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

October 24, 2016

Mr. Robert Coffey
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 - CORRECTION LETTER REGARDING SAFETY EVALUATION REGARDING IMPLEMENTATION OF MITIGATING STRATEGIES AND RELIABLE SPENT FUEL POOL INSTRUMENTATION RELATED TO ORDERS EA-12-049 AND EA-12-051 (CAC NOS. MF0725, MF0726, MF0729, AND MF0730)

Dear Mr. Coffey:

By letter dated September 23, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16241A000), the U.S. Nuclear Regulatory Commission (NRC) issued a safety evaluation to NextEra Energy Point Beach, LLC (NextEra, the licensee) regarding the Point Beach Nuclear Plant, Units 1 and 2 (Point Beach) implementation of Mitigating Strategies and Reliable Spent Fuel Pool Instrumentation related to Orders EA-12-049 and EA-12-051, respectively. The safety evaluation provides the results of the NRC staff's review of NextEra's strategies for Point Beach. In addition, the intent of the safety evaluation is to inform NextEra on whether or not its integrated plans, if implemented as described, appear to adequately address the requirements of Orders EA-12-049 and EA-12-051.

After issuance of the September 23, 2016, safety evaluation, the licensee notified the NRC staff of four administrative errors. Below is a summary of the errors and corrections. In addition, corrected pages of the safety evaluation are enclosed with the changes marked by change bars.

Page 43
Delete:

> Regarding the Phase 2 alternate 480 Vac electrical connections, the alternate FLEX DG location is outside the boiler room on the Northwest side of the plant. The alternate connection points for the FLEX 480 Vac DG is at safeguards motor control centers (MCCs) 1(2) B-32 and 1(2) B-42. These buses are located in the cable spreading room inside the control building.

Page 44
Replace:

Paragraph in Section 3.7.5, Access to Protected and Vital Areas.

With:

During the audit process, the licensee provided information describing that access to protected areas will not be hindered. The licensee has contingencies in place to provide access to areas required for the ELAP response if the normal access control systems are without power. Security and operations personnel have keys and the training necessary to open doors and gates during an ELAP event to allow access to implement the Point Beach FLEX strategies. Redundant keys are also available. Access to the owner controlled area, site protected area, and areas within the plant structures will be controlled by Security in accordance with the Security Plan.

Page 49
Replace:

Since the temperature in VSGR is expected to remain below 120°F, (the temperature limit, as identified in NUMARC-87-00, Revision 1, for electronic equipment to be able to survive indefinitely), the NRC staff concludes that the D07, D08, and D09 Inverters will not be adversely impacted due to a loss of ventilation as a result of an ELAP event.

With:

Since the temperature in VSGR is expected to remain below 120°F, (the temperature limit, as identified in NUMARC-87-00, Revision 1, for electronic equipment to be able to survive indefinitely), the NRC staff concludes that the D07, D08, and D09 battery chargers will not be adversely impacted due to a loss of ventilation as a result of an ELAP event.

Page 50
Replace:

Since the battery chargers and Inverters are capable of operating at an ambient temperature of 122°F. Since the expected peak temperature (117.8°F) in the inverter rooms remaining below 120°F (the temperature limit, as identified in NUMARC 87-00, Revision 1, for most of equipment to be able to survive indefinitely), the NRC staff concludes that the electrical equipment in the battery charger and inverter rooms 226 and 227 will not be adversely impacted by the loss of ventilation as a result of an ELAP event.

With:

Since the battery chargers and inverters are capable of operating at an ambient temperature of 122°F, the NRC staff concludes that the electrical equipment in the battery charger and inverter rooms 226 and 227 will not be adversely impacted by the loss of ventilation as a result of an ELAP event.

If you have any questions, please contact Jason Paige, Orders Management Branch, Point Beach Project Manager, at Jason.paige@nrc.gov.

