NEXTera ENERGY POINT BEACH

February 28, 2014

NRC 2014-0013
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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Point Beach Nuclear Plant, Units 1 and 2
Docket 50-266 and 50-301
Renewed License Nos. DPR-24 and DPR-27

NextEra Energy Point Beach, LLC's Second Six-Month Status Report in Response to March 12 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)

References:

1. NRC Order Number EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012 (ML12054A736)
2. NRC Interim Staff Guidance JLD-ISG-2012-01, Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, Revision 0, dated August 29, 2012 (ML12229A174)
3. Nuclear Energy Institute 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, Revision 0, dated August 2012 (ML12242A378)
4. NextEra Energy Point Beach, LLC's Initial Status Report in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated October 26, 2012 (ML12305A201)
5. NextEra Energy Point Beach, LLC's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049), dated February 22, 2013 (ML13053A401)
6. NRC letter to Next Era, Point Beach Plant, Unit 1 and 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC Nos. MF0725 and MF0726), dated January 27, 2014 (ML 13338A510)

On March 12, 2012, the Nuclear Regulatory Commission (NRC) issued an order (Reference 1) to NextEra Energy Point Beach, LLC (NextEra). Reference 1 was immediately effective and directs NextEra to develop, implement, and maintain guidance and strategies to maintain or restore core

cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Specific requirements are outlined in Attachment 2 of Reference 1.

Reference 1 required submission of an initial status report 60 days following issuance of the final interim staff guidance (Reference 2) and an overall integrated plan pursuant to Section IV, Condition C. Reference 2 endorses industry guidance document NEI 12-06, Revision 0 (Reference 3) with clarifications and exceptions identified in Reference 2. Reference 4 provided the NextEra initial status report regarding mitigation strategies. Reference 5 provided the NextEra overall integrated plan.

Reference 1 requires submission of a status report at six-month intervals following submittal of the overall integrated plan. Reference 3 provides direction regarding the content of the status reports. The purpose of this letter is to provide the second six-month status report pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1. The enclosed report provides an update of milestone accomplishments since the last status report, including any changes to the compliance method, schedule, or need for relief and the basis, if any. NextEra has also included additional information to status and/or address the Open Items and Confirmatory Items contained in the NRC Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Reference 6) dated January 27, 2014.

This letter contains no new regulatory commitments.

If you have any questions please contact Mr. Michael Millen, Licensing Manager, at 920/755-7845.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on February 28, 2014.

Very truly yours,

NextEra Energy Point Beach, LLC

Eric McCartney
Site Vice President

Enclosure

cc: Director, Office of Nuclear Reactor Regulation
Administrator, Region III, USNRC
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ENCLOSURE

NEXTERA ENERGY POINT BEACH, LLC
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

NEXTERA ENERGY POINT BEACH, LLC'S SECOND SIX MONTH STATUS REPORT FOR THE IMPLEMENTATION OF ORDER EA-12-049, ORDER MODIFYING LICENSES WITH REGARD TO REQUIREMENTS FOR MITIGATION STRATEGIES FOR BEYOND-DESIGN-BASIS EXTERNAL EVENTS

1 Introduction

NextEra Energy Point Beach, LLC (NextEra) developed an Overall Integrated Plan (Reference 1 in Section 9), documenting the diverse and flexible strategies (FLEX), in response to Reference 2. This attachment provides an update of milestone accomplishments since submittal of the Overall Integrated Plan, including any changes to the compliance method, schedule, or need for relief/relaxation and the basis, if any.

2 Milestone Accomplishments

The following milestone(s) have been completed since the development of the Overall Integrated Plan (Reference 1), and are current as of January 31, 2014.

- Initiate Engineering Changes for Modification Development

  Engineering changes (EC) have been initiated for all the FLEX modifications listed in NextEra's Overall Integrated Plan Response (Reference 1). A responsible owner has been assigned to each EC with a due date that supports NextEra's FLEX implementation schedule.

- Initiate Procurement of Remaining FLEX Equipment

  Purchase orders have been initiated for the portable equipment required by the NextEra Phase 2 strategies. This includes:

  - Three (3) Cat 3560 Pump and Kubota DH902 Diesel Engine portable diesel driven charging pumps with a capacity of 15 gpm @ 2300 psig,
  - Two (2) Godwin Model 3316 and Cat. Diesel C7portable diesel driven SG and SFP make up pumps with a nominal rating of 325 gpm @ 400 psig,
  - Two (2) Marathon Electric Model 433RSL4021 generator and Volvo-Penta Model TAD1353GE engine Portable diesel driven 480V generators with a standby rating of 404kW / 505 kVA,
  - Two (2) Godwin Model HL130M and Cat. Diesel C9 portable diesel driven high capacity containment and SFP spray pumps with a nominal rating of 1000 gpm @ 160 psig have been received.

3 Milestone Schedule Status

The following provides an update to Attachment 2 of the Overall Integrated Plan (Reference 1). It provides the activity status of each item, and whether the expected completion date has changed. The dates are planning dates subject to change as design and implementation details are developed.

The following are changes made during the First Six Month Update

The following milestone target completion dates were adjusted or added in the August 28, 2013 update:

- Complete Analyses Supporting FLEX Strategies with a target completion date of Aug 2013 has been adjusted to Nov 2013. The FLEX supporting analysis includes the following:

  1. A DC load management and battery life analysis,
  2. Containment environmental analysis assuming installation of the shutdown (low leakage) reactor coolant pump (RCP) seals for MODEs 1 through 4,
  3. Containment environmental analysis for MODEs 5 and 6 assuming decay heat removal by steaming to a closed containment,
  4. An analysis will be performed to demonstrate the adequacy of the primary auxiliary building (PAB) environment for equipment and personnel access during spent fuel pool (SFP) boiling,
  5. Formalize an evaluation that demonstrates adequate shutdown margin,
  6. PAB room heat up analysis to determine what additional time may be gained by opening area doors,
  7. Validate the adequacy of the existing B.5.b pumps for use during Phase 2 Core Cooling and Heat Removal,
  8. Performance of the pump and turbine at low steam generator (SG) pressures will be demonstrated by testing and/or analysis.

  BASIS: This milestone is for analyses supporting the FLEX strategies and does not include the analyses required to implement the FLEX identified modifications. Analyses required for the FLEX modifications are within the scope of the modification implementation milestones. Completion of the FLEX analyses has taken longer than anticipated because of the difficulties encountered in defining initial conditions, assumptions and acceptance criteria for the Beyond-Design-Basis External Events (BDBEEs). Several of the calculations also require specialty contractor assistance.

- Complete Final Time Constraint Validations with a target completion date of Apr 2014 has been adjusted to May 2014.

  BASIS: The time constraint validation will be performed in conjunction with the Phase II Staffing Assessment. The target completion date has been adjusted to coincide with the completion date for the Phase II Staffing Assessment milestone.

- Complete FLEX Support Guidelines (FSGs) with a target completion date of Dec 2013 has been modified as follows: Complete draft FLEX Support Guidelines for training with the same target completion date of Dec 2013.

BASIS: The FSGs will be drafted and used during the training cycle preceding FLEX implementation for Unit 1. This will allow feedback from the operating crews to be incorporated into the final version prior to being issued during the Unit 1FLEX implementing outage.

- Full Site FLEX Implementation with a target completion date of Oct 2015 has been added.
- Submit Completion Report with a target completion date of December 2015 has been added.
- A milestone to perform a Final Walkthrough Validation has been added to the milestone schedule. This activity will ensure that all FLEX response actions can be successfully performed. The Final Walkthrough Validation will be done by September 2014.

The following are changes made during the Second Six Month Update

On September 12, 2013 NextEra requested relaxation of the scheduler requirements of Order EA-12-049 for Unit 1 (Reference 3). NextEra received NRC relaxation of the scheduler requirements of Order EA-12-049 for Unit 1, ML13322B208 dated December 11, 2013 (Reference 4). ML13350A101 dated December 16, 2013 (Reference 5) corrected the docket number for Unit 1. The implementation date for Unit 1 is now the spring outage of 2016. The implementation date for Unit 2 remains the fall outage of 2015. This has impacted several milestone dates.

