

December 16, 2009

NRC 2009-0122
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 Request for Additional Information

- 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 November 16, 2009, Point Beach Nuclear Plant, Units 1 and 2 – Request for Additional Information From Balance of Plant Branch Re: Main Feedwater Isolation Valve (TAC Nos. ME1081 and ME1082) (ML093140231)

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.

The NRC staff determined that additional information is required to complete the review (Reference 2). Enclosure 1 provides the NextEra response to the request for additional information (RAI).

This letter contains no new Regulatory Commitments and no revisions to existing Regulatory Commitments.

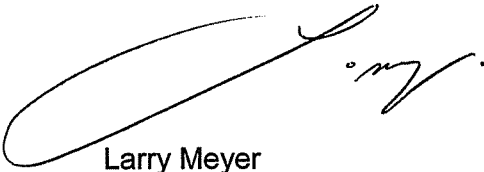
The information contained in this letter does not alter the no significant hazards consideration contained in Reference (1) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements of an environmental assessment.

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 December 16, 2009.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in black ink, appearing to read 'Larry Meyer', with a large, sweeping initial 'L' and a smaller 'M'.

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 261 EXTENDED POWER UPRATE RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The NRC staff determined that additional information is required (Reference 1) to enable the Balance of Plant Branch to continue its review of License Amendment Request (LAR) 261, Extended Power Uprate (EPU) (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's request.

SBPB-FW-RAI-1

In the amendment dated April 7, 2009, the licensee states that "The current safety-grade [feedwater regulating valves] FRVs are being modified with a non-safety grade internal trim and operators." Based upon this statement the licensee may intend to downgrade the main feedwater regulating valves (MFRV's); yet, the MFRV's are credited in Chapter 14 analyses for providing backup isolation in the event of a failure of the main feedwater isolation valve (MFIV).

The staff recognizes that NUREG-0138 allows a licensee to take credit for nonsafety-grade components in the main feedwater line even though they are not designed seismic Category I, to perform a backup isolation in certain accident scenarios, because the staff does not require that an earthquake be assumed to occur coincident with the postulated main steamline break. However, NUREG-0138 does prescribe that in order to rely on these non-safety-grade components, their design and performance must be compatible with the accident conditions they are called upon to be credited in, and the reliability of these valves is of the same order of magnitude as that accepted for nuclear safety-grade components.

Request

The staff requests the licensee justify their position in continuing to use the MFRV as a credited in their safety analyses as back-up isolation based upon their proposal to start using non-safety grade components in these MFRVs. Explain whether the MFRVs will continue to safety-related.

NextEra Response

In the Point Beach Nuclear Plant (PBNP) current licensing basis, the safety-related main feedwater regulating valves (MFRVs) provide the primary means of feedwater (FW) isolation, and the tripping of the FW pumps and closure of the feedwater pump discharge valves provides the back-up means of FW isolation using nonsafety-related components. Upon the implementation of EPU, new safety-related main feedwater isolation valves (MFIVs) will provide the primary means of FW isolation. The MFRVs will be downgraded to nonsafety-related, and will provide the backup means of FW isolation. The EPU containment response analysis for the main steam line break inside containment assumes a single failure of the new MFIV on the

faulted loop to close with the backup FW isolation provided by the MFRV. Tripping of the main FW pumps is no longer credited in the safety analysis.

The MFRV trim and actuator require replacement to support operation at EPU conditions. Replacement trim and actuators are classified as nonsafety-related. Solenoid valves required to trip the MFRVs for FW isolation are also being replaced and are classified as safety-related, consistent with the current safety classification of these components. The new safety-related solenoids are being powered from the existing safety-related direct current (DC) power source and receive a safety-related safety injection (SI) signal from both train A and B, consistent with the existing MFRV safety-related solenoids valves. Closure times for the modified MFRVs are specified to be less than the closure times (<10 seconds) assumed in the EPU safety analysis. Post-modification testing will be performed to verify the closure time. The MFRVs will remain in the inservice testing (IST) program and Technical Specification (TS) 3.7.3.

The MFRV design and performance is compatible with the accident conditions for which the valves are credited. Reliability of these valves will be consistent with the design basis for providing the backup function for FW isolation. While the MFRV valve trim and actuator required to support normal plant operation will not be safety-related, the solenoid valves required to close the MFRV for FW isolation will remain safety-related.

SBPB-FW-RAI-2

The licensee proposed to modify the technical specification surveillance requirements, adding a test every 18 month for the new MFIVs to isolate. The conditions that the MFIVs will be tested at may affect the response times.