Sincerely,

Mandy K Halter

Mandy Halter, Acting Chief
Orders Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket Nos.: 50-266 and 50-301

Enclosure:
Corrected Pages of the Safety
Evaluation

cc w/encl: Distribution via Listserv

The secondary connections for the battery chargers are at MCCs 1(2) B-39 and 1(2) B-49 which are located in the vital switchgear room which is part of the control building. Therefore, the connections are located in a seismic Category I structure and are missile protected. Licensee procedures FSG 5, "Initial Assessment and FLEX Equipment Staging," Revision 0, FSG 5.2, "FLEX Equipment Staging," Revision 0, and FSG 5.3, "FLEX Electrical Operation," Revision 0, provide guidance to the operators to stage, deploy, connect and operate Phase 2 FLEX equipment. FSG 5.3 also provides guidance on how to verify the Phase 2 PDG phase rotation and, if necessary, correct the rotation by swapping two wires at the breaker inserts.

The Phase 3 4160 Vac NSRC CTGs will be located near the G-03/G04 DG building on the north side of the plant at the 28 ft. elevation. Additionally, by restoring the Class 1E 4160 Vac bus, power can be restored to the Class 1E 480 Vac buses via the 4160/480 Vac transformers to power selected 480 Vac loads. The primary connection point for the FLEX 4160 Vac CTGs supplied by the NSRC is at the 1(2) A-06, 4160 Vac switchgear located in the G-03/G-04 building. Cables from the CTGs will be routed to the G-03/G-04 building and connected at 4160 Vac Bus 1A-06, Breakers 1A52-77, 1A52-80 or 1A52-86 and 2A-06, Breakers 2A52-90, 2A52-94 or 2A52- 95. This is a safety-related, seismic structure that provides missile protection for this connection. Licensee procedures FSG-5 and FSG-5.7, "FLEX NSRC Equipment Operation," Revision 0, provide guidance to the operators to stage, connect, and operate Phase 3 NSRC equipment. Step 1.4 of FSG 5.7 provides guidance on how to verify proper phase rotation of the NSRC CTG connections before switchgears are energized.

3.7.4 Accessibility and Lighting

In its FIP, the licensee stated that the potential impairments to required access are: 1) doors and gates, and 2) site debris blocking personnel or equipment access. The coping strategy to maintain site accessibility through doors and gates is applicable to all phases of the FLEX coping strategies, and is immediately required as part of the immediate activities required during Phase 1. Doors and gates serve a variety of barrier functions on the site. One primary function is security and is discussed below. However, other barrier functions include fire, flood, radiation, ventilation, tornado, and high energy line break. As barriers, these doors and gates are typically administratively controlled to maintain their function as barriers during normal operations.

The licensee noted that following a BDBEE and subsequent ELAP event, FLEX coping strategies require the routing of hoses and cables to be run through various barriers in order to connect BDB equipment to station fluid and electric systems or require the ability to provide ventilation. For this reason, certain barriers (gates and doors) will be opened and remain open. This deviation of normal administrative controls is acknowledged and is acceptable during the implementation of FLEX coping strategies. The ability to open doors for ingress and egress, ventilation, or temporary cables/hoses routing is necessary to implement the FLEX coping strategies.

In its FIP, the licensee described that hands free battery powered portable lights are available in the control room (CR) for performing manual actions and traversing areas of low lighting. Additional battery powered light stands are staged in the PAB, CSR and CR to support operator actions.

3.7.5 Access to Protected and Vital Areas

During the audit process, the licensee provided information describing that access to protected areas will not be hindered. The licensee has contingencies in place to provide access to areas required for the ELAP response if the normal access control systems are without power. Security and operations personnel have keys and the training necessary to open doors and gates during an ELAP event to allow access to implement the Point Beach FLEX strategies. Redundant keys are also available. Access to the owner controlled area, site protected area, and areas within the plant structures will be controlled by Security in accordance with the Security Plan.