The following milestone target completion dates have been adjusted or added since the August 28, 2013 update:

- Complete Analyses Supporting FLEX Strategies target completion of November 2013 has been changed to Feb 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Final Time Constraint Validations target completion of April 2014 has been changed to September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete the Phase II Staffing Assessment target completion of May 2014 has been changed to May 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Final Walkthrough Validation target completion of September 2014 has been changed to September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Unit 1 & Common Non-Outage Modifications target completion of September 2014 has been changed to Complete Unit 2 & Common Non-Outage Modifications target completion of September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Unit 1 Implementation Outage target completion of October 2014 has been changed to April 2016 based on receipt of NRC Order 12-049 implementation relaxation.

- Complete Construction of the FLEX Storage Facility target completion of August 2014 has been changed to September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Receive Remaining FLEX Equipment target completion of March 2014 has been changed to March 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Regional Resource Center (RRC) Offsite Delivery Arrangements target completion of August 2014 has been changed to September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Revisions to Site Emergency Response Procedures target completion of March 2014 has been changed to September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete draft FLEX Support Guidelines for training target completion of December 2013 has been changed to December 2014 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Maintenance and Operations Procedures related to FLEX Equipment Storage, Maintenance, and Testing target completion of August 2014 has been changed to September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete FLEX Administrative Program Implementation (Unit 1) target completion of September 2014 has been changed to Complete FLEX Administrative Program Implementation (Unit 2) September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Revise FLEX Administrative Program for Unit 2 target completion of September 2015 has been changed to Revise FLEX Administrative Program for Unit 1 target completion of March 2016 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Training Development target completion of June 2014 has been changed to December 2014 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Applicable Training for Unit 1 and Common FLEX Strategy Implementation target completion of September 2014 has been changed to Complete Applicable Training for Unit 2 and Common FLEX Strategy Implementation target completion of September 2015 based on receipt of NRC Order 12-049 implementation relaxation.
- Complete Applicable Training for Unit 2 FLEX Strategy Implementation target completion of September 2015 has been changed to Complete Applicable Training for Unit1 FLEX Strategy Implementation target completion of March 2016 based on receipt of NRC Order 12-049 implementation relaxation.
- Unit 1 Implementation Completion target completion of October 2014 has been changed to April 2016 based on receipt of NRC Order 12-049 implementation relaxation.
- Full Site FLEX Implementation target completion of October 2015 has been changed to April 2016 based on receipt of NRC Order 12-049 implementation relaxation.

- Submit Completion Report target completion of December 2015 has been changed to July 2016 based on receipt of NRC Order 12-049 implementation relaxation.

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Submit 60 Day Status Report	Oct 2012	Complete	N/A
Submit Overall Integrated Plan	Feb 2013	Complete	N/A
Submit 6 Month Updates:			
Update 1	Aug 2013	Complete	N/A
Update 2	Feb 2014	Complete	N/A
Update 3	Aug 2014	Not Started	N/A
Update 4	Feb 2015	Not Started	N/A
Update 5	Aug 2015	Not Started	N/A
Validation:			
Complete Analyses Supporting FLEX Strategies	Nov 2013	Started	Feb 2015
Complete Final Time Constraint Validations	Apr 2014	Not Started	Sep 2015
Complete the Phase II Staffing Assessment	May 2014	Not Started	May 2015
Complete Final Walkthrough Validation	Sep 2014	Not Started	Sep 2015
Modifications:			
Initiate Engineering Changes for Modification Development	Mar 2013	Complete	N/A
Complete Unit 2 & Common Non-Outage Modifications	Sep 2014	Started	Sep 2015
Unit 1 Implementation Outage	Oct 2014	Not Started	Apr 2016
Complete Unit 2 Non-Outage Modifications	Sep 2015	Started	N/A
Unit 2 Implementation Outage	Oct 2015	Not Started	N/A
Storage:			

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Complete Construction of the FLEX Storage Facility	Aug 2014	Started	Sep 2015
FLEX Equipment:			
Initiate Procurement of Remaining FLEX Equipment	Aug 2013	Complete	N/A
Receive Remaining FLEX Equipment	Mar 2014	Started	Mar 2015
Complete Regional Resource Center (RRC) Offsite Delivery Arrangements	Aug 2014	Started	Sep 2015
Procedures:			
Complete Revisions to Site Emergency Response Procedures	Mar 2014	Started	Sep 2015
Complete draft FLEX Support Guidelines for training	Dec 2013	Started	Dec 2014
Complete Maintenance and Operations Procedures related to FLEX Equipment Storage, Maintenance, and Testing	Aug 2014	Not Started	Sep 2015
Complete FLEX Administrative Program Implementation (Unit 2)	Sep 2014	Started	Sep 2015
Revise FLEX Administrative Program for Unit 1	Sep 2015	Not Started	Mar 2016
Training:			
Complete Training Development	Jun 2014	Started	Dec 2014
Complete Applicable Training for Unit 2 and Common FLEX Strategy Implementation	Sep 2014	Not Started	Sep 2015
Complete Applicable Training for Unit 1 FLEX Strategy Implementation	Sep 2015	Not Started	Mar 2016
Implementation:			
Unit 1 Implementation Completion	Oct 2014	Not Started	Apr 2016

Milestone	Target Completion Date	Activity Status	Revised Target Completion Date
Unit 2 Implementation Completion	Oct 2015	Not Started	N/A
Full Site FLEX Implementation	Oct 2015	Not Started	Apr 2016
Submit Completion Report	Dec 2015	Not Started	Jul 2016

4 Changes to Compliance Method

NextEra Overall Integrated Plan submittal (Reference 1) described the Phase 2 480 VAC portable diesel generator connection points to be at busses 1B-03 and 2B-04. The current plans are to install the connection points on busses 1B-03 and 2B-03 because of easier installation access on bus 2B-03. Power to all four of the 480 VAC safeguards busses will be provided via use of the tie breaker between the B-03 and B-04 busses as originally described in the Overall Integrated Plan. This change will not affect the ability to power credited equipment during Phase 2.

The Overall Integrated Plan submittal (Reference 1) described an alternate flow path from the P-9 connection point to the SFP via the transfer canal drain piping. The description stated that the transfer canal doors would be over-topped if closed. The doors will not be overtopped as originally described. Flow from the transfer canal to the SFP will be provided via the fuel elevator hoist cable opening between the transfer canal and the SFP. This opening is approximately 3" x 12" cross section and is at a lower elevation than the top of the transfer canal doors.

An integral part of the Point Beach strategy for RCS inventory control was the installation of the RCP low leakage shutdown seals. With the failures of the Westinghouse seals to actuate when tested, NextEra has put a hold on the installation of the seals until the technical issues are resolved and tested. Alternatives are being evaluated which may require a change in the coping strategies contained in our integrated plan.

To meet the recommendation of WCAP-17601-P, the portable pump designated for SG injection, or SG FLEX pump, must be rated for a minimum flow rate of 300 gpm at a discharge pressure (of 300 psig) equal to the SG pressure in addition to any line losses associated with its connecting equipment. The NextEra OIP deviated from this recommendation and relied on the current B.5.b philosophy of blowing a SG dry to depressurize it and inject with the lower head B.5.b type pump. NextEra has decided to purchase higher pressure capacity portable diesel driven pumps for the backup strategy of injection directly into the SGs. NextEra is purchasing pumps with an approximate capacity of 325 gpm and 400 psig. A Godwin Model 3316, nominally rated at 325 gpm @ 400 psig, will be used to supply water to both unit SGs and can also be used to provide water for SFP makeup. Flow from this pump to the SGs will not be required until such time that the SG pressure has decreased to a value that would no longer support operation of the installed turbine driven auxiliary feedwater (TDAFW) pump. Two pumps are required to meet the N+1 requirement.