Request

The staff requests the licensee provide stroke time curves for MFIVs if available, explain the conditions that they will perform surveillance testing of the MFIV, and the criteria used to ensure that the valve closure times meet any safety analyses limits.

NextEra Response

The MFIVs are classified as safety-related, Seismic Class I and are designed to close within 3 to 5 seconds. Stroke time curves are not available.

Functional tests will be performed by the vendor to verify the valve performance requirements. Each MFIV will be tested to verify that the closing times specified can be met. The MFIV closure time will be tested with a simulated load and with no load to allow correlation of the closure times. The testing correlation will then be used as a basis for operational testing of the MFIVs at static no-load conditions during shutdown.

The steam line break (SLB) safety analysis MFIV isolation response time, following an SI signal, is 7 seconds, accounting for delays associated with signal processing plus MFIV stroke time. Testing of MFIVs in accordance with the IST program is required by proposed TS Surveillance Requirement (SR) 3.7.3.2. The SR 3.7.3.2 testing requirements will ensure MFIV closure times satisfy safety analysis assumptions.

SBPB-FW-RAI-3

The licensee proposes to install the new MFIVs just upstream of the two safety-related containment isolation check valves. Since the main feedwater line is high pressure and high temperature, the MFIVs and the surrounding components may create a possible missile hazard; in addition, the safety-related MFIVs may be a target from possible missiles in accordance with General Design Criteria (GDC) 4 and their applicable current licensing design basis, PBNP GDC 40.

Request

The staff requests the licensee to evaluate whether the MFIVs have adequate protection against the dynamic effects and missiles that might result from plant equipment failures.

NextEra Response

The safety-related function of the MFIVs is to provide FW isolation in the event of a SLB inside the containment. The MFIVs are being installed in the portion of the FW piping that has been seismically analyzed and supported. The MFIVs are being installed in the containment facade building just upstream of the outboard FW containment isolation check valves in the 16-inch FW supply lines to each steam generator (SG). The primary reason to locate the MFIV close to the containment is to limit the volume of FW released into containment following a SLB event inside containment.

The revised FW piping stress analysis did not result in any new postulated break locations as a result of the installation of the MFIVs. The FW piping has been analyzed for the dynamic effects of the MFIV fast closure. The FW pipe routing does not change as a result of the addition of the MFIVs and no new equipment that could be impacted as a result of pipe whip or jet impingement due to a FW line break has been identified other than the MFIVs.

The MFIV and MFRV are located outside containment and are not impacted by the SLB inside containment. For SLB core response analysis (inside or outside containment), the limiting single failure is loss of an SI train. FW isolation can be accomplished with either the MFIVs or the MFRVs. The MFIVs are not credited for high energy line breaks (HELBs) outside containment. This is consistent with the current licensing basis. Protection of the MFIV for these events is not required. The MFRVs are located in the turbine building. There are no internally generated missiles, jet impingement or pipe whip that would impact the function of both the MFIVs and MFRVs.

In addition, failure of the MFIVs does not impact the ability of the auxiliary feedwater (AFW) system from providing heat removal since the AFW lines are tied into the feedwater piping inside containment, downstream of the MFIVs and the containment isolation check valves.

SBPB-FW-RAI-4

The licensee's Inservice Testing (IST) program document details the technical basis and provides the overall description of the activities planned to fulfill the IST requirements for pumps and valves as specified in Title 10 of the Code of Federal Regulations (10CFR) Section 50.55a(f)(4)(ii), and required by Point Beach Nuclear Plant Technical Specification 5.5.2.10. The new MFIVs are safety-related and credited in the design-basis accident in the event of a MSLB. The valve will be needed to be added to the IST Program.

Request

The staff requests the licensee verify that the MFIVs have been added correctly to the IST program.

NextEra Response

Once installed, the MFIVs will be included in the PBNP IST Program. Inclusion of the MFIVs will be controlled by the modification process. Testing of MFIVs in accordance with the IST program is required by proposed TS SR 3.7.3.2.

The MFIV performs an active safety function in the closed position to isolate FW flow during a SLB inside containment. IST testing will be performed when the reactor is shutdown. Exercising an MFIV to the closed position during power operation would require isolating feedwater to the steam generator, which could result in a reactor trip. The MFIV IST testing requirements will be consistent with existing requirements for the FRVs. IST testing will include full stroke exercise, stroke time to closed position, fail-safe verification and position indication verification.

References

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