NEXTera ENERGY POINT BEACH

October 15, 2010

NRC 2010-0161
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 electronic mail to NextEra Energy Point Beach, LLC, dated October 4, 2010, Point Beach Nuclear Plant, Units 1 and 2 - AFW Modification LAR_Requests for Additional Information-SCVB (TAC Nos ME1081 ME1082) (ML102800293)
(3) NextEra Energy Point Beach, LLC letter to NRC, dated October 1, 2010, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (ML102740273)

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 license 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.

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

Additionally, during a telephone conference with the NRC on October 6, 2010, the Mechanical and Civil Engineering Branch requested additional information regarding NextEra's response to EMCB AFW RAI 4-1.a, provided in Reference (3). Enclosure 2 provides the revised NextEra response to EMCB AFW RAI 4-1.a of Reference (3).

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 October 15, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC

Larry Meyer
Site Vice President

Enclosures

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 was required (Reference 1) to enable the Containment and Ventilation Branch to complete the 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.

Primary Auxiliary Building Ventilation (VNPAB)

SCVB-1

Is the pre-established proceduralized time (2 hours) for restoring the PAB ventilation fans, a part of the current licensing basis or is it required as a result of EPU?

Which exact fans of the VNPAB are restored in 2 hours?

NextEra Response

A pre-EPU capability evaluation was performed to determine temperatures in the primary auxiliary building (PAB) following design basis accidents (DBAs) with a loss of offsite power (LOOP). The results of the evaluation showed that under certain initial ambient conditions, placing the PAB ventilation (VNPAB) system in service within approximately two hours of the initiation of a worst-case DBA, assures functionality of the post-accident monitoring instrumentation contained in the PAB.

Procedures that implement the current license basis direct that equipment be restored following DBAs with a LOOP. These procedures permit the operators to manually restore loads that are stripped following a safety injection in accordance with emergency diesel generator (EDG) load management guidance and plant conditions.

The two hours stipulated in the capability evaluation did not consider that it will take approximately one hour following the DBA to transfer residual heat removal (RHR) from the injection phase to the containment sump recirculation phase. The amount of heat generation in the susceptible areas is transient. Much of the heat generation does not occur until after recirculation is initiated. The two hours stipulated in the capability evaluation has not been formalized as such into plant procedures at the present time because it was used in the evaluation as a minimum gross capability and not as a design limit. The existing procedural instructions are being revised in accordance with the provisions of the corrective action program and the 10 CFR 50.59 process. The time requirement to restore VNPAB will be validated prior to procedure implementation.

These procedure changes will also be applicable under EPU conditions. For EPU, however, detailed EDG analyses have been conducted and have since been translated into a formal calculation. This calculation confirms that the VNPAB fans can be restored within 30 minutes of the alignment of RHR to containment sump recirculation. (See the NextEra response to SCVB-3 below.)

The exact fans to be restored following DBAs with a LOOP are the same fans required to be restored for the Alternate Source Term amendment (LAR 241); the PAB exhaust stack fans (W-21A/B) and the PAB filter fans (W-30A/B).

SCVB-2

In addition to the MDAFW pumps being added, does the general area of the PAB currently house any other safety related equipment (e.g. ECCS pumps)?

NextEra Response

The new motor-driven AFW (MDAFW) pump rooms communicate with other areas of the PAB that contain safety-related instrumentation and safety-related pumps through open doorways and corridors. With restoration of the VNPAB within two hours, adequate cooling is assured for PAB safety-related equipment, including the additional heat load from operation of the new MDAFW pumps.

SCVB-3

Staff's understanding is that the PAB exhaust fans are also credited in the AST application. If so, is it still 2 hours after an accident that these fans are required?

NextEra Response

The Alternate Source Term (AST) requirement is to restore VNPAB following a loss-of-coolant accident (LOCA) within 30 minutes following the alignment of residual heat removal (RHR) to the containment sump recirculation mode of operation. Switchover to the containment sump recirculation mode of operation, assuming minimum safeguards equipment is operational, is calculated to occur approximately one hour into the event. Therefore, the requirements for restoring VNPAB are met.

SCVB-4

In the licensing report, Section 2.7.5.2, Technical Evaluation of VNPAB system, there is a statement that "Safety–related equipment in the PAB is not affected by a loss-of-HVAC for up to 24 hours thus indicating that the ability to maintain an 85F design temperature during normal operation is not critical."

The NRC staff requests clarification of the context of the 24 hours and the 2 hours restoration time stated above. Specifically, did the 24 hours consider the operation of the safety-related equipment in this area that may be called upon to operate during an accident or is it based on normal operating equipment only?

What initial temperature in the general area was considered in establishing the 2 hour proceduralized time for restoring PAB ventilation fans?

NextEra Response

The statement, "Safety–related equipment in the PAB is not affected by a loss-of-HVAC for up to 24 hours thus indicating that the ability to maintain an 85°F design temperature during normal operation is not critical," refers to normal operation. Restoration of the VNPAB following a DBA with a LOOP is discussed in the NextEra response to SCVB-1.

The post-LOCA temperature analysis for the PAB uses an initial temperature of 90°F for most building areas, with the exception of the Unit 2 valve gallery, which uses an initial room temperature of 91.5°F, and Pipeway No. 4, which uses an initial room temperature of 99.5°F. Initial room temperatures used in the analysis are based on recorded room temperatures.

Containment Response to Main Steam Line Break

SCVB-5

In the current analysis, what is the peak containment pressure and at what time does it occur?

NextEra Response

The peak containment pressure in the current analysis (prior to AFW modifications) is 59.85 psig and occurs at 281 seconds.

