEra Energy Point Beach, LLC (NextEra) submitted License Amendment Request (LAR) 271 (Reference 1) to NRC dated June 26, 2013, requesting transition of the Point Beach Nuclear Plant (PBNP) fire protection program to NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants," 2001 Edition. The NRC staff transmitted a LAR 271 acceptance review question to NextEra via electronic mail dated September 9, 2013 (Reference 2). The following information is provided by NextEra in response to NRCs staff's question.

#### **NextEra Response to NRC LAR 271 Acceptance Question**

##### **Question 1**

*Table S-2 of the June 26, 2013, application identifies modification MOD-3 to be an upgrade of the reactor coolant pump (RCP) seals, which includes installation of Westinghouse SHIELD™ low leakage RCP seals. Given recent concerns about the performance of the new Westinghouse RCP seals, the risk reduction credit taken in your application for this modification may be optimistic.*

*During a September 4, 2013, phone call, NextEra stated that based on a sensitivity analysis recently performed, the Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment [PRA] in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," risk acceptance guidelines would be exceeded if the new Westinghouse SHIELD™ RCP seals are not credited in the PRA.*

*Please discuss which RG 1.174 acceptance guidelines are exceeded (CDF, LERF, ΔCDF, ΔLERF) for each unit at Point Beach, and the magnitude of the exceedance.*

##### **NextEra Response**

NextEra committed in PBNP LAR 271 (Enclosure, Attachment S, Table S-2, Item MOD-3) to install the Westinghouse Electric Company (WEC) SHIELD™ Passive Thermal Shutdown Seal (SDS) into the existing WEC reactor coolant pump (RCP) seals of each Unit to provide a more controllable leak rate, if cooling flow is lost to the RCP seals due to a fire. With the recent failure of the Beaver Valley SDS to actuate when tested following one reactor fuel cycle of operation, NextEra is tracking the Westinghouse redesign and qualification testing of their SDS. NextEra plans to install the redesigned SDS into the RCP seals in both units with the first installation tentatively planned for one RCP on Unit 2 during the U2R33 spring 2014 refueling outage. Alternatives to the SDS are also being evaluated as contingency plans in the event that the SDS redesign is not acceptable.

Regarding exceeding the RG 1.174 acceptance guidelines for each unit at Point Beach without credit for the SDS, two sensitivity analyses were performed on the fire PRA model utilized for the results reported in LAR 271. The sensitivity results (see Tables 1 and 2 below) show the fire

PRA core damage frequency (CDF) and large early release frequency (LERF) for the Post NFPA 805 Transition and the Appendix R Compliant cases with the associated  $\Delta$ CDF and  $\Delta$ LERF for each PBNP Unit. Comparing the Table 1 values to the Regulatory Guide (RG) 1.174 acceptance guidelines in Figure 4 (Acceptance guidelines for core damage frequency) and Figure 5 (Acceptance guidelines for large early release frequency) lead to the following results:

- Unit 1 Post-Transition CDF of 7.96E-04 is > 1.0E-4 and  $\Delta$ CDF of 6.14E-4 is > 1.0E-5
- Unit 2 Post-Transition CDF of 4.80E-04 is > 1.0E-4. However, the  $\Delta$ CDF is -2.80E-5 (a decrease in CDF)
- Unit 1 Post-Transition LERF of 2.61E-5 is > 1.0E-5 and  $\Delta$ LERF of 2.42E-5 is > 1.0E-6
- Unit 2 Post-Transition LERF of 1.10E-5 is > 1.0E-5 and  $\Delta$ LERF of 7.58E-6 is > 1.0E-6

Table 2 presents more realistic risk results for removal of credit for SDS modifications, but with a revision of the PRA assumptions for RCP seal leakage split fraction upon a loss of seal cooling in a fire, in accordance with Westinghouse WCAP 16141.

**Table 1: Post-Transition and Compliant Model Results without Credit for the SDS Modification**

Unit 1		Unit 2	
Post-Transition Fire CDF	7.96E-04	Post-Transition Fire CDF	4.80E-04
NFPA 805 Compliant Fire CDF	1.82E-04	NFPA 805 Compliant Fire CDF	5.08E-04
$\Delta$ CDF	6.14E-04	$\Delta$ CDF	-2.80E-05
Post-Transition Fire LERF	2.61E-05	Post-Transition Fire LERF	1.10E-05
NFPA 805 Compliant Fire LERF	1.92E-06	NFPA 805 Compliant Fire LERF	3.42E-06
$\Delta$ LERF	2.42E-05	$\Delta$ LERF	7.58E-06

**Table 2: Post-Transition and Compliant Model Results without Credit for the SDS Modification and Refined RCP Seal Leakage Split Fraction**

Unit 1		Unit 2	
Post-Transition Fire CDF	2.41E-04	Post-Transition Fire CDF	1.42E-04
NFPA 805 Compliant Fire CDF	8.88E-05	NFPA 805 Compliant Fire CDF	4.06E-04
$\Delta$ CDF	1.52E-04	$\Delta$ CDF	-2.64E-04
Post-Transition Fire LERF	6.27E-06	Post-Transition Fire LERF	3.07E-06
NFPA 805 Compliant Fire LERF	7.83E-07	NFPA 805 Compliant Fire LERF	1.96E-06
$\Delta$ LERF	5.49E-06	$\Delta$ LERF	1.11E-06

In conclusion, the PBNP NFPA 805 strategy is to install qualified SDSs consistent with the PRA results previously documented in LAR 271, however, PBNP is evaluating alternatives should this SDS fail to meet requirements. PBNP has implemented interim compensatory measures to address the current fire risk until NRC approval of LAR 271 and installation of the committed modifications, as discussed in the attachment to LAR 271.

## References

1. NextEra Energy Point Beach, LLC, letter to NRC dated June 26, 2013, "Transition to 10 CFR 50.48(c) – NFPA 805, 'Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants,' 2001 Edition." (ML13182A350 & 353)
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