3.7.6 Fueling of FLEX Equipment

In the Point Beach UFSAR, Section 8.8.3 states that there are two underground fuel oil storage tanks (FOSTs) each with a capacity of approximately 35,000 gallons. Furthermore, the UFSAR and the FIP indicate that the FOSTs are safety-related components located in the DG building on the 28 ft. elevation and meet Class I seismic criteria. In the FIP, Section 3.7.2.6 states that Technical Specification requirements ensure greater than 64,000 gallons of fuel oil is maintained in these two underground FOSTs and ensures that fuel oil quality in these tanks is provided by routine sampling and testing. By letter dated December 16, 2015, the licensee indicated in its "Order EA-12-049 Compliance Summary" that maintenance and testing will be conducted through the use of the Point Beach preventative maintenance program such that equipment reliability is maintained. During its audit, the staff noted in a sample set of FLEX preventative maintenance tasks that fluid analyses for portable FLEX equipment was included. Based on the design and location of these FOSTs and its safety-related classification, the staff concludes that the tanks are robust and the fuel oil contents should be available to support the licensee's FLEX strategies during an ELAP event. Furthermore, the NRC staff concludes that fuel oil quality is maintained in the FOSTs and portable FLEX equipment to ensure reliable equipment operation.

In the FIP, Section 3.7.2.6 states that the licensee's FLEX strategy includes a very limited number of small support engine powered equipment (chain saws, chop saws and small electrical generator units). This equipment is fueled and re-fueled using small portable containers of fuel located in the FSB or in designated FLEX storage locations in the plant (e.g., PAB). Based on the storage location of these fuel canisters, the staff concludes that the fuel contents are protected and should be available to power the small support engine-powered FLEX equipment during an ELAP event.

plant operators on monitoring control room. Based on temperatures remaining at or below 120°F (the temperature limit, as identified in NUMARC-87-00, "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors," Revision 1, for electronic equipment to be able to survive indefinitely), the NRC staff concludes that the equipment in the control room will not be adversely impacted due to a loss of ventilation as a result of an ELAP event.

Control Building Station Battery (D05, D06, D305) Rooms

In calculation 2005-0054, the licensee determined that the expected temperatures in the Class 1E station battery room (D305) should reach 120°F in 3.6 hours (D05 in 5.0 hours and D06 in 6.6 hours) with the doors closed. The licensee's strategy includes opening doors between the Class 1E station battery rooms, control building, and TB to reduce temperature. The licensee will also monitor battery room temperature to determine the need for temporary forced ventilation to maintain temperature below 120°F. In calculation 2005-0054, the licensee identified 120 °F as the battery room (D05, D06 and D305) design acceptance limit. The Point Beach Class 1E station batteries D05, D06, and D305 were manufactured by Exide Technologies. In calculation 2005-0054, the licensee noted a letter from Exide Technologies that stated that the Point Beach batteries will work properly up to 160°F with shortened battery life; however, periodic monitoring of electrolyte level may be necessary to protect the battery since the battery may gas more at higher temperatures. Licensee procedure FSG-4 provides guidance on monitoring battery room temperatures using installed room or pilot cell thermometers and establishing battery room ventilation, if needed. Based on the above, the NRC staff concludes that the batteries in the Class 1E Station Battery rooms will not be adversely impacted due to a loss of ventilation as a result of an ELAP event.

D07, D08, D09 Battery Chargers Located in the Vital Switchgear Room (VSGR) Area

In its HVAC summary, the licensee stated that GOTHIC Calculation 2005-0054 provides an analysis of the VSGR under the Appendix R scenario because heat loading under the Appendix R scenario is more conservative than an ELAP event. Section 9.1.4 of the calculation (2005-0054) indicated that under higher heat load condition during Appendix R scenario, temperature in VSGR reaches 104°F in 19 hours. In the HVAC summary, Revision 1 dated August 6, 2015, the licensee stated that 104°F is well below the maximum allowed temperature limit of 120°F applicable to the battery chargers. The licensee will monitor VSGR temperature to determine need for opening doors to ensure temperatures stay below 120°F for the battery chargers. Since the temperature in VSGR is expected to remain below 120°F, (the temperature limit, as identified in NUMARC-87-00, Revision 1, for electronic equipment to be able to survive indefinitely), the NRC staff concludes that the D07, D08, and D09 battery chargers will not be adversely impacted due to a loss of ventilation as a result of an ELAP event.