The B.5.b type pumps (Godwin Model HL130M) dedicated to FLEX, with a nominal rating of 1000 gpm @ 160 psig, will be included as FLEX Phase 2 portable equipment. They can be used for SFP spray or SFP makeup capability and containment spray. Two pumps are required to meet the N+1 requirement and they will be stored in the FLEX storage facility. Use of the pumps will be appropriately addressed in our FSGs.

The OIP stated that the performance criteria of the portable diesel driven charging pump would be 15 gpm @ 2500 psig. This criteria is being reassessed in consideration of the desire to maintain the physical size and weight of the equipment within manageable limits. Any change to this strategy will be described in the next six month update.

Some of the primary and secondary connection points depicted in the conceptual sketches contained in the OIP have changed during the design process to minimize physical changes and assure adequate flow capacity. The changes do not impact any of the strategies. The chosen connection points are within Class I structures or seismically robust structures and either the primary or secondary will be seismically qualified. Either the primary or secondary connections are protected from flooding. Routing of hoses and cables does require access through the turbine building, which is not a seismic Class I structure.

The primary and secondary connection points for FLEX equipment are identified in the response for Confirmatory Item Number 3.1.2.2.A and are located in either a Seismic Class I Structure or a seismically robust structure. Routes through the turbine buildings will be used to gain access to the PAB and the control building. Access routes to the Unit 1 and Unit 2 facades will be from the PAB. Access routes to the circulating water pump house and to the emergency diesel generator building will be through the turbine building, through an outside yard area and then into the circulating water pump house or the diesel generator building.

The PAB (except for upper steel structure), control building, circulating water pump house and diesel generator building are Seismic Class I Structures. Routing of hoses and cables does require access through the turbine building, facades and upper level of the PAB. These structures are not seismic Class I, but are considered seismically robust.

UFSAR section 10.2.5 states the following:

> Portions of the AFW system are located in the turbine building. The turbine building is not a seismic Class I structure but was seismically analyzed during original design and found capable of withstanding SSE loads (Reference 8).
>
> The façade structures were designed for loads which can reasonable expected to envelope the SSE load. The auxiliary building central superstructure was analyzed for seismic loads and found capable of withstanding an SSE. At least three sides of the PAB north/south wing superstructures have been analyzed for SSE or designed for loads which can be reasonably expected to envelope SSE loads (Reference 8).

The NextEra strategy is to use both loops to cooldown the plant provided both SGs are available. If for some reason only one SG is available for cooldown, the cooldown will be done using only one loop which is consistent with the current design and licensing basis response to station blackout (Reference 6). This analysis addressed the concern for a stagnant loop flow condition and, in accordance with Reference 7, calculated a maximum allowable cooldown rate

which will ensure flow stagnation will not occur. The purpose of preventing loop stagnation is to support boron mixing and RCP seal cooling. Point Beach is a two loop plant which requires a single loop (asymmetric) cooldown for several design basis accidents.

Point Beach is designed and licensed as a hot shutdown safe shutdown plant and relies on the SG safety valves for decay heat removal and RCS temperature control. The plant could remain in a hot shutdown condition until the atmospheric dump valves (ADVs) are repaired or an alternate steam release path can be established. Point Beach could remain in hot shutdown for several days (greater than a week). With the planned installation of low leakage shutdown RCP seals, RCS inventory is not a concern for several days and makeup from Lake Michigan to the SGs is considered as an inexhaustible supply.

Additional analysis is being pursued to demonstrate adequate RCS inventory control and core cooling and to determine if adequate boron mixing can be demonstrated during a single loop cooldown. With the planned installation of low leakage shutdown RCP seals an asymmetric cooldown does not challenge the seals.

NextEra intends to follow the PWROG August 15, 2013, position paper on boron mixing which was endorsed by the NRC on January 8, 2014 (Reference 9). NextEra has reviewed the Westinghouse position paper (LTR-FSE-13-46 Rev. 0 dated August 15, 2013) on boron mixing and we meet the assumptions contained in the conclusions of the position paper except for assumption 1 under certain conditions. The following describes how each of the assumptions are met:

1. The NextEra strategy is to use both loops to cooldown the plant provided both SGs are available. If for some reason only one SG is available for cooldown, the cooldown will be done using only one loop.
2. A portable diesel driven charging pump will be used to inject boric acid into the RCS prior to and during cooldown to maintain shutdown margin. Connection locations have been identified for both the normal charging path and the auxiliary charging path. This will allow injection into either RCS cold leg.
3. The NextEra strategy and timeline would complete boron injection to achieve cold shutdown within the 100 hour after shutdown time frame.
4. The shutdown margin and boron injection requirements are based on the limiting condition of zero RCS leakage and uniform mixing throughout the entire RCS volume.
5. The shutdown margin (SDM) calculation did consider both the xenon transient (time after shutdown) and plant cooldown. The 1 hour requirement prior to the need time will be incorporated into the applicable FSGs.

In a letter dated January 8, 2014 from the NRC to PWROG (Adams Accession No. ML13276A183), the NRC states that it has reviewed the information submitted to date and concluded that use of the industry approach dated August 15, 2013, entitled "Westinghouse Response to NRC Generic Request for Additional Information (RAI) on Boron Mixing in Support of the Pressurized Water Reactor Owners Group (PWROG)," ML13235A135, is acceptable with clarifications listed in the letter. NextEra will address the clarifications which are repeated below:

(1) The required timing for providing borated makeup to the primary system should consider conditions with no reactor coolant system leakage and with the highest applicable leakage rate for the reactor coolant pump seals and unidentified reactor coolant system leakage.

(2) For the condition associated with the highest applicable reactor coolant system leakage rate, two approaches have been identified, either of which is acceptable to the staff:

    a. Adequate borated makeup should be provided such that the loop flow rate in two-phase natural circulation does not decrease below the loop flow rate corresponding to single-phase natural circulation.

    b. If loop flow during two-phase natural circulation has decreased below the single-phase natural circulation flow rate, then the mixing of any borated primary makeup added to the reactor coolant system is not to be credited until one hour after the flow in all loops has been restored to a flow rate that is greater than or equal to the single-phase natural circulation flow rate.

(3) In all cases, credit for increases in the reactor coolant system boron concentration should be delayed to account for the mixing of the borated primary makeup with the reactor coolant system inventory. Provided that the flow in all loops is greater than or equal to the corresponding single-phase natural circulation flow rate, the staff considers a mixing delay period of one hour following the addition of the targeted quantity of boric acid to the reactor coolant system to be appropriate.

A SDM calculation has been performed to determine the required boron addition to maintain a SDM of 1% for various times after shutdown and various RCS temperatures (Reference 11). This calculation also evaluated the Xenon free condition. The results of this calculation were used in a second calculation (Reference 12) to develop the necessary requirements in FSG-8, Alternate RCS Boration, to assure adequate SDM is established before the temperature or time after shutdown is exceeded. The delay time required for adequate mixing will also be addressed.

Additional analysis is being pursued to determine if adequate boron mixing can be demonstrated during a single loop cooldown. This analysis would also verify single phase flow conditions that meet the NRC definition of single-phase / two-phase / reflux cooling consistent with the endorsed CENTS white paper related to percent voids and boron mixing. NextEra is pursuing the performance of this analysis through Westinghouse using the NOTRUMP code. This analysis is also expected to demonstrate the acceptability of the NextEra RCS and cooldown strategy.

NextEra will incorporate the supplemental guidance provided in the NEI position paper entitled "Shutdown / Refueling Modes" dated September 18, 2013, to enhance the shutdown risk process and procedures. The NRC endorsed the NEI position paper (ADAMS Accession No. ML13273A514) on September 30, 2013, in a letter from the NRC to NEI (ADAMS Accession No. ML13267A382).

