NEXTera ENERGY POINT BEACH

August 28, 2015

NRC 2015-0056
10 CFR 50.54(f)

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 Fifth 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 To Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events, dated March 12, 2012 (ML 12073A195)
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 (ML 12233A042)
3. NEI 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, Revision 0, dated August 2012 (ML 12221A205)
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. Point Beach Nuclear Plant, Unit 1 and 2 – Interim Staff Evaluation Relating to Overall Integrated Plan in Response to Order EA-12-049 (Mitigation Strategies) dated January 27, 2014 (TAC Nos. MF0725 and MF0726) (ML13338A510)
7. 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), dated February 28, 2014 (ML14062A073)
8. NextEra Energy Point Beach, LLC's Third 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), dated August 28, 2014 (ML14241A266)

9. NextEra Energy Point Beach, LLC's Fourth 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), dated February 24, 2014 (ML15050A487)

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 7, 8 and 9 provided the second, third and fourth six-month status reports, pursuant to Section IV, Condition C.2, of Reference 1, that delineates progress made in implementing the requirements of Reference 1.

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 fifth 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.

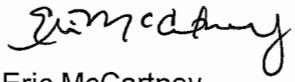
This letter contains no new regulatory commitments.

If you have any questions please contact Mr. Bryan Woyak, Licensing Manager, at (920) 755-7599.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 28, 2015.

Very truly yours,

NextEra Energy Point Beach, LLC



Eric McCartney
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Enclosure

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ENCLOSURE

NEXTERA ENERGY POINT BEACH, LLC

POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

NEXTERA ENERGY POINT BEACH, LLC'S FIFTH 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. Also provided is additional information to address Open and Confirmatory Items from the NRC Interim Staff Evaluation (ISE) (Reference 13).

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 July 31, 2015.

- Initiate Engineering Changes for Modification Development

  Engineering changes (EC) have been initiated for all the FLEX modifications listed in NextEra Energy Point Beach, LLC'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 Point Beach 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 @ 2000 psig. All three pumps are onsite.
  - Two (2) Godwin Model 3316 and Cat Diesel C7 portable diesel driven Steam Generator (DDSG) and Spent Fuel Pool (SFP) make up pumps with a nominal rating of 325 gpm @ 400 psig. Both pumps are onsite.
  - 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. Both portable generators are onsite.
  - 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. Both pumps are onsite.
  - Three (3) IPT Model 25FPBZR pumps and Hatz 1B50 diesel engine portable RCS injection pumps for Modes 5 and 6, rated at 80 gpm @ 85 psig. All three pumps are anticipated to be onsite by September 2015.

- Complete Analyses Supporting FLEX Strategies
    - The identified analyses required to support FLEX strategies have been completed.
- Complete the Phase 2 Staffing Assessment
    - The Point Beach Phase 2 staffing study has been completed and submitted to the NRC (reference 38).
- Complete Regional Resource Center (RRC) Offsite Delivery Arrangements
    - SAFER has completed the National SAFER Response Center (NSRC) Checklist to Declare Operational for Point Beach Nuclear Plant. The checklist, along with the completion of the audit process documented in NRC letter, Staff Assessment of National SAFER Response Centers established in Response to Order EA-12-049, to Mr. Joe Pollock, Vice President, Nuclear Operations, Nuclear Energy Institute, dated September 26, 2014, ADAMS Accession No. ML14265A107 (Reference 54), completes all SAFER activities required to declare the NSRCs operational for Point Beach Nuclear Plant.
- Complete draft FLEX Support Guidelines (FSG) for Training

  The following FSGs have been drafted for training:
    - FSG-0 FLEX Information and Reference Guide
    - FSG-1 Long Term RCS Inventory Control (U1/U2)
    - FSG-2 Alternate AFW Suction Source (Common)
    - FSG-3 Alternate Low Pressure Feedwater (U1/U2)
    - FSG-4 ELAP DC Bus Load Shed/Management (Common)
    - FSG-5 Initial Assessment and FLEX Equipment Staging (Common)
    - FSG-6 Alternate CST Makeup (Common)
    - FSG-7 Loss of Vital Instrumentation or Control Power (U1/U2)
    - FSG-8 Alternate RCS Boration (U1/U2)
    - FSG-9 Low Decay Heat Temperature Control (U1/U2)
    - FSG-10 Passive RCS Injection Isolation (U1/U2)
    - FSG-11 Alternate SFP Makeup and Cooling (Common)
    - FSG-12 Alternate Containment Cooling (Shutdown Only)
    - FSG-13 Transition from FLEX Equipment (U1/U2)
    - FSG-14 Shutdown RCS Makeup (U1/U2)
    - FSG-15 Turbine Driven AFW Pump Cross Tie (U1/U2)
- Complete Training Development
    - Training development has been completed and training is in progress.

