



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

March 31, 2010

Mr. Larry Meyer
Site Vice President
NextEra Energy Point Beach, LLC
6610 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 - REQUEST FOR
ADDITIONAL INFORMATION FROM HEALTH PHYSICS BRANCH
RE: EXTENDED POWER UPRATE (TAC NOS. ME1044 AND ME1045)

Dear Mr. Meyer:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated April 7, 2009, as supplemented by letters dated September 11 and October 9, 2009 (Agencywide Documents Access and Management System Accession Nos. ML091250564, ML092570205, and ML092860098), FPL Energy Point Beach, LLC, submitted a request to increase each unit's licensed core power level from 1540 megawatts thermal (MWt) to 1800 MWt reactor core power, and revise the technical specifications to support operation at this increased core thermal power level.

The NRC staff is reviewing your submittal and has determined that additional information is required to complete the review. The specific information requested is addressed in the enclosure to this letter. During a discussion with your staff on March 22, 2010, it was agreed that you would provide the additional information within 30 days of the date of this letter.

The NRC staff considers that timely responses to requests for additional information help ensure sufficient time is available for staff review and contribute toward the NRC's goal of efficient and effective use of staff resources. If circumstances result in the need to revise the requested response date, please contact me at (301) 415-2048.

Sincerely,

A handwritten signature in black ink, appearing to read "Justin C. Poole", written over a white background.

Justin C. Poole, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-266 and 50-301

Enclosure:
Request for Additional Information

cc w/encl: Distribution via ListServ

REQUEST FOR ADDITIONAL INFORMATION

POINT BEACH NUCLEAR POWER PLANT, UNITS 1 AND 2 (PBNP)

DOCKET NOS. 50-266 AND 50-301

IHPB HP RAI-1: The first paragraph of item number 5. "Ensuring that Occupational and Public Radiation Exposures are [as low as reasonably achievable] ALARA," (page 2.10.1-4 of Attachment 5) implies that the PBNP ALARA design basis for members of the public is 0.24 rem/year whole body dose, at the site boundary, which "compares with the 10 CFR 20 limit of 0.5 R/y." Describe the radiation sources that result in 0.24 rem/year at the site boundary. Also, the reference to a public dose limit of 0.5 R/y implies that PBNP has a Nuclear Regulatory Commission (NRC) approval, per the provisions in 10 CFR 20.1301(d), to exceed the current public dose limit of 100 mrem in 10 CFR 20.1301(a). Provide a reference for this approval or provide a technical basis for why PBNP cannot meet the current annual dose limit of 100 mrem in 10 CFR 20.1301(a).

IHPB HP RAI-2: The second paragraph of the "Results" section on page 2.10.1-10 of Attachment 5 concludes that the proposed 17.6 percent increase in reactor power (above the current licensed power) does not result in any change to the plant's radiation zoning. However, the reviewer did not find any plant radiation zoning in the updated final safety analysis report (UFSAR) submitted with the power uprate request. Provide UFSAR figures indicating the current radiation zoning for each area of the plant.

IHPB HP RAI-3: Items 2, "Liquid Effluents," and 3, "Gaseous Effluents," (page 2.10.1-18 of Attachment 5) indicate that the 17.6 percent increase over the currently licensed power, would result in a 19.1 percent increase in the concentration of I-133 in the steam generator liquid phase, a 35.7 percent increase in the concentration of I-131 in the secondary coolant, and a 1330 percent increase (mainly from a 11.3 fold increase in moisture carryover) in particulates (cesium) in the secondary coolant. Provide the basis for each of these assumed factors.

IHPB HP RAI-4: The text on page 2.10.1-19 of Attachment 5 concludes that the offsite doses resulting from the 35.7 percent increase in I-131, and 1330 percent increase in radioactive particulates (Cs-137) released in gaseous effluents are "insignificant compared to the dose contribution from tritium." Provide the calculated offsite doses contribution for each of these (Cs, I, and tritium) in liquid and gaseous effluents under current licensed power, and extended power uprate (EPU) conditions.

IHPB HP RAI-5: Provide an analysis of the impact of the EPU on Main Steam moisture carry over in terms of the potential for higher in-plant dose rates and increased radioactive wastes resulting from the increase in the release of radioactive materials from the steam generators to the secondary side of the plant. Include the impact of dose rates associated with the condensate polishing system.

IHPB HP RAI-6: The fourth paragraph on page 2.10.1-20 of Attachment 5 indicates that administrative and storage controls in the offsite dose calculation manual (ODCM) will ensure

Enclosure

that the direct radiation shine from solid radioactive wastes generated and stored onsite will meet the dose limits in 40 CFR 190. Describe the specific provisions of the ODCM that provide these controls.