Inverters Located in the Cable Spreading Room

In Calculation 2005-0054, the licensee determined that the expected temperature in the Cable Spreading Room will reach 94.16°F in 2 hours during an ELAP and 120°F in approximately 4.7 hours. In its HVAC summary evaluation, "HVAC Summary During an Extended Loss of AC Power," Revision 1, the licensee stated that the Point Beach mitigation strategies includes opening doors prior to 4 hours into the event and monitoring temperature to determine the need

to deploy temporary forced ventilation to keep room temperature below 120°F. Licensee procedure FSG 5.6 provides guidance on monitoring the cable spreading room temperature. Based on the licensee's strategy to maintain the cable spreading room temperature at or below 120°F (the temperature limit, as identified in NUMARC-87-00 Revision 1, for electronic equipment to be able to survive indefinitely), the NRC staff concludes that the electrical equipment in the cable spreading room will not be adversely impacted by the loss of ventilation as a result of an ELAP event.

PAB Battery (D105 and D106) Rooms (225 and 228)

As stated in the licensee HVAC summary, revision 1, calculation 2013-0020 determined that the maximum (peak) temperature in the PAB battery rooms (225 and 228) is expected to reach 107.0°F at 16 hours and 108°F at 24 hours. The room temperature drops to 111.5°F in 5 hours and then expected to remain below 114°F after 24 hours. The PAB batteries (D105 and D106) were manufactured by C&D Technologies. The qualification testing performed by C&D Technologies demonstrated the ability to perform under elevated operating temperature environments. The testing results indicate that the battery cells will perform as required in excess of 200 days under an estimated 122°F; however, periodic monitoring of electrolyte level may be necessary to protect the battery since the battery may gas more at higher temperatures. The licensee's mitigation strategy includes monitoring room temperature, opening doors and providing forced ventilation using a portable fan. Procedure FSG 5.6 provides guidance to the operator to monitor temperature of PAB Battery Rooms 225 and 228 and establish ventilation such as opening doors or forced ventilation, if necessary. Based on the above, the NRC staff concludes that the equipment in the PAB battery rooms (225 and 228) will not be adversely affected due to a loss of ventilation during an ELAP.

PAB Battery Charger and Inverter Rooms 226 and 227

As stated in the licensee's HVAC summary, revision 1, calculation 2013-0020 determined that the maximum peak temperature in the PAB battery charger and inverter rooms (226 and 227) is expected to reach 122°F at 24 hours. As discussed in calculation N-94-064, the licensee reviewed the limiting component in the Inverter rooms 226 and 227 and determined that the battery chargers D-107, D108, D109, and yellow and white Inverters are the limiting components and are capable of operating in an ambient environment of 122°F. Procedure FSG 5.6 provides guidance to the operator to monitor temperature of PAB Rooms 226 and 227 and maintain room temperature below maximum temperature limit of 120°F by establishing ventilation such as door openings or portable forced ventilation if necessary. Since the battery chargers and inverters are capable of operating at an ambient temperature of 122°F, the NRC staff concludes that the electrical equipment in the battery charger and inverter rooms 226 and 227 will not be adversely impacted by the loss of ventilation as a result of an ELAP event.

PAB 1(2) B42 MCC Area

In Calculation 2013-0020, and in the licensee's evaluation, "HVAC Summary During an Extended Loss of AC Power," Revision 1, the licensee determined that the maximum expected

If you have any questions, please contact Jason Paige, Orders Management Branch, Point Beach Project Manager, at Jason.paige@nrc.gov.

Sincerely,

/RA/

Mandy Halter, Acting Chief
Orders Management Branch
Japan Lessons-Learned Division
Office of Nuclear Reactor Regulation

Docket Nos.: 50-266 and 50-301

Enclosure:
Corrected Pages of the Safety
Evaluation

cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC
JLD R/F
RidsNrrDorlLpl3-1 Resource
RidsNrrLASLent Resource
RidsRgn3MailCenter Resource
JPaige, NRR/JLD
RidsNrrPMPointBeach Resource
RidsAcrsAcnw_MailCTR Resource

ADAMS Accession No. ML16278A166 ***via email**

OFFICE	NRR/JLD/JOMB/PM	NRR/JLD/LA	NRR/JLD/JERB/BC	NRR/JLD/JERB/BC
NAME	JPaige	SLent	SBailey	MHalter*
DATE	10/24/16	10/17/16	10/18/16	10/24/16

OFFICIAL AGENCY RECORD