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 August 2013 has been adjusted to November 2013. The FLEX supporting analysis includes the following:

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

  BASIS: This milestone is for analysis supporting the FLEX strategies and does not include the analysis required to implement the FLEX identified modifications. Analysis required for the FLEX modifications is within the scope of the modification implementation milestones. Completion of the FLEX analysis 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 April 2014 has been adjusted to May 2014.

  BASIS: The time constraint validation will be performed in conjunction with the Phase 2 Staffing Assessment. The target completion date has been adjusted to coincide with the completion date for the Phase 2 Staffing Assessment milestone.

- Complete FLEX Support Guidelines (FSGs) with a target completion date of December 2013 has been modified as follows; Complete draft FLEX Support Guidelines for training with the same target completion date of December 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 October 2015 has been added.

- Submit Completion Report with a target completion date of December 2015 has been added.

- An activity 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 Point Beach requested relaxation of the scheduler requirements of Order EA-12-049 for Unit 1 (Reference 3). Point Beach received NRC relaxation of the scheduler requirements of Order EA-12-049 for Unit 1, dated December 11, 2013 (ML13322B208) (Reference 4). NRC letter dated December 16, 2013 (ML13350A101) (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 were adjusted or added in the February 28, 2014 update:

- Complete Analyses Supporting FLEX Strategies target completion of November 2013 has been changed to February 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 2 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.

No Milestone date changes were made during the Third Six Month Update

The following are changes made during the Fourth Six Month Update

- Complete draft FLEX Support Guidelines for training target completion of December 2014 has been changed to March 2015 to match the Operations training schedule. FLEX training is now scheduled for the second cycle training starting in March 2015.
- Complete Training Development target completion of December 2014 has been changed to March 2015 to match the Operations training schedule. FLEX training is now scheduled for the second cycle training starting in March 2015.

The following are changes made during the Fifth Six Month Update

- Receive Remaining FLEX Equipment target completion of March 2015 has been changed to September 2015. Instead of using the larger high pressure and low pressure portable diesel driven pumps, smaller portable diesel driven Mode 5/6 RCS injection pumps are being procured for ease of movement and staging.
- Revise FLEX Administrative Program for Unit 1 target completion of March 2016 has been changed to October 2015. Point Beach anticipates implementing FLEX for both units following the Unit 2 fall 2015 outage.
- Complete Applicable Training for Unit 1 FLEX Strategy Implementation target completion of March 2016 has been changed to October 2015. Point Beach anticipates implementing FLEX for both units following the Unit 2 fall 2015 outage.
- Full Site FLEX Implementation target completion of April 2016 has been changed to October 2015. Point Beach anticipates implementing FLEX for both units following the Unit 2 fall 2015 outage.
- Submit Completion Report target completion of July 2016 has been changed to January 2016. Point Beach anticipates implementing FLEX for both units following the Unit 2 fall 2015 outage.

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	Complete	N/A
Update 4	Feb 2015	Complete	N/A
Update 5	Aug 2015	Complete	N/A
Update 6	Feb 2016	Not Started	N/A
Validation:			
Complete Analyses Supporting FLEX Strategies	Nov 2013	Complete	Feb 2015
Complete Final Time Constraint Validations	Apr 2014	Started	Sep 2015
Complete the Phase 2 Staffing Assessment	May 2014	Complete	May 2015
Complete Final Walkthrough Validation	Sept 2014	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:			
Complete Construction of the FLEX Storage Facility	Aug 2014	Started	Sep 2015

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

* Point Beach anticipates implementing FLEX for both units following the Unit 2 fall 2015 outage.

4 Changes to Compliance Method

NextEra Energy Point Beach, LLC Overall Integrated Plan (OIP) submittal (Reference 1) described the Phase 2 480 VAC portable diesel generator connection points to be at buses 1B-03 and 2B-04. The current plans are to install the connection points on buses 1B-03 and 2B-03 because of easier installation access on bus 2B-03. Power to all four of the 480 VAC safeguards buses will be provided via use of the tie breaker between the B-03 and B-04 buses 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 CVCS holdup tank recirculation pump 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 is the installation of the Reactor Coolant Pump low leakage shutdown seals. Point Beach is installing the Westinghouse SHIELD® Passive Shutdown Seal Gen III. The use of the Westinghouse SHIELD® Passive Shutdown Seal for FLEX strategies has been endorsed by the NRC; ML14132A128 dated May 28, 2014 (Reference 14). The limitations and conditions stipulated in the NRC endorsement letter are addressed in the Engineering Change package.