5 Need for Relief/Relaxation and Basis for the Relief/Relaxation

NRC Order EA-12-049 (Reference 2) requires the development, implementation, and maintenance of guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities in the event of a beyond-design-basis external event. Per Order EA-12-049, Point Beach Nuclear Plant Unit 1 first refueling outage started March 18, 2013. Point Beach Nuclear Plant Unit 1 second refueling outage and full completion date is October 2014, which effectively reduces implementation to 18 months. As described in the Overall Integrated Plan for Point Beach Nuclear Plant, Units 1 and 2 (Reference 1), some of these mitigation strategies are complex and require an outage on both Units to implement because of the two unit design and common structures, systems, and components (SSCs), e.g., auxiliary feedwater unit cross connections. Modifications are being designed at risk based on mitigation strategies prior to receipt of a safety evaluation report (SER).

Thus, it is not reasonable to achieve full implementation of the mitigation strategies for Point Beach Nuclear Plant, Unit 1 in accordance with NRC Order EA-12-049 by the Order requirement date of no later than two (2) refueling cycles after submittal of the overall integrated plan, as required by Condition C.1.a or December 31, 2016, whichever comes first, since NRC issuance of an SER is essential to the full implementation of mitigation strategies required by NRC Order EA-12-049, as described above.

On September 12, 2013 NextEra formally requested relaxation of the scheduler requirements of Order EA-12-049 for Unit 1 (Reference 3).

NextEra received NRC relaxation of the scheduler requirements of Order EA-12-049 for Unit 1, ML13322B208 dated December 11, 2013 (Reference 4). ML13350A101 dated December 16, 2013, corrected the docket number for Unit 1. The implementation date for Unit 1 is now the spring outage of 2016. The Unit 2 implementation date remains the fall outage of 2015.

6 Pending Actions from Overall Integrated Plan and NRC Interim Staff Evaluation Open Items

The following tables provide a summary of the Pending Actions documented in the Overall Integrated Plan and Open Items from the NRC Interim Staff Evaluation (ISE) (Reference 13) and the status of each item. Section 8 contains information that supports closure of Confirmatory Items listed in the NRC ISE.

	Overall Integrated Plan Pending Actions	Status
1	A DC load management strategy will be developed. It will include a formal evaluation to verify available DC power time and validate the Time Constraints to initiate and complete load stripping activities. The battery load management strategy will include power to credited installed equipment (e.g., DC MOVs, SOVs, etc) and at least one channel of credited instrumentation during Phase 1. Time Constraint to have battery chargers energized and aligned prior to battery depletion will be validated.	In Progress
2	An evaluation will be performed to determine whether service water (SW) system return and non-seismic/missile protected portions of the SW system isolation will be required to ensure adequate flow to the suction of the TDAFW pump.	In Progress
3	Based on the results of the evaluation (Pending Action 2) required operator actions to isolate SW will be time validated.	Not Started
4	Formal MAAP or other comparable analysis and evaluations will be performed to demonstrate the adequacy of the mitigation strategies for core cooling in all plant operating MODES.	In Progress Additional analysis is being pursued to determine if adequate boron mixing can be demonstrated during a single loop cooldown. This analysis would also verify single phase flow conditions that meet the NRC definition of single phase / two phase / reflux cooling consistent with the endorsed CENTS white paper related to percent voids and boron mixing. NextEra is exploring the performance of this analysis through Westinghouse using the NOTRUMP code. This analysis is also expected to demonstrate the acceptability of the NextEra RCS and cooldown strategy.
5	A containment environmental analysis will be performed based on the use of low leakage RCP seals and the FLEX mitigation strategy.	In Progress

	Overall Integrated Plan Pending Actions	Status
6	An analysis will be performed to demonstrate the adequacy of the PAB environment for equipment and personnel access during SFP boiling. The requirements for opening doors to establish a vent path will be determined. Administrative guidance will be created based on this analysis.	In Progress
7	A SFP makeup water connection point will be added to the suction of P-9 pump. The P-9 pump and associated piping which is currently not seismic class I will be evaluated and upgraded as necessary to make it seismically robust.	In Progress
8	T-30, diesel fire pump fuel tank and related piping will be evaluated for seismic loading and upgraded as necessary.	In Progress
9	The need for additional lighting will be evaluated as FSGs are developed.	Not Started
10	The deployment of credited FLEX equipment to the designated primary and secondary connection points within the required time frame will be resource and time validated.	Not Started
11	The portable 480 VAC generator secondary connection points will be designated.	In Progress Unit 1 complete EC278727
12	Cable spreading room will reach 120°F at approximately 1 hour 16 minutes; the ability to meet the Time Constraint will be validated.	In Progress
13	An overall diesel refueling plan will be developed based on final FLEX diesel driven component fuel consumption requirements that specifies refueling frequency and time requirements. Time Constraint based on fuel oil consumption of diesel driven fire pump (DDFP) will be validated.	Not Started
14	Further evaluation will be required to address the need for extended operation at low SG pressures and low decay heat loads.	In Progress

	Overall Integrated Plan Pending Actions	Status
15	Time validation studies will be conducted to justify the Time Constraints and resources necessary for implementing the NextEra FLEX strategies. These will be performed in accordance with NextEra Operations Manual OM 4.3.8, "Control of Time Critical Operator Actions."	Not Started
16	NextEra will develop strategy implementing procedures and FLEX support guidelines including the following: • Provide guidance for manual actions to implement auxiliary feed water (AFW) steam and discharge line alignment • Provide guidance for operators to provide steam or AFW flow from opposite unit when required • Procedurally control maintaining one accumulator available in modes 5 and 6 with S/Gs unavailable.	In Progress
17	Systematic Approach to Training (SAT) will be used to evaluate training requirements for station personnel based upon changes to plant equipment, implementation of FLEX portable equipment, and new or revised procedures that result from implementation of the FLEX strategies.	In Progress
18	Seismically harden the Condensate Storage Tanks (CSTs) and missile protect the bottom 6 feet to provide additional coping time for aligning the DDFP to the SW System and the suction of the TDAFW pump.	In Progress

	Overall Integrated Plan Pending Actions	Status
19	Harden existing diesel driven fire pump to meet seismic requirements. Install a cross connect between fire water and the SW system to supply the TDAFW pump suction. The cross connect to SW will also have a connection point for a PDDP.	In Progress The connection point for the PDDP has been changed from the cross connection line to the use of one or multiple SW pump discharge check valve(s). The check valve cover will be removed and an adapter installed. The adapter will be prefabricated and stored with FLEX equipment. This connection is a backup to the DDFP or would be used during Phase 3 recovery. Use of the connection point will be appropriately addressed in the FSGs.
20	A compressed gas backup will be installed for the accumulator fill valves to allow the boric acid to be injected into the RCS in a controlled manner.	In Progress The compressed gas source will be from the accumulator nitrogen gas volume.
21	Cross connect piping will be installed between the Unit 1 and Unit 2 TDAFW pumps steam exhaust lines, steam supply lines and pump discharge lines.	In Progress
22	Connection points for a portable diesel pump will be added to the Residual Heat Removal (RHR) system for injecting into the RCS.	In Progress
23	Install low leakage RCP seals to decrease RCP seal leakage and increase the time to core uncovery.	With the failures of the Westinghouse seals to actuate when tested, NextEra has put a hold on the installation of the seals until the technical issues are resolved and tested. Alternatives are being evaluated which may require a change in the coping strategies contained in our integrated plan.
24	Flanged hose adapters will be fabricated to facilitate connection of the portable diesel driven charging pump (PDDCP) to the primary and secondary connection points without modification to permanent plant equipment. The hose adapters for each connection point will be pre-staged and stored with the skid pumps.	In Progress

