NEXTera ENERGY POINT BEACH

August 30, 2010

NRC 2010-0119
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 264
Diesel Fuel Oil Storage Requirements
Response to Request for Additional Information

References: (1) NextEra Energy Point Beach, LLC letter to NRC, dated January 27, 2010, License Amendment Request 264, Diesel Fuel Oil Storage Requirements (ML100280230)
(2) NRC electronic mail to NextEra Energy Point Beach, LLC, dated August 2, 2010, 2010 (ML102170297).

NextEra Energy Point Beach, LLC (NextEra) submitted License Amendment Request (LAR) 264 (Reference 1) to the NRC pursuant to 10 CFR 50.90. The proposed amendment revises Technical Specifications (TS), 3.8.3, Diesel Fuel Oil and Starting Air, to increase the minimum required volume of diesel fuel oil stored in the emergency diesel generator (EDG) fuel oil storage tanks to assure that there is sufficient fuel oil to support operation of the EDGs for 48 hours to meet license basis requirements.

Via Reference (2), the NRC staff determined that additional information is required to enable the staff's continued review of LAR 264. The Enclosure provides the NextEra response to the NRC staff's request for additional information.

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

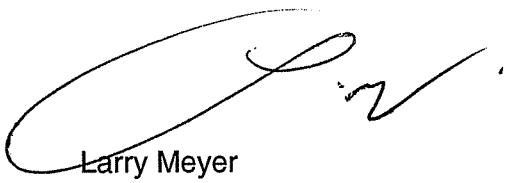
The information contained in this letter does not alter the no significant hazards consideration contained in Reference (1) and continues to satisfy the criteria of 10 CFR 51.22 for categorical exclusion from the requirements of an environmental assessment.

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 August 30, 2010.

Very truly yours,

NextEra Energy Point Beach, LLC



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 264
DIESEL FUEL OIL STORAGE REQUIREMENTS
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION

The NRC staff determined that additional information was required (Reference 1) to enable the Electrical Engineering Branch to complete its review of License Amendment Request (LAR) 264, Diesel Fuel Oil Storage Requirements (Reference 2). The following information is provided by NextEra Energy Point Beach, LLC (NextEra) in response to the NRC staff's request.

The NRC staff has identified the following background information regarding the licensing basis for the Point Beach Nuclear Plant (PBNP), Units 1 and 2:

1. *The original AEC Safety Evaluation for the PBNP states, "Onsite fuel storage capacity is sufficient for a minimum of seven days' operation of the required safety feature loads which is acceptable". This statement is repeated in a July 11, 1994, letter (NPL 94-0264) from Wisconsin Electric Power Company.*

2. *Prior to license amendments 148 for Unit 1 and 152 for Unit 2, the Technical Specification Basis for Section 15.3.7 stated that in addition to the 11,000 gallon supply in the emergency fuel oil tank, it will be normal for Point Beach to keep one, or the equivalent of one, bulk storage tank full at all times (55,000 gallons which is equal to about a 10 day supply).*

3. *The PBNP final safety analysis report (FSAR) section 8.8.3 states "there are two underground storage tanks on site, each with a capacity of 35,000 gallons, and that sufficient fuel oil is maintained between the two tanks to allow one EDG to operate continuously at required load for 7 days."*

4. *The PBNP diesel project design submittal (Rev. 1) dated May 24, 1994 states that "Each EDG pair (G01/G02 and G03/G04) will be provided with onsite fuel oil storage that will have the ability, if the tanks are filled to maximum capacity, to allow the operation of either EDG for approximately seven days at maximum rated load or both EDGs at partial load for over five days."*

5. *In an RAI response letter dated March 3, 2010 (ADAMS Accession No. ML1006301332), related to the extended power uprate (EPU) and EDG loading/fuel oil consumption (LAR-261), NextEra stated the following:*