To meet the recommendation of WCAP-17601-P, the portable pump designated for Steam Generator 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 Steam Generator pressure in addition to any line losses associated with its connecting equipment. The Original Point Beach 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. Subsequently, Point Beach purchased higher pressure capacity portable diesel driven pumps for the backup strategy of injection directly into the steam generators. A Godwin Model 3316 pump, 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 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 still 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 is addressed in the FSGs.

The OIP stated that the performance criteria of the portable diesel driven charging pump would be 15 gpm @ 2500 psig. This was reassessed in consideration of the desire to maintain the

physical size and weight of the equipment within manageable limits. Actual pump performance is 15 gpm at approximately 2000 psig. Acceptability will be documented in the FLEX Implementation Engineering Change. The pumps have been tested to show they are capable of discharge pressures up to 2500 psig.

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 connection point is seismically qualified (or will be). 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 to Confirmatory Item Number 3.1.2.2.A and are located in either a Seismic Class I Structure or a Seismic robust structure. Routes through the Turbine Building will be used to gain access to the primary auxiliary building and the control building. Access routes to the Unit 1 and Unit 2 facades will be from the Primary Auxiliary Building (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 Primary Auxiliary Building (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 Primary Auxiliary Building. These structures are not seismic Class I but are considered seismically robust.

UFSAR section 10.2.5 states the following:

> *Portions of the AFW [auxiliary feedwater] 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.*
>
> *The Façade structures were designed for loads which can be reasonably 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.*

The Point Beach strategy is to use both loops to cooldown the plant, provided both SGs are available.

In the event 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 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 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 has been performed to determine if adequate boron mixing can be demonstrated during a single loop cooldown based on the calculated RCS conditions and loop flows during the periods of single phase and two phase cooling, prior to the initiation of reflux cooling. Point Beach contracted Westinghouse to perform this analysis using the NOTRUMP code. Boric acid injection prior to commencing a cooldown will be performed unless both SG ADVs are available for a symmetrical cooldown. Westinghouse completed an analysis that modeled the extended loss of alternating current power (ELAP) scenario with an asymmetric cooldown (Reference 27). The analysis demonstrated that this strategy is acceptable with no credit taken for boron mixing during asymmetric cooldown. After boron injection, a hold period of one hour with flow in both reactor coolant system loops equivalent to that associated with single phase natural circulation flow is allowed for complete boron mixing in the RCS prior to initiation of an asymmetric cooldown. Point Beach intends to follow the Pressurized Water Reactor Owners Group (PWROG) August 15, 2013, position paper on boron mixing which was endorsed by the NRC on January 8, 2014 (Reference 9). Point Beach has reviewed the Westinghouse position paper (LTR-FSE-13-46, Rev. 0, dated August 15, 2013) on boron mixing and determined that Point Beach meets the assumptions contained in the conclusions of the position paper except for assumption 1, under certain conditions. The following describes how each assumption is met:

1. The Point Beach strategy is to use both loops to cooldown the plant provided both steam generators are available. If for some reason only one SG is available for cooldown the cooldown will be done using only one loop. For this condition boric acid injection will be performed prior to commencing a cooldown.
2. A portable diesel driven charging pump will be used to inject boric acid into the RCS prior to and/or 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 Point Beach strategy and timeline will complete boron injection to achieve cold shutdown within the 100 hours 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 calculation did consider both the xenon transient (time after shutdown) and plant cooldown. The one hour requirement prior to the need time has been incorporated into the applicable FSGs.

In a letter dated January 8, 2014, from Jack Davis (NRC) to Jack Stringfellow (PWROG) (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) (Reference 15), is acceptable with clarifications listed in the letter. Point Beach has 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 shutdown margin (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). It 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.

Analyses (References 26 and 27) were performed to adequately justify the boron mixing concern. These analyses incorporated a delay period of one hour after boron injection was completed with flow in both reactor coolant system (RCS) loops equivalent to that associated with single phase natural circulation flow for complete boron mixing (per Reference 9). These analyses demonstrate that the current proposed diverse and flexible coping strategies (FLEX) for Point Beach Units 1 and 2 (with low leakage reactor coolant pump seals installed) results in the completion of boration evolutions prior to loss of RCS sub-cooling. There is no breakdown in single phase natural circulation cooling and the RCS does not enter a reflux cooling period.

Point Beach 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 (ML13273A514) on

September 30, 2013, in a letter from Jack R. Davis to Joseph E. Pollock (ML13267A382) (Reference 10).