	Overall Integrated Plan Pending Actions	Status
25	Install portable diesel generator (PDG) connection points at 1B-03 and 2B-03.	In Progress Connection location changed from 2B-04 to 2B-03 for ease of access.
26	Modifications to facilitate the connection of a PDG to the 1-A06 and 2-A06 4.16 kV switchgear will be performed.	Complete It has been determined that a field modification is not required to facilitate connection of the Phase 3 PDG. The connection method is described in EC278729 and EC278730.
27	The steam generator storage building (SGSB) will be analyzed for seismic and tornado loading to qualify it for FLEX purposes. The west wall of the SGSB will require additional evaluation and modification to ensure that it satisfies the FLEX requirements.	In Progress
28	Evaluate the technical support center (TSC) 18.5 foot level for adequacy of storing miscellaneous FLEX strategy equipment.	Complete The feasibility of the TSC surviving a seismic event or tornado missile is considered not reasonable and this option will no longer be pursued. Multiple storage locations will be considered.
29	Formalize an evaluation that demonstrates adequate shutdown margin can be maintained during cooldown without establishing letdown and injecting water from the RWST.	Complete Minimum boron requirement calculation prepared and approved (PBN-BFJF-13-098 Rev 1). Required RWST makeup volume calculation prepared and approved (2013-0016).
30	Required operator actions to cross connect the TDAFW discharge and steam supply lines will be time validated.	Not Started
31	Specific actions per AOP-30 "Temporary Ventilation for Vital Areas" will be developed to account for the loss of all AC. Additional analysis will be performed to determine what additional time may be gained by opening cabinets and area doors.	In Progress

	Overall Integrated Plan Pending Actions	Status
32	Validate the adequacy of the existing B.5.b pumps for use during Phase 2 Core Cooling and Heat Removal.	Complete To meet the recommendation of WCAP-17601-P, the portable pump designated for SG injection, or SG FLEX pump, must be rated for a minimum flow rate of 300 gpm at a discharge pressure (of 300 psig) equal to the SG pressure in addition to any line losses associated with its connecting equipment. The NextEra OIP deviated from this recommendation and relied on the current B.5.b philosophy of blowing an SG dry to depressurize it and inject with the lower head B.5.b type pump. Since NextEra has decided to purchase higher pressure capacity portable diesel driven pumps for the backup strategy of injection directly into the steam generators. NextEra is purchasing pumps with an approximate capacity of 325 gpm and 400 psig. Use of these pumps will be appropriately addressed in our FSGs.
33	Develop performance requirements for Phase 2 and 3 portable equipment following completion of required analyses and modification design efforts.	In Progress
34	The Phase 2 staffing study for FLEX will include an assessment of communications for FLEX activities.	A preliminary staffing assessment completed third quarter of 2013.
35	If the non-safety related batteries are required to be credited as part of the battery load management strategy, they will be evaluated and upgraded as necessary to make them seismically robust and tornado missile protected.	Complete The feasibility of the non-safety batteries being available as a backup to the safety related batteries is considered unlikely and this option will no longer be pursued.

	Overall Integrated Plan Pending Actions	Status
36	NextEra will implement a FLEX program stipulating the required administrative controls to be implemented. The program will include: • FLEX equipment procurement requirements • Plant configuration control procedures to assure plant physical changes will not adversely impact the approved FLEX strategies. • Complete Maintenance and Operations Procedures related to FLEX Equipment Storage, Maintenance, and Testing. • Deployment strategy administrative requirements that address all MODES of operation and requirements to keep routes and staging areas clear or invoke contingency actions.	In Progress

NRC Interim Staff Evaluation Open Item*	Status
3.2.1.1. - B The licensee needs to complete an acceptable analysis for the RCS inventory and core cooling strategy. The licensee has not finalized what thermal-hydraulic code and evaluation model will be used for the analysis.	In Progress NextEra is pursuing a plant specific ELAP analyses performed with the NOTRUMP computer code to support the mitigating strategy in its Overall Integrated Plan (OIP). The use of NOTRUMP will be limited to the thermal-hydraulic conditions before reflux condensation initiates. The initiation of reflux condensation cooling is defined when the one hour centered moving average (CMA) of the flow quality at the top of the SG U-tube bend exceeds 0.1 in any one loop. The analyses and evaluations supporting the OIP will be used to demonstrate that the FLEX RCS makeup pump is being implemented prior to the loop flow rate decreasing below the loop

	flow rate corresponding to the definition of the onset of reflux condensation.
3.2.1.2.C - The licensee needs to perform the RCS analysis and demonstrate the acceptability of the analytical modeling for the RCP seal leakage, including modeling the leak area, computing the leakage flow, two-phase leakage modeling, and the pressure dependence of the leak rate.	In Progress
3.2.1.8.A - Confirm resolution of the genic concern associated with the modeling of the timing and uniformity of the mixing of a liquid boric acid solution injected into the reactor coolant system under natural circulation conditions potentially involving two-phase flow.	In Progress The position paper has just recently been endorsed. NextEra will abide by the generic approach or provide the basis for any deviations. Additional analysis is being pursued to determine if adequate boron mixing can be demonstrated during a single loop cooldown. NextEra is exploring the performance of this analysis through Westinghouse using the NOTRUMP code. This analysis is also expected to demonstrate the acceptability of the NextEra RCS and cooldown strategy.

* Draft Safety Evaluation has not been received yet. NextEra did receive an Interim Staff Evaluation (Reference 13) and the Open Items from that evaluation are being tracked here.

7 Potential Draft Safety Evaluation Impacts

There are no potential impacts to the Draft Safety Evaluation identified at this time.

8 Interim Staff Evaluation Confirmatory Items (Reference 13)

Confirmatory Item 3.1.1.1.A:

Protection of FLEX Equipment – Confirmation of the final design and location of new structures or modification of existing structures for the storage and protection of FLEX equipment against all applicable external hazards is needed.

Response:

NextEra is upgrading the SG storage building for use as the primary FLEX equipment storage area. The building is a reinforced concrete structure that is being analyzed for seismic, wind, tornado and tornado missiles and flooding conditions. The building will be equipped with HVAC

units for internal environmental control. The design is being documented in EC279037 which can be made available for review.

Some equipment and material will be stored within existing plant structures like the Primary Auxiliary Building, Control Building and Turbine Hall. The locations will be environmentally controlled, seismically robust and protected from wind, tornado and tornado missiles and flooding conditions. The equipment will be secured to prevent seismic interaction.

Confirmatory Item 3.1.1.2.A:

The licensee should confirm that there is at least one connection point for FLEX equipment requiring access via routes only through seismically robust structures.

Response:

The primary and secondary connection points for FLEX equipment are identified in the response for Confirmatory Item Number 3.1.2.2.A and are located in either a Seismic Class I Structure or a seismically robust structure. Routes through the turbine buildings will be used to gain access to the PAB and the control building. Access routes to the Unit 1 and Unit 2 facades will be from the PAB. Access routes to the circulating water pump house and to the emergency diesel generator building will be through the turbine building, and outside yard area and then into the circulating water pump house or the diesel generator building.

The PAB (except for upper steel structure), control building, circulating water pump house and diesel generator building are Seismic Class I Structures. Routing of hoses and cables does require access through the turbine building, facades and upper level of the PAB these structures are not seismic Class I but are considered seismically robust.

UFSAR section 10.2.5 states the following:

> Portions of the AFW system are located in the turbine building. The turbine building is not a seismic Class I structure but was seismically analyzed during original design and found capable of withstanding SSE loads (Reference 8).
>
> The façade structures were designed for loads which can reasonable expected to envelope the SSE load. The auxiliary building central superstructure was analyzed for seismic loads and found capable of withstanding an SSE. At least three sides of the PAB north/south wing superstructures have been analyzed for SSE or designed for loads which can be reasonably expected to envelope SSE loads (Reference 8).

Confirmatory Item 3.1.1.3.A:

The licensee needs to provide guidance to operators for critical actions to perform until alternate indications can be connected and for controlling critical equipment without associated control power.