IHPB HP RAI-7: Table 2.12-2 of Attachment 5, "PBNP Extended Power Uprate Ascension Test Plan," indicates that "plant surveys, including radiation shielding measurements, will be performed" at 85 percent and 100 percent of the EPU full power. Describe the scope of these radiation surveys. Verify that they include surveys of all plant areas potentially affected by operations at the EPU full power level.

IHPB HP RAI-8: As part of the power ascension test, Attachment 5 Table 2.12-2 indicates that survey maps will be "updated as necessary." Describe the anticipated conditions that may require the updating of survey maps.

IHPB HP RAI-9: The third paragraph on page 2.10.1-13 indicates that there is only one vital area of the PBNP, (i.e., access to panel C-59) that requires personnel access in post accident conditions as defined in NUREG-0737 Item II.B.2. This statement is in contradiction to the discussion in section 3.2.4 of Attachment 1, "Post -LOCA [loss-of-coolant accident] Vital Area Access," that also includes access to the Unit 1 & 2 NaOH discharge line air-operated valves (26' elevation of the Aux. Building). In addition, the NRC Safety Evaluation referenced in the submittal (Reference 8 to Section 2.10 of Attachment 5) indicates that motor control centers 1B32 and 2B32 are also vital areas. Also, NUREG-0737 specifies that the Control Room and the Tech Support Center (TSC) are vital areas. Provide an evaluation of the impact EPU will have on all vital areas at PBNP, include plant layout drawings indicating maximum dose rates and operator access/egress routs to each. Verify that these areas can be accessed within the dose criteria of GDC 19 as specified in NUREG-0737, Item II.B.2.

IHPB HP RAI-10: The discussion of source term assumptions for the NUREG-0737, II.B.2 analysis on the bottom of page 2.10.1-13 of Attachment 5, references the previous PBNP license amendment (license amendment request (LAR) No. 241, dated December 8, 2008) authorizing the use of the Alternate Source Term. Page 9 of LAR No. 241 states that the LOCA dose analysis assumes that the operator "throttle both the Containment Spray (CS) and Residual Heat Removal (RHR) systems." Verify that no vital area access is required for the operator to throttle the flow for these two systems.

IHPB HP RAI-11: The list of regulatory commitments listed in LAR No. 241, indicates that the licensee will permanently install a radiation shielding on the control room doors and windows to ensure control room habitability. Describe the shielding analysis that supports the design of these permanent shields. Provide all input parameters and assumptions used in this analysis. Verify the analysis used a source term consistent with EPU power conditions. Include the dose rate contribution to the operators from direct radiation shine from plant systems, structures and components containing the LOCA source term.

IHPB HP RAI-12: A summary of the scaling factors use to adjust the pre-EPU dose associated with post accident vital area access to panel C-59 to post-EPU conditions, is provided on pages 2.10.1-15 and 16 of Attachment 5. The first bullet listed is an "EPU dose rate scaling factor of 1.4." Provide a detailed quantitative description of the factors and assumptions used to arrive at this factor of 1.4.

IHPB HP RAI-13: The third bullet (top of page 2.10.1-16) is a factor of 0.5 to adjust for the "re-evaluated" time estimate required for operator actions at panel C-59. Provide a detailed analysis that demonstrates an operator residence time of 10 minute at C-59 under LOCA conditions (e.g., operator dressed in full protective clothing).

IHPB HP RAI-14: Page 2.9.10.1-2 of Attachment 5 gives 0.5 rem whole body acceptance criterion for the postulated waste gas release events analyzed in Section 2.9.10.1.2 of Attachment 5. The basis for this acceptance criterion is given as the NRC Branch Technical Position (BTP) ETSB 11-5 (1981), as attached to Chapter 11.3 of NUREG 0800 Standard Review Plan (SRP). As discussed in the BTP, this 0.5 rem criterion was intended to insure that the postulated events "would not exceed the guidelines of 10 CFR 20 for a unique unplanned release." At the time (1981) the radiation release limits in 10 CFR 20 were based on an allowable dose of 0.5 rem/year to a member of the public. However, 10 CFR 20 was revised in 1991, lowering the allowable dose, for a member of the public, to 0.1 rem/year. Accordingly, Revision 3 to the SRP, and the related BTP 11-5, revised the acceptance criteria for this anticipated operational occurrence to "1 mSV (0.1 rem) at the exclusion area boundary." Provide a technical justification why the acceptance criteria in Rev. 3 of the BTP should not apply to the PBNP EPU, or provide an analysis demonstrating that the postulated releases of waste gas, under EPU conditions, will not exceed 0.1 rem.

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/RA/

Justin C. Poole, Project Manager
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ADAMS Accession Number: ML100820459

*per memo dated March 2, 2010

OFFICE	LPL3-1/PM	LPL3-1/LA	NRR/IHPB/BC	LPL3-1/BC
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DATE	03/31/10	03/30/10	3/02/10	03/31/10

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