The Point Beach OIP made the following statement:

> *"The capability will exist to refuel required permanently installed and portable FLEX equipment within 12 hours (the DDFP [diesel driven fire pump] is the first major diesel requiring refueling) following an event. This will be accomplished with the use of an approximately 500 gallon fuel tank trailer capable of being towed by a FLEX dedicated truck. The trailer/truck combination will have the capability to draw fuel oil from robust on-site fuel oil tanks. The FLEX dedicated trucks will also have a 50 gallon fuel oil storage tank dedicated for refueling the smaller diesel generators associated with supporting miscellaneous loads (fans, battery chargers, etc.)."*

The Point Beach revised strategy has eliminated the 50 gallon fuel oil storage tanks on the FLEX dedicated trucks to make room for hoses and cables to minimize the number of trips required for deploying Phase 2 equipment. The 500 gallon fuel tank trailer will be the primary source for refueling. Hand carried fuel cans will be available for dispensing fuel to smaller equipment.

The replacement DDFP and fuel tank have a capacity of greater than 20 hours and is no longer the limiting component. The portable diesel generator (PDG) will be the first piece of equipment that requires refueling. The time required for refueling the PDG will be greater than 12 hours following the event.

The original primary Point Beach strategy was to isolate the accumulators before initiating a cooldown to eliminate any potential to inject nitrogen into the RCS. The strategy has been altered to maintain the accumulators available during the cooldown for RCS makeup if required consistent with PWROG guidance. Point Beach will not initiate a cooldown until RCS makeup via the portable diesel charging pump is available and the means for isolating the accumulators (portable diesel generator) has been established. Calculations have been performed following the PWROG Core Cooling Interim Position Paper to establish Setpoints related to the footnotes identified in the PWROG generic FLEX Support Guidelines. The applicable setpoints per calculation 2010-0020 (Reference 22) are H.7, H.8 and H.15. Their setpoints are 280 psig, 380 psig and 320 psig, respectively. ECA-0.0 Unit 1 (Unit 2) is being revised.

Point Beach has updated the Sequence of Events Timeline following the completion of the Phase 2 Staffing Study and the development of the Verification and Validation Plan. The current Sequence of Events Timeline for Point Beach is as follows:

Action Item	Elapsed Time (Hrs)	Action	Time Constraint Y/N	Action Item
	0	**Event Starts**	**NA**	Plant @100% power
1	0+	Automatic Reactor/Turbine Trip for both units.	**N**	Loss of all AC will result in an automatic trip.
2	0+	Turbine Driven Auxiliary Feed Water Pump starts automatically and feeds the Steam Generators.	**N**	Automatic start is generated by an undervoltage on A01 and A02.
3	0+	Diesel Fire Pump automatically starts on a loss of AC power.	**N**	
4	<0.1	Operators perform immediate actions of EOP-0 (Verify Reactor Trip, Verify Turbine Trip and Checking at least 1 Safeguards Bus Energized) and then transition to ECA 0.0, "Loss of all AC Power." ECA-0.0 may be entered directly based on indication. ECA-0.0 contains immediate action steps to Verify Reactor Trip and Verify Turbine Trip.	**N**	EOP-0 contains steps to fast start and load the DGs from the control room.
5	<0.1	RCS inventory loss is minimized by ensuring the major RCS outflow lines that could contribute to rapid depletion of RCS inventory are isolated.	**N**	This is performed in ECA-0.0, Step 4.
6	<0.1	The TDAFW pump is checked at Step 5 of ECA-0.0. Flow is verified at greater than 230 gpm.	**N**	The actual flow at this step is approximately 300 gpm per unit.

Action Item	Elapsed Time (Hrs)	Action	Time Constraint Y/N	Action Item
7	0.25	Based on Foldout page criteria in ECA-0.0, when CST level decreases to 4 feet (Low-Low Level alarm received in the control room), Operators are directed to shift to alternate AFW suction source per AOP-23, "Establishing Alternate AFW Suction Supply." Reaching the 4 foot level in the CSTs in 0.25 hours is assuming a missile impacts the CSTs and drains them to the 6 foot level at T=0.	**N**	Foldout page criteria are applicable after immediate actions. AOP-23 would be implemented if an ELAP has not been declared.
8	0.25	Based on Foldout page criteria in ECA-0.0, when CST level decreases to 4 feet (Low-Low Level alarm received in the control room) and an ELAP is in progress, the operators are directed to perform FSG-2, "Alternate AFW Suction Source." Reaching the 4 foot level in the CSTs in 0.25 hours is assuming a missile impacts the CSTs and drains them to the 6 foot level at T=0.	**N**	FSG-2 will be part of time validation for providing AFW flow to the Steam Generators.
9	<0.5	Operators determine they are not able to restore AC power from the control room per ECA-0.0.	**N**	
10	0.5	Shift Manager determines that an ELAP condition exists per ECA-0.0.	**Y** **Level A**	Time constraint to start DC load management and start bringing in portable equipment.
11	0.5	CST level is less than 15.75 feet and FSG-6 is entered based on foldout page criteria from ECA-0.0.	**N**	This assumes that the CST level is slightly greater than the Low Level alarm just prior to the event.
12	1	Start reducing DC loads per FSG-4.	**N**	
13	1	Vent hydrogen from the main generators per FSG-4.	**N**	Allows stripping of DC Seal Oil Pump.
14	1	Initiate deployment of debris removal equipment per FSG-5.	**N**	