Response:

In Progress – This will be included in FSG-7 Loss of Vital Instrumentation or Control Power

Confirmatory Item 3.1.1.4.A:

Confirm the location of the receiving area for off-site resources, and identify the methods to be used to deliver equipment from the receiving area to the site staging area.

Response:

In Progress – This will be included in the SAFER Point beach specific response plan

Confirmatory Item 3.1.2.2.A:

Confirm that connection points for portable equipment are protected from flooding.

Response:

As demonstrated in the following table at least one the primary or secondary connections relied upon for implementing the FLEX strategies and described in the NextEra OIP or modified by subsequent six month status update reports is protected from flooding.

Connection description	Primary or Secondary	Connection location	Seismic protection	Flooding protection
Unit 1 480V connection to 1B-03 safeguards bus	Primary	Control building 26 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 480V connection to 2B-03 safeguards bus	Primary	Control building 26 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 480V 1B-32 safeguards MCC	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 480V 1B-42 safeguards MCC	Secondary	Primary Auxiliary Building 26 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 480V 2B-32 safeguards MCC	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 480V 2B-42 safeguards MCC	Secondary	Primary Auxiliary Building 26 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Battery charger connection points 480 VAC contactor panel 1B-39	Secondary	Control building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Battery charger connection points 480 VAC contactor panel 1B-49	Secondary	Control building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding

Connection description	Primary or Secondary	Connection location	Seismic protection	Flooding protection
Battery charger connection points 480 VAC contactor panel 2B-39	Secondary	Control building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Battery charger connection points 480 VAC contactor 2B-49	Secondary	Control building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 PDDCP discharge connection charging	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 PDDCP discharge connection	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 PDDCP suction connection to RWST	Primary	Unit 1 façade	Seismic robust structure	Access restricted by flooding
Unit 1 PDDCP suction connection to RWST/BAST	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 PDDCP discharge connection charging	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 PDDCP discharge connection	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 PDDCP suction connection to RWST	Primary	Unit 2 façade	Seismic robust structure	Access restricted by flooding
Unit 2 PDDCP suction connection to RWST/BAST	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 PDDP discharge connection to RHR	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding

Connection description	Primary or Secondary	Connection location	Seismic protection	Flooding protection
Unit 1 PDDP discharge connection to RHR	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 PDDP (RHR) suction connection to RWST	Primary	Unit 1 façade	Seismic robust structure	Access restricted by flooding
Unit 1 PDDP (RHR) suction connection to RWST/BAST	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 PDDP discharge connection to RHR	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 PDDP discharge connection to RHR	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 PDDP (RHR) suction connection to RWST	Primary	Unit 2 façade	Seismic robust structure	Access restricted by flooding
Unit 2 PDDP (RHR) suction connection to RWST/BAST	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
PDDP Unit 1 & 2 SG connection point	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
PDDP Unit 1 SG connection	Secondary	Unit 1 turbine hall 8 ft. elevation	Seismically robust	Access initially restricted by internal flooding
PDDP Unit 2 SG connection	Secondary	Unit 2 turbine hall 8 ft. elevation	Seismically robust	Access initially restricted by internal flooding
PDDP SG make up pump suction	Primary	Lake Michigan	NA	NA
PDDP SG make up pump suction	Secondary	Circulating water pump house	Seismic Class I structure	Protected from both external and internal flooding
PDDP SFP make up connection	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding

Connection description	Primary or Secondary	Connection location	Seismic protection	Flooding protection
PDDP SFP make up connection	Secondary	Hose into SFP at Primary Auxiliary Building 66 ft. elevation	Seismically robust	Protected from both external and internal flooding
PDDP SFP make up pump suction	Primary	Lake Michigan	NA	NA
PDDP SFP make up pump suction	Secondary	Circulating water pump house	Seismic Class I structure	Protected from both external and internal flooding
Unit 1 4160V connection to 1A-06 safeguards bus	Primary (Phase 3)	Emergency Diesel Generator Building 26 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding
Unit 2 4160V connection to 2A-06 safeguards bus	Primary (Phase 3)	Emergency Diesel Generator Building 26 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding

Confirmatory Item 3.1.3.2.A:

The licensee needs to identify debris removal equipment needed for Phase 2, following a high wind event. (The licensee plans to complete an assessment in the first quarter of 2014.)

Response:

In Progress – This will be included in in the NextEra debris removal assessment plan.

Confirmatory Item 3.1.4.2.A:

The licensee needs to identify the necessary equipment for the removal of snow and ice to ensure that FLEX equipment can be transported from storage to its location for deployment.

Response:

In Progress – This will be included in in the debris removal plan discussed above.

Confirmatory Item 3.2.1.A:

In light of the potential for consequential damage to ADVs, the licensee should complete the analysis of the ELAP scenario with an asymmetric cooldown and demonstrate acceptable results and/or otherwise demonstrate the acceptability of using a single-loop cooldown strategy for ELAP mitigation.

Response:

Additional analysis is being pursued to determine if adequate boron mixing can be demonstrated during a single loop cooldown. NextEra is exploring the performance of this analysis through Westinghouse using the NOTRUMP code. This analysis is also expected to demonstrate the acceptability of the NextEra RCS and cooldown strategy.

In a letter dated January 8, 2014 from the NRC to the PWROG (Adams Accession No. ML13276A183) (Reference 9), the NRC states that it has reviewed the information submitted to date and concluded that use of the industry approach dated August 15, 2013, entitled "Westinghouse Response to NRC Generic Request for Additional Information (RAI) on Boron Mixing in Support of the Pressurized Water Reactor Owners Group (PWROG)," ML13235A135, is acceptable with clarifications listed in the letter.

NextEra intends to follow the PWROG August 15, 2013 position paper on boron mixing. NextEra has reviewed the Westinghouse white paper (LTR-FSE-13-46 Rev. 0 dated August 15, 2013) on boron mixing. NextEra meets the assumptions contained in the conclusions to the white paper except for assumption 1 under certain conditions which require an asymmetric cooldown. NextEra will abide by the generic approach or provide the basis for any deviations. NextEra will also address the clarifications contained in the NRC endorsement letter.

Confirmatory Item 3.2.1.1.A:

Reliance on the NOTRUMP code (or other thermal-hydraulic code) for the ELAP analysis of Westinghouse plants is limited to the flow conditions before reflux condensation initiates. This includes specifying an acceptable definition for reflux condensation cooling. The licensee should confirm the applicability of this approach for PBNP.

Response:

NextEra is pursuing a plant specific ELAP analyses performed with the NOTRUMP computer code to support the mitigating strategy in its OIP. The use of NOTRUMP will be limited to the thermal-hydraulic conditions before reflux condensation initiates. The initiation of reflux condensation cooling is defined when the one hour centered moving average (CMA) of the flow quality at the top of the SG U-tube bend exceeds 0.1 in any one loop."

The analyses and evaluations supporting the OIP will be used to demonstrate that the FLEX RCS makeup pump is being implemented prior to the loop flow rate decreasing below the loop flow rate corresponding to the definition of the onset of reflux condensation.

Confirmatory Item 3.2.1.2.A:

Qualification testing should be completed demonstrating a maximum seal leakage rate no greater than 1 gpm/ pump for the SHIELD low-leakage seal design under ELAP conditions. This qualification and the resulting leakage rate should be shown applicable to the RCP design at PBNP. The information provided should address the impacts of the Westinghouse 10 CRF Part 21 report, "Notification of the Potential Existence of Defects Pursuant to 10 CFR Part 21," dated July 26, 2013 (ADAMS Accession No. ML 13211A168) on the use of the low seal leakage rate in the ELAP analysis.

Response:

In Progress – This will be included in the Westinghouse generic qualification for the use of the SHIELD low-leakage seal design under ELAP (FLEX) conditions.

