



February 4, 2010

NRC 2010-0011
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 241
Alternative Source Term
Response to Request for Additional Information

- References: (1) FPL Energy Point Beach, LLC letter to NRC, dated December 8, 2008, Submittal of License Amendment Request 241, Alternative Source Term (ML083450683)
- (2) NRC letter to NextEra Energy Point Beach, LLC, dated January 5, 2010, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information Regarding Alternate Source Term (TAC Nos. ME0219 and ME0220) (ML093630246)

NextEra Energy Point Beach, LLC (NextEra) submitted License Amendment Request (LAR) 241 (Reference 1) to the NRC pursuant to 10 CFR 50.90. The license amendment would revise the current licensing basis to implement the alternative source term (AST) through reanalysis of the radiological consequences of the Point Beach Nuclear Plant (PBNP) Final Safety Analysis Report (FSAR) Chapter 14 accidents.

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

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.

Summary of Regulatory Commitments

The following two new Regulatory Commitments are proposed:

- By March 5, 2010, NextEra will submit a proposed revision of the Technical Specification (TS) for the control room emergency filtration system (CREFS), and will provide the results of control room (CR) dose calculations that are based on better estimate assumptions, including the effects of the use of mitigating actions with CREFS inoperable.
- Administrative controls will be established to ensure that CREFS and the primary auxiliary building ventilation (VNPAB) system will not be in concurrent Technical Specification Action Conditions (TSACs) during planned preventive maintenance activities. These controls will be implemented following NRC approval of LAR 241, no later than the Unit 2 (2011) refueling outage.

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 February 4, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in black ink, appearing to read "Larry Meyer", with the word "FOR" written in smaller letters below the signature.

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 241 ALTERNATIVE SOURCE TERM RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The NRC staff determined that additional information was required (Reference 1) to enable the completion of the NRC staff's review of License Amendment Request (LAR) 241, Alternative Source Term (AST) (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's questions.

Based on a previous phone call with the licensee regarding Point Beach Nuclear Plant's (PBNP) alternate source term (AST) submittal, it is Nuclear Regulatory Commission's (NRC) understanding that, for both the control room ventilation system and the primary auxiliary building ventilation system, a 7-day allowed outage time is needed for maintenance. During this time, both trains of each system will be out of service, depending on which component is being worked on. NRC staff assessment of quantifiable design-basis accident (DBA) consequences during this outage time appears to yield unacceptable doses. However, the probability of a DBA during this same time is unquantified; therefore, the risk of the newly proposed technical specification (TS) outage time is unknown. Given the unquantified and unknown risk, the NRC staff has determined that additional information is needed for the completion its safety evaluation.

Question 1

Please provide additional information describing PBNP's proposed AST analyses results with and without credit for the control room ventilation system and the primary auxiliary building ventilation system. Include a discussion of the margin, available compensatory measures, etc.

NextEra Response

AST analyses results for control room (CR) dose would meet the 5 Rem Total Effective Dose Equivalent (TEDE) dose limit based on better estimate assumptions without credit for the primary auxiliary building ventilation (VNPAB) system. This was discussed with the NRC during a public meeting on January 27, 2010. See the response to Question 4 below for additional details of that discussion.

Without credit for the control room emergency filtration system (CREFS), AST analyses results for CR dose would exceed the 5 Rem TEDE dose limit based on conservative assumptions. This condition was discussed with the NRC during a public meeting on January 27, 2010. During that meeting, NextEra proposed to revise the existing Point Beach Nuclear Plant (PBNP) Technical Specifications (TS) for CREFS to be more consistent with other older nuclear plants

with an approved AST having a similar CR ventilation system configuration as PBNP. This approach would include separate Technical Specification Action Conditions (TSACs) for active and passive components in the system. To address questions that were raised by the NRC during the public meeting, NextEra will submit a proposed revision of the TS for CREFS, and will provide the results of CR dose calculations that are based on better estimate assumptions, including the effects of the use of mitigating actions with CREFS inoperable, by March 5, 2010.

Question 2

Given that during control room ventilation system allowed outage time of 7 days meeting the control room dose criterion is questionable, please provide additional information describing the basis for the proposed removal the PBNP licensing basis compensatory action to use potassium iodide in the event of a DBA.