Action Item	Elapsed Time (Hrs)	Action	Time Constraint Y/N	Action Item
15	1.75	Establishment of Service water flow to the Turbine Driven Auxiliary Feedwater Pump via the Diesel Driven Fire Pump per FSG-2 prior to steam generator dry out	**Y** **Level A**	Based on 6 feet of usable volume in the CSTs. Initial AFW flow is 300 gpm per unit and when FSG-2 is entered, AFW flow is reduced to 100 gpm per unit.
16	2	Complete load stripping to conserve battery life per FSG-4. (Includes opening doors for AFW Pump room and battery room ventilation and temperature control.)	**Y** **Level A**	Time constraint to maintain battery supply to critical instruments.
17	3	Initiate deployment of portable charging pumps for RCS makeup and boration per FSG-5.	**N**	
18	4	Initiate deployment of 480V diesel generator per FSG-5.	**N**	This will be a sub-task in support of energizing the battery chargers.
19	4	Deploy PDSG pump and route hose for backup Steam Generator makeup and SFP makeup at CVCS holdup tank recirculation pump (P-9) connection per FSG-5.	**N**	
20	7	Energize 480V safeguards buses per FSG-5.	**N**	This will be a sub-task in support of energizing the battery chargers.
21	8	Initiate deployment of fuel oil refueling trailer per FSG-5.	**N**	This will be guided by the FSG.

Action Item	Elapsed Time (Hrs)	Action	Time Constraint Y/N	Action Item
22	8	Complete deployment of portable charging pumps per FSG-5.	N	Portable charging pumps are required to support cooldown for RCS inventory makeup. The reactor will not require boration to maintain shutdown margin until after Xe decays to less than full power equilibrium values.
23	8	Energize the required station battery chargers and align to the batteries per FSG-4.	**Y** **Level A** **Actions to complete this will start prior to 6 hours**	Time constraint to have battery chargers energized and aligned prior to battery depletion.
24	8	Initiate RCS boration if both steam generators are not available for a RCS cool down per FSG-8.	**N**	Cooldown would have to be delayed until boric acid is injected and 1 additional hour allowed for mixing.
25	9	Install nozzles and route hoses from SFP refueling deck to the 8 foot elevation of the PAB per FSG-5. Open doors on the 66 ft elevation of the PAB to establish ventilation flow path in anticipation of SFP boiling per FSG-5.	**Y** **Level B**	Time constraint to have completed prior to SFP reaching 200°F.
26	9	Monitor vital area room temperatures - Computer Room, Cable Spreading Room, Vital Switchgear Room, Control Room, AFW room, and PAB White and Yellow inverter rooms, and open doors as necessary per FSG-4 and FSG-5.	**N**	
27	10	Spent Fuel Pool boils assuming full core offload (Reactor Operating Data, ROD 1.4).	**N**	Spent Fuel Pool temperature is monitored per ECA-0.0

Action Item	Elapsed Time (Hrs)	Action	Time Constraint Y/N	Action Item
28	12	Refuel Diesel Driven 480V generator, communications generator and commence refueling schedule for all portable equipment per FSG-5.	**Y** **Level B**	Time constraint based on fuel oil consumption of Diesel Driven 480V generator and the 6kW generator for communications.
29	12	Commence RCS cooldown to desired temperature and pressure per ECA-0.0. Initiating a cooldown at 12 hours assumes both Steam Generators are available for a symmetric cooldown of the Reactor Coolant System.	**N**	Not a time constraint based on installation of low leakage Reactor Coolant Pump seals.
30	12	Commence boric acid/inventory additions to the RCS per FSG-8 and/or FSG-1. Boric acid addition may commence earlier based on RCS volume available.	**N**	Not a time constraint but needed to support cooldown.
31	13	Isolate SI Accumulators per FSG-10.	**N**	Complete prior to Steam Generator pressure of 320 psig.
32	15	Commence RCS cooldown to desired temperature and pressure per ECA-0.0 if both Steam generators are not available for RCS cooldown.	**N**	Starting an asymmetric cooldown at 15 hours allows for 6 hours of boration and 1 hour of additional time for mixing.
33	24	Initiate makeup to SFP.	**Y** **Level C**	SFP level would reach 2' 11" at approximately 75 hours into the event.
34	72	Receive RRC 4160V portable Diesel Generators and initiate plant system(s) recovery.	**N**	

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

NRC Order EA-12-049 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 would be 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 Point Beach two unit design and common structures, systems, and components (SSCs), e.g., auxiliary feedwater unit cross connections.