Confirmatory Item 3.2.1.2.B:

RCP seals - If the seals are changed to the newly designed Generation 3 SHIELD seals, or non-Westinghouse seals, the acceptability of the use of the newly designed Generation 3

SHIELD seals, or non-Westinghouse seals should be addressed, and the RCP seal leakages rates for use in the ELAP analysis should be provided with acceptable justification.

Response:

In Progress – This will be included in the Westinghouse generic qualification for the use of the SHIELD low-leakage seal design under ELAP (FLEX) conditions.

Confirmatory Item 3.2.1.2.D:

The licensee needs to address whether the restoration of cooling to the SHIELD seals would be attempted and, if so, demonstrate that thermal shock from restoration of seal cooling would not adversely affect the RCP SHIELD seals planned for installation at Point Beach.

Response:

NextEra procedures ECA-0.0 Unit 1 (Unit 2), Loss of All AC, specifies the isolation of RCP seal cooling both charging and component cooling with no guidance for restoration of seal cooling. NextEra does not plan to change this philosophy.

Confirmatory Item 3.2.1.5A:

The licensee needs to complete the GOTHIC analysis to determine the containment conditions expected during an ELAP event with low leakage RCP seals.

Response:

In Progress – This is addressed by Calculation NAI 1761-004 – Containment Response to OIP Case with Cooldown Starting at 12 hours.

Confirmatory Item 3.2.1.6.A:

Confirm resolution of Integrated Plan statement that a CST volume is adequate to support decay heat removal for 1 hour 20 minutes and an audit response that states it is adequate for approximately 1.9 hours.

Response:

The intent of the statement in the OIP was to provide an estimated amount of time available to switch to an alternate AFW suction supply prior to depleting the CST protected volume, which is a strategy goal. The actual requirement is to establish the alternate supply prior to SG dryout. Initial flow rates are higher than decay heat requirements in order to recover SG level following a reactor trip and the associated shrink in SG level. Because flow rates are higher than decay heat requirements, the time to deplete the CST protected volume would be less than decay heat removal capability time of the CST protected volume. The 230 gpm value is the minimum flow rate required by ECA 0-0 Loss of All AC Power which would be the Emergency Operating Procedure in use for an ELAP event. Initial flow rate could be as high as 310 gpm at the Main Steam Safety Valve setpoint based on as left condition directed by IT 08A (09A) Cold Start of Turbine-Driven Auxiliary Feed Pump and Valve Test (Quarterly) Unit 1 (Unit 2). For the worst case condition where operator action is not taken to throttle back feed flow, the time to deplete the CST protected volume of 14,100 gallons would be about 45 minutes. A volume of 14,100 gallons provides one hour of decay heat removal capability (Westinghouse calculation CN-SEE-III-08-3, Reference 14). Per the generic analysis in WCAP 17601 P Table 5.4.1.1-1 the time to SG dryout increases from one hour to over two hours if feed flow is maintained for

the first hour without interruption. Thus the total estimated time to SG dryout would be between two and three hours.

The response to the audit question used a different approach and different assumptions to estimate the decay heat removal capability. This scenario assumed an initial interruption in feed flow and credited SG inventory and the CST protected volume for decay heat removal. This scenario is not consistent with the current strategy and the strategy presented in the OIP.

The time available to implement the actions necessary to establish an alternate AFW suction supply by establishing flow from the DDFP to the suction of the TDAFW pump will be documented in the FLEX implementing EC and in the Final Integrated Plan submittal. The current time estimate for aligning valves to establish flow from the DDFP to the suction of the TDAFW pump is approximately 30 minutes from the time the operators are instructed to make the alignment. Pending Action 15 will validate that the strategy to establish an alternate AFW suction supply by establishing flow from the DDFP to the suction of the TDAFW pump can be performed prior to SG dryout.

Confirmatory Item 3.2.1.6.B:

Confirm that the methodology in Attachment 1 of the PWROG Core Cooling Interim Position Paper was properly utilized to determine the 200 psig constraint for accumulator isolation.

Response:

The primary NextEra strategy is to isolate the accumulators before initiating a cooldown to eliminate any potential of injecting nitrogen into the RCS. Calculations are being done to establish setpoints related to the footnotes identified in the PWROG generic FLEX Support Guidelines. There are 10 generic footnotes identified which will impact ECA 0.0 as well as the new FLEX Support Guidelines. Specifically ERG footnote O.11 "Minimum SG pressure which prevents injection of accumulator nitrogen into the RCS, plus allowances for normal channel accuracy" is being incorporated. Point Beach procedures ECA-0.0 Unit 1(Unit 2) Loss of All AC currently has a caution to maintain SG pressure greater than 190 psig to prevent injection of accumulator nitrogen into the RCS. The procedure contains steps to maintain SG pressure at 290 psig.

Confirmatory Item 3.2.1.8.B:

The Licensee needs to complete the motive force calculation for the TDAFW pump and demonstration that it will be capable of performing its function at the point depressurization is terminated as identified in the integrated plan.

Response:

In Progress – This will be included in S&L calculation 2005-0021 Turbine Driven Auxiliary Feedwater Pump Motive Force revision to address replacement TDAFW turbine and pump in ECs 272527 and 272529 and installation of TDAFW pump discharge and steam supply cross-ties in ECs 278750 and 278751.

Confirmatory Item 3.2.1.9.A:

The Integrated Plan indicates use of additional B.5.b pumps as FLEX pumps; however it does not describe their capacity, qualification, protection, and deployment.

Response:

To meet the recommendation of WCAP-17601-P, the portable pump designated for SG injection, or SG FLEX pump, must be rated for a minimum flow rate of 300 gpm at a discharge pressure (of 300 psig) equal to the SG pressure in addition to any line losses associated with its connecting equipment. The NextEra OIP deviated from this recommendation and relied on the current B.5.b philosophy of blowing an SG dry to depressurize it and inject with the lower head B.5.b type pump. NextEra has decided to purchase higher pressure capacity portable diesel driven pumps for the backup strategy of injection directly into the steam generators. NextEra is purchasing pumps with an approximate capacity of 325 gpm and 400 psig. A Godwin Model 3316, nominally rated at 325 gpm @ 400 psig, will be used to supply water to both units SGs and can also be used to provide water for SFP makeup. Flow from this pump to the SGs will not be required until such time that the SG pressure has decreased to a value that would no longer support operation of the installed TDAFW pump. Two pumps are required to meet the N+1 requirement. The B.5.b type pumps (Godwin Model HL130M) dedicated to FLEX with a nominal rating of 1000 gpm @ 160 psig will still be included as FLEX Phase 2 portable equipment. They can be used for SFP spray or makeup capability and containment spray. Two pumps are required to meet the N+1 requirement and they will be stored in the FLEX storage facility. Use of the pumps will be appropriately addressed in our FSGs.

Confirmatory Item 3.2.1.9.B:

The licensee should verify that the final design of the portable diesel-driven charging pump to be used for RCS boron addition and makeup meets the performance criteria (flow rate, pressure, elevation) and that it is compatible with other FLEX equipment (hoses, fittings, etc.).

Response:

In Progress – Documentation of adequate capacity will be included in the Unit 1 and Unit 2 FLEX Implementation of NRC Order EA 12-049 ECs (279878 and 279879).

Confirmatory Item 3.2.2.A:

The licensee needs to complete analysis to demonstrate the adequacy of the PAB environment for equipment and personnel access with the SFP boiling.

Response:

In Progress – This will be included in Calculation 2013-0020, PAB Scenarios for Fukushima Coping.

Confirmatory Item 3.2.4.2.A:

The Integrated Plan does not address heatup under worst case conditions. The licensee needs to confirm temperatures in vital areas will be maintained below the design temperatures for installed and portable equipment relied upon in an ELAP/LUHS scenario, or alternatively, qualify electrical components for more severe temperatures.

Response:

In Progress – This will be included in Calculation 2013-0020, PAB Scenarios for Fukushima Coping.

