



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

February 1, 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 ELECTRICAL ENGINEERING BRANCH
RE: AUXILIARY FEEDWATER – ROUND 2 (TAC NOS. ME1081 AND ME1082)

Dear Mr. Meyer:

By letter to the U.S. Nuclear Regulatory Commission (NRC) dated April 7, 2009, as supplemented by two letters dated June 17, letters dated September 25, 2009, two letters dated November 20, two letters dated November 21, 2009, and letters dated January 8, January 13, January 22, 2010 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML091250564, ML091690087, ML091690090, ML092750395, ML093270030, ML093270079, ML093270032, ML093270035, ML100110037, ML100140163, and ML100250011, respectively), FPL Energy Point Beach, LLC, submitted a request to change technical specifications due to modifications to the auxiliary feedwater system. This was originally part of the extended power uprate request, but was separated out by the NRC staff.

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 January 7, 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 "J. Poole", written over a horizontal line.

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

DOCKET NOS. 50-266 AND 50-301

1. In response to staff's request for additional information (RAI) dated August 26, 2009, regarding the emergency diesel generator (EDG) voltage dip below the acceptance limit of 75 percent nominal voltage during motor start, the licensee stated that the EDGs are capable of starting safeguard loads, and the voltage recovers quickly to the acceptable level. Based on staff's review of the dynamic loading calculations, the staff notes that under certain loading conditions for Train "A" EDG, the frequency is outside 2 percent margin, the worst-case voltage dip is 45-48 percent and the voltage overshoot is 129.5 percent. Train "A" voltage and frequency variations are outside the industry accepted standards and guidance. Provide detailed analyses regarding the downstream effects on components such as contactors, control fuses, inverters, battery chargers, solenoids, motor-operated valves, solid state devices, etc., and the basis to show that all required loads will start and continue to run with sufficient margins after accounting for any uncertainties. Provide justification for the performance capabilities of the EDG "A" regulator and excitation systems to support shutdown equipment within design-basis requirements during a design-basis accident. The staff notes that Train "B" EDG bus voltages remain above 75 percent of nominal voltage, consistent with NRC Regulatory Guide (RG) 1.9, throughout the motor starting sequence in all postulated loading conditions. Provide a summary of all bus voltages for the 'B' train distribution system.
2. The cables for new auxiliary feedwater (AFW) pump motors are planned to be routed through the existing duct banks and manholes which are susceptible to moisture, wet or flooding conditions. The staff's review of Point Beach's operating experience indicates that, since 1997, numerous corrective action documents were generated to capture concerns associated with cable submergence and water ingress through underground cableways and manholes. Provide cable design specifications and manufacturer's certification to provide assurance that these cables are designed for the environment they will be subjected to. Also, provide details of the proposed initial tests and periodic tests for these cables including the type of tests and the frequency.
3. In response to the staff's RAI dated August 26, 2009, regarding EDG/loss of voltage relay time delays, the licensee stated that the EDG output breaker closure within 14 seconds is consistent with accident analysis. The staff notes that this is inconsistent with the design/licensing basis for the EDGs. Specifically, Final Safety Analysis Report Section 8.8.1, Design-Basis, states that the EDGs are required to start and be ready for loading within 10 seconds after receiving a start signal. In addition, Section 8.8.3 states that the time from receipt of start signal to EDG ready to accept load shall not exceed 10 seconds (reaches its rated speed and voltage and the associated breaker closes automatically to reenergize the safeguard buses). The staff notes that the existing EDG design (time delays for output breaker closure is 14 seconds) is inconsistent with chapter 8 design-basis requirements. Explain the inconsistency and identify all the loads that are started on the safety bus at 10 seconds in accordance with Chapter 8 design-basis.

ENCLOSURE

4. Explain how the EDG fuel oil consumption and volume calculation accounted for additional fuel oil requirements for AFW and other plant modifications. What is the basis for removing 10 percent margin from the original fuel oil consumption calculation? Provide details on how instrument uncertainties, instrument errors, temperature effects and specific gravity variations were accounted for in the calculation.
5. In response to the staff's RAI dated August 26, 2009, regarding environmental parameters for the AFW motor location, the licensee stated that the normal radiation level is 1300 RAD for 60-year total integrated dose, and the AFW pumps and associated equipment will not be included in the environmental qualification (EQ) program since they are not credited in the accident analysis although they are sequenced loads used in a loss-of-coolant accident. The performance capabilities of the non EQ AFW motor may be degraded after exposure to potentially harsh environment during the accident. Explain the rationale for allowing operation of the degraded motor connected to a safety-related bus which is supplying power to safe shutdown equipment.
6. In response to the staff's RAI dated June 2, 2009, regarding the surveillance tests for EDGs, the licensee proposed new Technical Specification Surveillance Requirement 3.8.1.7 requirement (the performance of a 24-hour endurance and load margin test of each EDG). The staff notes that the proposed EDG endurance and margin test does not envelop the accident loads for the entire duration of the 24-hr run. Specifically, EDGs G-01 and G-02 are loaded to 98.2 percent to 100.9 percent of the 2000-hour load rating for ≥ 2 hours and 90 to 100 percent of the 2000-hour load rating for the remaining 22 hours; G-03 and G-04 EDGs are loaded to 97.4 percent to 100 percent of the 200-hour load rating for ≥ 2 hours and 90 to 100 percent of the 2000-hour load rating for the remaining 22 hours with EDGs operating at the highest end of the 2-hour load range for 5 minutes. This is not consistent with RG 1.9 recommendations. The intent of the 24-hr test is to demonstrate that the EDG can operate at maximum postulated accident loads for extended duration. The 2-hour test requirement at a higher loading demonstrates design margins. Therefore, staff requests the licensee to provide basis why the proposed loading ranges are adequate to demonstrate the capability of the EDGs to operate for its intended mission time. Also, explain why EDGs designated for each unit cannot be tested during modes other than modes 1 and 2 as recommended in NUREG-1431.

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Sincerely,

/RA/

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