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

Point Beach received NRC relaxation of the scheduler requirements of Order EA-12-049 for Unit 1 (ML13322B208) on December 11, 2013 (Reference 4). NRC letter dated December 16, 2013 (ML13350A101) (Reference 5), corrected the docket number for Unit 1. The implementation date for Unit 1 is the spring outage of 2016. The Unit 2 implementation date remains the fall outage of 2015. Point Beach anticipates implementing FLEX for both units following the Unit 2 fall 2015 outage.

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 motor operated valves, solenoid operated valves, etc.) and at least one channel of credited instrumentation during Phase 1. The time constraint to have battery chargers energized and aligned prior to battery depletion will be validated.	Complete The FLEX strategy station battery run-time has been calculated (Reference 31) 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 letter from Jack R. Davis to Joseph E. Pollock dated September 16, 2013, ML13241A188) (Reference 25).
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 turbine driven auxiliary feedwater (TDAFW) pump.	Complete Calculation 2015-02221, "Flow Delivered to TDAFW Pumps Via the DDFP Pump," has been prepared and is in the review cycle. As expected, it has identified the need to isolate non-seismic portions of the SW system to assure adequate flow to the suction of the TDAFW pump. In addition, the SW return valves need to be isolated.
3	Based on the results of the evaluation (Pending Action 2) required Operator actions to isolate SW will be time validated.	In Progress The Point Beach Phase 2 staffing study has been completed and submitted to the NRC (reference 38). Verification and validation is currently in progress in accordance with the Pont Beach Verification and Validation Plan.
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.	Complete Analyses using Westinghouse NOTRUMP code (Reference 26 and 27) were performed to adequately justify the boron mixing concern. These analyses incorporated a delay period of one hour after boron injection was completed with flow in both RCS loops equivalent to that associated with single phase natural circulation flow for complete boron mixing per Reference 9. These analyses

	Overall Integrated Plan Pending Actions	Status
		demonstrate that the current proposed diverse and flexible coping strategies (FLEX) for Point Beach Units 1 and 2 (with low leakage reactor coolant pump seals installed) results in the completion of boration evolutions prior to loss of RCS sub-cooling. There is no breakdown in single phase natural circulation cooling and the RCS does not enter a reflux cooling period.
5	A containment environmental analysis will be performed based on the use of low leakage reactor coolant pump (RCP) seals and the FLEX mitigation strategy.	Complete Calculation NAI-1761-004, "Point Beach – Containment Response for ELAP with Cooldown" (Reference 16), is complete. This calculation determines the containment temperature and pressure response during an Extended Loss of AC Power assuming the Westinghouse shutdown low leakage RCP seals have been installed. RCS cooldown is not initiated for 12 hours which is consistent with the Point Beach FLEX strategy. The calculation shows that the containment is not challenged. Peak temperature is 148°F after 2 days compared to a design temperature of 286°F. Peak pressure is 17.2 psia after 2 days compared to a design pressure of 75 psia.
6	An analysis will be performed to demonstrate the adequacy of the primary auxiliary building (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.	Complete Calculation 2013-0020, Rev. 1, "PAB Scenarios for Fukushima Coping" (Reference 17), is complete and demonstrates the adequacy of the PAB environment for equipment and personnel access with the SFP boiling. Doors will be opened to provide adequate vent paths.
7	A spent fuel pool (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.	Complete EC279033 design complete and installation is complete.

	Overall Integrated Plan Pending Actions	Status
8	T-30, Diesel Fire Pump Fuel Tank and related piping will be evaluated for seismic loading and upgraded as necessary.	Complete EC259770, "DDFP Replacement / SW Cross-Tie," Rev. 3, Section 2.5.4, Structural, provides the structural design requirements for the diesel fuel tank and related piping. The analysis details are contained in calculations S-11165-317-S01 and S-11165-317-S02.
9	The need for additional lighting will be evaluated as FSGs are developed.	Complete Portable lighting will be available for operators to perform BDBEE mitigating actions. Non-LED helmet lights and flash lights are standard equipment for auxiliary operators. In addition, LED helmet/head lights will be available to all operators. Additional lighting to support operator actions will also be available in the following locations: • The Control Room (CR) will have two portable LED light stands staged. • The Cable Spreading Room (CSR) will have one portable LED light stand staged. • The 8 ft PAB will have three portable LED light stands staged. • The Unit 2 Non-Nuc Room will have one portable LED light stand staged. • Each tow vehicle (F350 & F550) will contain three additional portable LED light stands. • The 480V PDG trailers, DDSG Pump trailers, and refueling trailer have installed lighting to support operations.