   - *The EDGs will remain within their rated loads with EPU, AFW, and alternative source term (AST) load additions.*
   - *The EDG fuel oil consumption calculation determined fuel oil requirements based on the applicable EDG rated loads.*
   - *Fuel oil consumption during the first 48 hours of operation for Train A EDGs is based on the 2000-hour rating of the EDG. Consumption during the first 48 hours of operation for Train B EDGs is based on the 195-hour rating.*
   - *Fuel oil consumption for 7-day operation is based on the 2000-hour rating for Train A EDGs and the 195-hour rating for the first two days of Train B EDGs combined with 2000-hour rating for the remainder of the 7 days.*
   - *Calculations have demonstrated that with the EPU, AFW and AST modifications, the EDG loading would be within the rated load.*

Question EEEB-1

The Nuclear Regulatory Commission Staff has reviewed past correspondence related to the licensing basis for emergency diesel generator (EDG) fuel oil requirements. The staff considers that the onsite fuel oil storage shall be sufficient to operate the diesel generator following any design basis event for seven days. The current license amendment request (264) addresses the most limiting condition of operation of two EDGs operating for 48 hours versus one EDG operating for 48 hours.

Please provide a detailed discussion explaining why the seven day fuel requirement, as discussed in the licensing basis documents, is not factored into the TS controlled bounding fuel oil volume requirements.

NextEra Response

The PBNP license bases and station operating practices have ensured that there is normally (emphasis added to reflect the below license basis precedents) a 7-day supply of diesel fuel oil on site available for the installed emergency diesel generators (EDGs). The following additional license basis information is provided.

1. AEC Request for Additional Information (RAI) dated November 7, 1969. Question 7.21 of the RAI stated, "The FSAR describes several onsite sources of diesel oil. How many days of operation does this fuel supply permit for the case of one diesel providing power for minimum engineered safety features in one unit and safe shutdown loads for the second unit. Also, discuss the provisions made for resupply of diesel oil."

   The licensee response to this RAI in Amendment 2 for the Application for License dated January 19, 1970. Question 17 Answer, dated January 16, 1970, stated, "The number of days of operation provided by the fuel oil systems is dependent upon the weather, the amount of fuel available and the specific loads on a diesel. The loads on a diesel are listed in Table 8.2-1 of the FFSAR (Final Facility Description and Safety Analysis Report). Since the loads are approximately the rated load of the diesel or slightly less, the rated load will be used for this calculation.

It will be normal for Point Beach to keep about one, or the equivalent of one, bulk storage tank full at all times by using this level as the order point. The fuel oil supplier is under a purchase order and is located about thirty-five miles from Point Beach. He has about 300,000 barrels of bulk storage of fuel oil at this location with the capability of emergency delivery at any time.

The following rates and capacities are listed for usage in determining the operating times:

Tanks	Capacity
1. Fuel Oil Bulk Storage Tanks (2)	55,000 gal. each
2. Emergency Fuel Tank (1)	12,000 gal.
3. Boiler Day Tank (2)	550 gal. each
4. Diesel Generator Day Tank (2)	550 gal. each
5. Diesel Storage Tank (in base of each unit)	550 gal. each

Fuel Oil Usage	Rates
1. Heating Boiler at rated load	180 gal./hour each
2. Diesel Generator at rated load	205 gal./hour

These can be combined to give the desired information. For example, with one 55,000 gallon tank and all other tanks full, the total available fuel would be about 69,750 gallons for a diesel and the two heating boilers under maximum winter heating load. The total fuel rate would be 565 gal/hour and the capacity would be about 123 hours."

2. AEC Safety Evaluation for Point Beach dated July 15, 1970

"Onsite fuel storage capacity is sufficient for a minimum of seven days operation of the *required safety feature loads which is acceptable*"

This statement is repeated in a July 11, 1994, letter from Wisconsin Electric Power Company to the NRC.

The installed fuel oil storage tanks at the time of the original licensing were:

a. A single below ground emergency tank (T-72)

b. Two above ground, non-missile protected bulk storage tanks (T-32A & B)

With a fuel consumption rate of approximately 205 gallons/hour at full load, the only missile protected tank on site had a maximum capacity of 2.8 days of fuel for a single EDG operating at full load. The remainder of the on-site fuel capacity was not missile protected (not safety-related), although it was available. The reason for the large above ground storage capacity was that the tanks also served the on-site black plant start gas turbine (G-05) and the site house heating boilers.