SCVB-6

How does the AFW flow to the faulted and intact SGs differ between the current analysis and with the new AFW system?

NextEra Response

The current AFW configuration allows three pumps (two motor-driven pumps and one turbine-driven pump) to contribute AFW to the accident unit. In the new AFW configuration, only two pumps (one motor-driven pump and one turbine-driven pump) can contribute AFW to the accident unit. The flows resulting from the new AFW system produce a negligible change on the containment response to a main steam line break.

SCVB-7

Please clarify if FW flow due to FW pump coast down is included in the current analysis with the new AFW system. If not included, please provide justification why it is unnecessary.

NextEra Response

The feedwater pump coastdown is modeled in the current analysis. This assumption has not changed in the evaluation of the effect of the improved AFW configuration.

References

(1) NRC electronic mail to NextEra Energy Point Beach, LLC, dated October 4, 2010, Point Beach Nuclear Plant, Units 1 and 2 - AFW Modification LAR_Requests for Additional Information-SCVB (TAC Nos ME1081 ME1082) (ML102800293)

(2) FPL Energy Point Beach, LLC letter to NRC, dated April 7, 2009, License Amendment Request 261, Extended Power Uprate (ML091250564)

ENCLOSURE 2

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

During a telephone conference with the NRC on October 6, 2010, the Mechanical and Civil Engineering Branch requested additional information regarding NextEra's response to EMCB AFW RAI 4-1.a, provided in Reference (1), be provided for NRC review. The additional information, underlined to identify the change, is provided in the revised response to EMCB AFW RAI 4-1.a of Reference (1) below.

EMCB AFW RAI 4-1.a

The response to RAI 4 identified that the only lines in the AFW system that meet the current licensing basis (LB) high energy (HE) line definition criteria are steam supply lines from the main steam system up to the normally closed TDAFW pump steam supply motor-operated valves. The RAI response stated that HE line break (HELB) analyses have been completed for these lines and have demonstrated acceptable response to a HELB event.

a) *Please discuss whether the pipe failure postulation and HELB analyses for these lines are in accordance with the current license conditions and whether they are affected by the station's HELB reconstitution stated in UFSA R 2007, Appendix A. 2. Not approved yet. Approval has been sought with the EPU. If that is the case AFW will have to wait for the EPU.*

Clarification: Discuss how the statement that "the HELB evaluations for EPU conditions reduced the number of HELB locations" is applicable to the AFW steam supply piping and how these evaluations impact the HELB evaluations for both CLTP and EPU.

NextEra Revised Response:

a) The steam supply lines to the turbine-driven AFW (TDAFW) pumps are considered high energy lines from the connections at the main steam lines to the normally closed motor-operated valves located in the component cooling water heat exchanger room. Piping downstream of these valves is normally depressurized and is not considered a high energy system. The design of the steam supply lines from the main steam system up to the normally closed TDAFW pump steam supply motor-operated valves is not changing for the AFW system upgrade. These high energy lines will remain as currently physically routed for the EPU operating conditions.

The limiting high energy line break (HELB) process fluid conditions occur at hot shutdown conditions (547°F and 1020 psia), which are identical for CLTP and EPU operating modes. The existing design of the high energy steam supply piping up to the normally closed TDAFW pump steam supply valves has been evaluated for HELB and

meets the current HELB licensing basis, as documented in the final safety analysis report (FSAR), Appendix A.2, High Energy Pipe Failure Outside Containment. Therefore, the break locations identified for the CLTP hot shutdown conditions (temperature and pressure) remain unaffected. The EPU hot shutdown operating conditions remain at the same values as the CLTP. Utilizing the guidance contained in Generic Letter 87-11, Relaxation in Arbitrary Intermediate Pipe Rupture Requirements, no new break locations were identified and there is a net reduction in postulated break locations. In addition, the need to postulate a crack at the most adverse location remains unchanged. Although there are small differences in the full power operating pressure and temperature conditions at the CLTP and EPU full power conditions, they are both lower than the limiting hot shutdown conditions at CLTP and EPU conditions.

The HELB reconstitution does not affect AFW for CLTP or EPU, with the exception of arbitrary break locations, which were removed utilizing the guidance contained in Generic Letter 87-11. Removal of these arbitrary break locations does not require prior NRC approval. The HELB reconstitution evaluations reduced the number of HELB locations, did not identify new break locations for EPU conditions, and did not increase the loadings at the remaining locations, including the AFW steam supply piping. The only HELB required components identified that are located in the turbine hall are associated with the feedwater flow control valves, feedwater pumps, and condensate storage tank level. The TDAFW pumps are protected by safety-related low suction pressure switches located in the safety-related portion of the turbine hall and can be supplied from the safety-related service water system. Since the swing battery and associated components are not normally aligned systems, they were removed from the required equipment list. Other high energy systems located in the turbine hall (condensate, heater drain tank pump discharge, heater drains, and etc) do not require any of the previously mentioned components, except the condensate storage tank level. Therefore, NextEra determined that including these systems components as HELB components was not required.

The pipe whip restraints and the analysis to determine that the safe shutdown capabilities of the plant would not be affected, which are described in FSAR Appendix A.2, demonstrate that breaks of these high energy lines will not result in unacceptable damage to systems, structures, and components important to safety, including the upgraded AFW system. Therefore, the pipe failure postulation and HELB analyses of the TDAFW pump steam supply high energy lines will continue to meet the current HELB licensing basis. NRC approval of the HELB evaluations at EPU conditions is not required to implement the AFW system upgrades.

References

(1) NextEra Energy Point Beach, LLC letter to NRC, dated October 1, 2010, License Amendment Request 261, Extended Power Uprate, Response to Request for Additional Information (ML102740273)