NextEra Response

The offsite and CR doses for the radiological accidents described in Chapter 14 of the PBNP Final Safety Analysis Report (FSAR) have been reanalyzed consistent with the AST methodology described in Regulatory Guide 1.183 (Reference 3). The calculated doses for the exclusion area boundary (EAB), low population zone (LPZ) and CR are within the acceptance criteria of 10 CFR 50.67, Accident Source Term. Based on these results, NextEra has proposed that the post-accident administration of potassium iodide (KI) to CR personnel be removed from the PBNP licensing basis. However, in the event of a design basis accident concurrent with the CREFS being out of service, mitigating actions would become necessary to provide radiological protection to CR personnel. These mitigating actions may include the administration of KI to CR personnel. NextEra will submit the results of control room (CR) dose calculations that are based on better estimate assumptions, including the effects of the use of mitigating actions with CREFS inoperable, by March 5, 2010.

Question 3

Please provide additional information describing the expected frequency of the maintenance activities that would be undertaken during the allowed outage times for both of these systems. Please include a discussion of the controls that would ensure that both of these systems would not be in their respective allowed outage times concurrently.

NextEra Response

The expected frequencies of maintenance activities for CREFS include:

- Emergency fans - Preventive maintenance every 12 months
- Recirculation fans - Preventive maintenance every 6 months
- Filter maintenance/testing - Every 18 months
- Fan/filter cubicle general inspection - Every 12 months

Over a two-year period from October 1, 2007, to November 30, 2009, the Maintenance Rule performance of the CREFS system included one component failure and 111 hours of total equipment unavailability.

The expected frequencies of preventive maintenance activities for VNPAB include:

- Filter fans and stack fans - Preventive maintenance every 6 months
- Filter maintenance/testing - Every 18 months

The corrective maintenance history for VNPAB since March 15, 2000 includes:

- Stack fans - 12 work orders on each including minor support modifications, fan guard repairs/adjustments, belt replacements, fan balancing and minor frame repairs
- Filter fans - 6 work orders on one fan and 4 on the other including vibration pad installation and minor duct repairs

Administrative controls will be established to ensure that CREFS and the VNPAB system will not be in concurrent TSACs during planned preventive maintenance activities. These controls will be implemented following NRC approval of LAR 241, no later than the Unit 2 (2011) refueling outage.

Question 4

The proposed 7-day PAB ventilation system (VNPAB) allowed outage time (AOT) is 7 times the AOT identified in the improved Standard Technical Specifications for the comparable two train, independent and redundant, (PREACS) system. Please provide technical information (i.e., PBNP robustness/uniqueness of design, conservatisms, assumptions, etc.) to justify the proposed VNPAB 7-day AOT.

NextEra Response

As discussed during the public meeting with the NRC on January 27, 2010, the VNPAB dual stack fans and dual filter fans are located in a common plenum for each set of fans. This design requires that the entire system be taken out of service for entry into the plenums for maintenance work on the fans or filters.

To address the common plenum condition, NextEra performed dose analyses, without credit for VNPAB for large-break loss-of-coolant accident, applying various assumptions. One of these analyses was performed using flashing fractions based on sump temperature, which yielded a CR TEDE dose of 4.2 Rem. This methodology has been previously used in the industry as part of an AST calculation and reviewed by the NRC. Another analysis used the actual emergency core cooling system leakage limit (versus doubling the limit for the AST calculation) and one half of the CR unfiltered in-leakage analytical limit (bounds actual tested value), which yielded a CR TEDE dose of 4.3 Rem. A third analysis combined the above assumptions, which yielded a CR TEDE dose of 2.1 Rem. These results provide the basis for the 7-day VNPAB allowed outage time in the proposed TS submitted in letter dated April 17, 2009 (Reference 4).

References

- (1) NRC letter to NextEra Energy Point Beach, LLC, dated January 5, 2010, Point Beach Nuclear Plant, Units 1 and 2 - Request for Additional Information Regarding Alternate Source Term (TAC Nos. ME0219 and ME0220) (ML093630246)
- (2) FPL Energy Point Beach, LLC letter to NRC, dated December 8, 2008, Submittal of License Amendment Request 241, Alternative Source Term (ML083450683)
- (3) Regulatory Guide 1.183, Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors, July 2000 (ML003716792)
- (4) NextEra Energy Point Beach, LLC letter to NRC, dated April 17, 2009, Supplement to License Amendment Request 241, Proposed Technical Specifications for Primary Auxiliary Building Ventilation (VNPAB) (ML091100182)