All three tanks still exist and are still used for fuel oil storage. The piping and valves can still supply the Train A EDGs (the two original EDGs on site, G-01 and G-02) from these tanks.

3. License Bases Prior to Amendments 148/152 for Units 1 and 2

The TS prior to Amendments 148/152 consistently required a minimum of 11,000 gallons of fuel oil to be maintained in the emergency tank as a condition for EDG operability. The Bases for the 11,000 gallons was to provide "sufficient fuel to operate one diesel at design load for more than 48 hours." Note that both EDGs drew from the same tank.

The same Basis continued on to state, "In addition, it will be normal for PBNP to keep one, or the equivalent of one, bulk storage tank full at all times (55,000 gal. which is equivalent to about 10 days' supply) [at 205 gallons/hour at full rated load for a single EDG]."

The use of the word normal in the Basis and the lack of a TS Limiting Condition of Operation (LCO) (formerly identified as a Specification in the TS) demonstrates that a 7-day inventory was not considered a LCO. This is consistent with the above ground, non-missile protected, non safety-related configuration of the bulk storage tanks that would have held the majority of the 7-day inventory.

4. FSAR Section 8.8.3

The FSAR states, "Two underground fuel oil storage tanks on site (one Train A, one Train B) each have a capacity of approximately 35,000 gallons. Sufficient fuel is normally maintained between the two tanks to allow one diesel to operate continuously at the required load for 7 days."

The EDG upgrade modifications that were installed in the early 1990s included the two below ground, missile protected storage tanks described above. At 205 gallons/hour, 7 days of operation equates to approximately 34,000 gallons.

The word normally appears in the above FSAR statement, and is consistent with the original licensing bases.

Based on a review of the operating logs over the last several years, sufficient fuel oil has been maintained between the two tanks to allow one EDG to operate continuously at full rated load for 7 days.

5. Point Beach Diesel Project Design Submittal (Revision 1) dated May 26, 1994

"Each EDG pair (G01/G02 and G03/G04) will be provided with onsite fuel oil storage that will have the ability, if the tanks are filled to maximum capacity, to allow the operation of either EDG for approximately seven days at maximum rated load or both EDGs at partial load for over five days."

This is an accurate description of the installed fuel oil storage capacity. At maximum nominal capacity, each tank has the ability to supply a single EDG at full rated load for 7 days. Operational demands of periodic testing preclude maintaining the tanks continuously at their "maximum capacity." The description of the tank capacity was not intended to imply a design or license basis requirement to ensure nuclear safety.

The above is evident in the license amendments approving the design and the attendant changes to TS. Rather than the previously required 11,000 gallons in a single tank

supplying both EDGs, the revised TS became 11,000 gallons in each of the two newly installed below ground storage tanks. This ensures a 48-hour supply to one A Train and one B Train EDGs at full load, or a 4-day supply to a single EDG utilizing the cross-tie fuel transfer capabilities.

6. NextEra Letter dated March 3, 2010 (ML100630133)

   NextEra prepared and maintained calculations of diesel fuel oil consumption for limiting loading conditions, including 7-day operation. The text of this letter responded to specific RAIs and included descriptions of load profiles assumed in the fuel consumption calculations, and also included a description of the load profile used for the 7-day operation case.

   The letter did not imply or commit to a new or additional TS requirement to continuously maintain a 7-day of fuel oil in the safety-related storage tanks.

The above docketed PBNP license basis documents describe why there has not been a TS requirement to continuously maintain a 7-day supply of fuel oil as a condition of EDG operability.

The requested license amendment is consistent with previously established precedents in the PBNP license basis in that a 7-day supply would continue to be normally maintained, but it would not be a necessary condition for EDG operability.

Operational Considerations

As previously discussed, maintaining a 7-day supply under all normal operating conditions is not anticipated to be a challenge. However, should it become necessary to drain one of the fuel oil storage tanks for inspection or repair, it would not be feasible to maintain a 7-day supply in the one remaining tank. While the nominal full capacity of the tank is slightly in excess of the 7-day supply for a single fully loaded EDG, considerations of instrument uncertainty, unusable volume and operational flexibility for functional testing of the remaining EDGs precludes crediting the tank as a full 7-day supply.