Confirmatory Item 3.2.4.4.A:

The NRC staff has reviewed the licensee communications assessment (ADAMS Accession Nos. ML 12305A538 and ML 13053A400) and has determined that the assessment for communications is reasonable. Confirmation is required to demonstrate that upgrades to the site's communications systems have been completed.

Response:

In Progress – The action are being tracked via AR1745063, 50.54(F) Letter, 9.3 Emergency Preparedness.

Confirmatory Item 3.2.4.5.A:

The Integrated Plan does not identify whether personnel access may be adversely affected by the loss of the preferred or Class 1E power supplies in an ELAP. The licensee should identify whether access may be affected, and if so, identify any additional actions necessary to ensure that operators have access to areas where manual actions are specified in ELAP response procedures/guidance.

Response:

In Progress – This will be included in FSG-5 "Initial Assessment and FLEX Equipment Staging". How to access vital areas after they are secured following an ELAP will be described and necessary keys provided.

Confirmatory Item 3.2.4.6.A:

Confirm the revision or development of procedures regarding temporary ventilation for vital areas to address habitability and accessibility under ELAP conditions.

Response:

In Progress – This will be included in FSG-5 "Initial Assessment and FLEX Equipment Staging".

Confirmatory Item 3.2.4.6.B:

Confirm the development of FSGs to provide guidance to evaluate work area conditions and long term habitability, which specify actions required to address elevated temperatures and extreme cold air temperatures.

Response:

In Progress – This will be included in FSG-5 "Initial Assessment and FLEX Equipment Staging".

Confirmatory Item 3.2.4.6.C:

Confirm development of procedures and guidance to address human performance aids (installation sketches that include identification of connection points and the suggested layout of hoses, cables and portable equipment; additional equipment marking), to ensure successful completion of the FLEX strategies.

Response:

In Progress – The appropriate human performance aids will be included in multiple FSGs. The Phase II Staffing Assessment, training and validation walk downs will be used to help identify additional human performance aids.

Confirmatory Item 3.2.4.8.A:

Need to confirm that appropriately sized FLEX DGs are procured.

Response:

Contract 2322800 has been awarded for the procurement of two 404kW / 505 kVA (standby rating) portable diesel generators.

The identified Phase 2 minimum credited loads are:

D-107 or D-108 or D-109 Battery Charger 76 kW / 107 kVA

D-07 or D-08 or D-09 Battery Charger 58 kW / 77 kVA

Accumulator Isolation Valve (one valve at a time) 5.2 kW / 50 kVA

Total 139 kW / 234 kVA

Confirmatory Item 3.2.4.10.A:

The licensee needs to complete final load shedding evaluations on each of the four battery distribution systems.

Response:

Preliminary evaluations have been performed using ETAP Battery Discharge and Control System Diagrams (CSD) modules (URS, PB028-17-STUDY-002 and URS, PB028-17-STUDY-003). The ETAP Control System Diagram (CSD) module was utilized to establish the minimum voltage requirements for each credited piece of equipment to ensure the equipment remains above the equipment's minimum voltage ratings. The ETAP CSD module performs individual voltage drop analysis for each circuit (e.g. schematic). The Battery Discharge module is used to determine the voltages at the battery terminals, DC buses and at loads during the loading scenarios based on the load duty cycle on each respective battery. The voltage drop in the circuit is applied to the minimum operating voltage of the credited equipment to determine the required minimum bus/battery voltage. The preliminary evaluations have been performed for battery D-05 which is considered bounding for battery D-06, and battery D-105 which is considered bounding for battery D-106.

Contract 2322986 has been issued for the formal calculations.

NextEra confirms that the FLEX strategy station battery run-time will be calculated in accordance with the IEEE-485 methodology using manufacturer discharge test data applicable to the licensee's FLEX strategy as outlined in the NEI white paper on Extended Battery Duty Cycles (endorsed by NRC in a letter to the NEI dated September 30, 2013 ML 13267A382) (Reference 10). The detailed licensee calculations, supporting vendor discharge test data, FLEX strategy battery load profile, and other inputs/initial conditions required by IEEE-485 will be available on the licensee's web portal for documents and calculations. The time margin between the calculated station battery run-time for the FLEX strategy and the expected

deployment time for FLEX equipment to supply the dc loads is approximately 2 hours based on the preliminary evaluations performed to date.

Confirmatory Item 3.3.1.A:

The licensee has not determined the exact capacity of new FLEX equipment and thus does not know if it is capable of supplying one or two units. This information is required to determine if two or three of a particular item are required to meet the N+1 criteria of NEI 12-06.

Response:

The following portable equipment has been identified to meet the N+1 requirements to adequately implement the NextEra 2 strategies. Documentation of adequate capacity will be included in the Unit 1 and Unit 2 FLEX Implementation of NRC Order EA 12-049 ECs (279878 and 279879).

Description/Purpose	Model	Capacity	"N" Requirement	Quantity Ordered
Portable diesel driven charging pump	Cat 3560 Pump and Kubota DH902 Diesel Engine	15 gpm @ 2300 psig	1 per unit	3
Portable diesel driven high capacity containment and SFP spray	Godwin Model HL130M and Cat. Diesel C9	Nominal rating of 1000 gpm @ 160 psig	1 per site	2
Portable diesel driven SG and SFP make up	Godwin Model 3316 and Cat. Diesel C7	Nominal rating of 325 gpm @ 400 psig	1 per site	2
Portable diesel driven 480V generator	Marathon Electric Model 433RSL4021 generator and Volvo-Penta Model TAD1353GE engine	404kW / 505 kVA (standby rating)	1 per site	2

Confirmatory Item 3.4.A:

Offsite Resources - Confirm NEI 12-06 Section 12.2 Guidelines 2 through 10 are covered in the arrangements with SAFER for offsite resources.

Response:

In Progress – This will be included in the Point Beach specific SAFER response plan.

9 References

The following references support the updates to the Overall Integrated Plan described in this enclosure.

1. NextEra Energy Point Beach, LLC's Overall Integrated Plan in Response to March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (Order Number EA-12-049)," dated February 22, 2013 (ML13053A401)
2. NRC Order Number EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012 (ML12054A736)
3. NextEra Energy Point Beach, LLC's Request for Schedule Relaxation from NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" NRC 2013-0087 dated September 12, 2013
4. NRC letter to NextEra, Relaxation Of The Scheduler Requirements Of Order EA-12-049, dated December 11, 2013 (ML13322B208)
5. NRC letter to NextEra, Correction To Letter Granting Relaxation Of The Scheduler Requirements Of Order EA-12-049, dated December 16, 2013 (ML13350A101)
6. Calculation CN-NO-08-5, "Point Beach Units 1 and 2 Appendix R and Main Steam Line Break (MSLB) Cooldown Evaluations to RHR Cut-In Conditions for the 1800 MWt Uprating Revision 0"
7. WCAP-16632-P Inactive Loop Flow Stagnation During Natural Circulation Cooldown, Rev. 0 March 2007
8. Wisconsin Electric Letter to the NRC dated April 26, 1985. "Final Resolution of Generic Letter 81-14 Seismic Qualification of Auxiliary Feedwater System Point Beach Nuclear Plant, Units 1 and 2"
9. NRC letter to Jack Stringfellow (PWROG), dated January 8, 2014 (ML13276A183)
10. NRC letter to Joseph E. Pollock (NEI) dated September 30, 2013 (ML13267A382)
11. PBN-BFJF-13-098 Point Beach Extended Station Blackout Boron Requirements
12. Calculation 2013-0016 Calculation to Support FSG 8 Attachments
13. NRC letter to Next Era, Point Beach Plant, Unit 1 and 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) (TAC Nos. MF0725 and MF0726), dated January 27, 2014 (ML 13338A510)
14. Calculation CN-SEE-III-08-3, Point Beach 1 & 2 Minimum Condensate Storage Tank Volume for EPU Program