The activity of draining one tank would necessarily render both EDGs in the single train drawing from the tank to be inspected or repaired INOPERABLE. This would trigger a 7-day TSAC to restore EDG operability.

The NUREG-1431 TS for fuel oil storage based on a 7-day supply has an associated TSAC of 48 hours. If this would be applied to PBNP, the allowable duration for a tank drain, inspect or repair, refill, and retest evolution would be limited to only 48 hours. This TSAC would not be sufficient to complete the process in a sufficiently safe and controlled manner.

The result would be that the two remaining otherwise OPERABLE EDGs would be declared INOPERABLE at the expiration of the 48-hour TSAC, and a dual unit reactor shutdown to MODE 5 would be required. This is not consistent with the intent of the 7-day TSAC for the loss of a single train of EDGs. The attendant increase in risk due to the dual unit shutdown is likely greater than the increase in risk represented by a less than 7-day available stored fuel inventory during the postulated fuel oil tank maintenance activity.

PBNP is not located in an area that is subject to wide scale infrastructure disruption such as earthquake or hurricane damage. The site can be accessed from multiple entry points rather

than a single access road, ensuring continued access for fuel delivery vehicles during or following postulated localized external events such as fire, tornado, etc., and fuel oil suppliers are available within a relatively short driving time to the site. This condition has not changed since the response to the AEC RAI transmitting Question 7.21 via letter dated November 7, 1969.

Based upon the above, NextEra concludes that requiring the maintenance of a 7-day fuel oil inventory as a TS would not be risk justified, and that an appropriate level of safety is already assured by the provisions of 10 CFR 50.65(a)(4) and by the Mitigating Systems Performance Indicators.

EEEB-2

Several tanks are credited for fuel oil storage requirements.

Please provide details on procedures used to verify the flow paths from each tank dedicated to the corresponding EDG for demonstration of storage capacity.

NextEra Response

Checklist CL 10D, Fuel Oil Systems, is used to initially establish and verify the alignment of the fuel oil flow paths from the EDG fuel oil storage tanks to their respective EDGs. This procedure contains an extended checklist of each valve, duplex strainer, power supply breaker, and control switch in the various fuel oil transfer and systems on site (including heating oil, gas turbine fuel oil, and emergency diesel fuel oil). The check list is organized by location, indicates the normal operating positions for the components, and provides a documented verification of the actual initial positions and any exceptions.

After completion of CL 10D, proper emergency diesel fuel oil supply alignment and functioning is verified by the performance of monthly fuel oil transfer testing as required by TS Surveillance Requirements (SR) 3.8.1.4 and SR 3.8.2.3.

If it is necessary to transfer fuel oil from one tank to another, Operating Instruction OI 145, Fuel Oil Transfer Between Storage Tanks, is used to transfer fuel oil between EDG storage tanks. The failure to previously demonstrate this license basis requirement was the subject of a non-cited violation and performance deficiency that was identified by the Commission during the 2008 Component Design Basis Inspection conducted at PBNP (Reference 3).

This issue was entered into the site's corrective action program. A test procedure was developed and a successful test was performed that demonstrated the ability to transfer fuel oil between the two tanks on September 11, 2008.

The ability to transfer fuel oil from tank to tank is demonstrated on a two-year frequency (±25%) using Operating Instruction OI-145, Fuel Oil Transfer Between Storage Tanks. This ensures that the valves in the flow path are capable of being repositioned from their normal alignments supplying the associated EDGs. The fuel oil transfer pumps are verified to function properly as an inherent part of their periodic TS required operation.

References

(1) NRC electronic mail to NextEra Energy Point Beach, LLC, dated August 2, 2010 (ML102170297).

(2) NextEra Energy Point Beach, LLC letter to NRC, dated January 27, 2010, License Amendment Request 264, Diesel Fuel Oil Storage Requirements (ML100280230).

(3) NRC Inspection reports 05000266/2008009 and 05000301/2008009 Component Design Bases Inspection dated September 8, 2010 (ML082520769).