	Overall Integrated Plan Pending Actions	Status
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.	In Progress The Point Beach Phase 2 staffing study has been completed and submitted to the NRC (reference 38). Verification and validation is currently in progress in accordance with the Pont Beach Verification and Validation Plan.
11	The portable 480 VAC generator secondary connection points will be designated.	Complete Secondary connection points have been identified in EC278728 for Unit 2 and EC 278727 for Unit 1.
12	Cable spreading room will reach 120°F at approximately 1 hour 16 minutes; the ability to meet the time constraint will be validated.	Complete Control Building Gothic calculation 2005-0054, Rev. 6, dated May 4, 2015, evaluated Cable Spreading Room (CSR) temperature response under Station Blackout (SBO) conditions. Room temperature reaches 94.16^{0}F after 2 hours. The temperature rise under ELAP conditions is conservative because the Fukushima BDBEE response performs DC power reductions but the SBO condition does not. Initial temperature for the room is assumed to be normal operating temperature of 75^{0}F. Calculation 2005-0054 assumes Turbine Building air temperature to be 115^{0}F. Turbine Building air temperature is the effective "outside air temperature" for the CSR. The 115^{0}F temperature is conservative relative to the OIP extreme temperature of 105.5^{0}F. The room will be monitored in accordance with FSG-5, "Initial Assessment and FLEX Equipment Staging," and doors will be opened as necessary. There is no time constraint consideration.
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. The time constraint based on fuel oil consumption of the diesel driven fire pump (DDFP) will	Complete The DDFP is no longer the limiting component (refer to Section 4, Changes to Compliance Method, above).

	Overall Integrated Plan Pending Actions	Status
	be validated.	Point Beach has modified its refueling strategy; the refueling trailer will be stored with fuel in it. A preservative will be added to the refueling trailer when it is replenished. The plan is to fill all equipment using the refueling trailer following preventive maintenance operation. This ensures the fuel replaced in the FLEX equipment fuel tanks is treated. The preservative will help maintain the quality of the fuel while in storage. The FLEX equipment is also stored inside environmentally controlled buildings which help maintain diesel fuel quality while in storage. The Phase 2 refueling plan is outlined in FSG-5 with the utilization of hardened onsite diesel Fuel Oil Storage Tanks (FOST) and a FLEX dedicated fuel transfer trailer. The transfer trailer contains two pumps on it, DC driven and AC driven. The transfer trailer pumps can be aligned to take suction from an exterior tank or the fuel transfer trailer storage tank. The dedicated refueling trailer tank will be filled from the FOST with the fuel trailer transfer pump then transported to the applicable equipment to refuel. The Phase 2 consumption rate worst case is 154.5 gph, per the FLEX Fuel Requirements Evaluation. The fuel transfer trailer has a 500 gallon tank with pumps rated at 15 and 20 gpm. Based on the consumption rates in the FLEX Fuel Requirements Evaluation, the fuel transfer trailer has adequate performance to meet the refueling requirements. The Phase 2 equipment operating procedures have the operators monitor fuel levels as part of the routine monitoring while the equipment is in operation. The Phase 3 refueling plan is to supplement the Phase 2 plan and

	Overall Integrated Plan Pending Actions	Status
		replenish onsite fuel oil through the use of NextEra Energy existing fuel supplier contracts. This will be performed for as needed fuel delivery per Purchase Order 2332450. The fuel supply contact information is in Operating Instructions (OI), OI-92A.
14	Further evaluation will be required to address the need for extended operation at low steam generator (SG) pressures and low decay heat loads.	Complete Calculation 2005-0021, Rev. 1, "Turbine Driven Auxiliary Feedwater Pump Motive Force" (Reference 18), is complete.
15	Time validation studies will be conducted to justify the time constraints and resources necessary for implementing the Point Beach Nuclear Plant (PBNP) FLEX strategies. These will be performed in accordance with PBNP Operations Manual OM 4.3.8, "Control of Time Critical Operator Actions."	In Progress The Point Beach Phase 2 staffing study has been completed and submitted to the NRC (reference 38). Verification and validation is currently in progress in accordance with the Pont Beach Verification and Validation Plan.
16	Point Beach 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 SGs unavailable.	In Progress The following FLEX Support Guidelines and procedures are being developed/revised to address this pending action: FSG-2, "Alternate AFW Suction Source," is entered if the CST is not available. FSG-15, "Turbine Driven AFW Pump Cross Tie," is entered when an ELAP is in progress and an alternate AFW source is needed because the Unit's TDAFW pump is unavailable. Use of the accumulator fill valve and accumulator is applicable to non-power Modes 5 and 6 when the SGs are not available. The following requirement is being added to OP-1A (Unit 1) and OP-1A (Unit 2), Cold Shutdown to Hot Standby procedures, and OP-3C (Unit 1) and OP-3C (Unit 2), Hot Standby To Cold Shutdown procedures:

	Overall Integrated Plan Pending Actions	Status
		• In Modes 5 and 6 and when the steam generators are unavailable, at least one accumulator will be procedurally controlled and maintained available with a hot leg vent path, whenever possible. • In Modes 5 and 6 and when the steam generators are unavailable, IF a hot leg vent path has not been pre-established to support FLEX strategy SI accumulator usage, THEN procedure guidelines for establishing a vent path SHALL be in place. • In Mode 6 with the cavity flooded, SI accumulator availability may be relaxed.
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 six feet to provide additional coping time for aligning the DDFP to the SW System and to the suction of the TDAFW pump.	Complete Engineering Change EC279034, dated May 28, 2014, "NRC Order Fukushima FLEX CSTs; Seismically Upgrade and Missile Protect Bottom 6 ft. Letter NRC 2013-0024 NRC Order EA-12-049, LTAM PB-11-0010," design and installation is complete. In addition, Engineering Change EC282404, dated March 20, 2015, "NRC Order Fukushima FLEX Seismic Support of CST Attached Piping," design and installation is complete. Calculation 2015-04236, "Time Required to Switch TDAFW Pump Suction to SW for FLEX Scenarios," has been performed to show the amount of time available to make the switchover.

	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 EC259770 design is complete for the replacement DDFP and cross connection and installation is in progress. The pump, engine, control panel and fuel system are being upgraded to meet seismic requirements. 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 is described in Attachment P of FSG-5, "Initial Assessment and FLEX Equipment Staging."
20	A compressed gas backup will be installed for the accumulator fill valves to allow the boric acid to be injected into the reactor coolant system (RCS) in a controlled manner.	In Progress The compressed gas source will be from the accumulator nitrogen gas volume. EC279035 and EC279036 design is complete with Unit 1 installation complete and Unit 2 installation scheduled for fall 2015.
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.	Complete EC278750 and EC278751 design is complete and installation is complete. Use of the cross connections is described in FSG-15, "Turbine Driven AFW Pump Cross Tie (U1/U2)."
22	Connection points for a portable diesel driven pump will be added to the residual heat removal (RHR) system for injecting into the RCS.	Complete EC278752 and EC278753 design is complete and installation is complete on both units.

	Overall Integrated Plan Pending Actions	Status
23	Install low leakage RCP seals to decrease RCP seal leakage and increase the time to core uncovery.	In Progress An integral part of the Point Beach strategy for RCS inventory control is the installation of the Reactor Coolant Pump low leakage shutdown seals. Point Beach is installing the Westinghouse SHIELD® Passive Shutdown Seal. The use of the Westinghouse SHIELD® Passive Shutdown Seal for FLEX strategies has been endorsed by the NRC, ML14132A128 (Reference 14), dated May 28, 2014. The limitations and conditions stipulated in the NRC letter are addressed in the Engineering Change package (EC277545). Unit 1 installation is complete and Unit 2 installation is scheduled for fall 2015.
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.	Complete No modifications are required, existing connections are being used. EC279879 provides a description of the connection points and flow path and the supporting calculations.
25	Install portable diesel generator (PDG) connection points at 1B-03 and 2B-04.	Complete Connection location changed from 2B-04 to 2B-03 for ease of access. EC278727 and EC278728 installed a breaker cubical insert in a spare breaker location in 1B-03 and 2B-03. This eliminated physical bus modification work and out of service time for the safety related buses. EC278727 and EC278728 also addressed design and installation of secondary connection points on both units.

	Overall Integrated Plan Pending Actions	Status
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.	Complete Building analysis is complete. Storage facility analysis is contained in Calculation NEE-009-CALC-010, Rev. 0 (Reference 19). The design is documented in EC279037 and installation is complete.
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 are being established.
29	Formalize an evaluation that demonstrates adequate shutdown margin can be maintained during cooldown without establishing letdown and injecting water from the RWST.	Complete A minimum boron requirement calculation has been prepared and approved (PBN-BFJF-13-098, Rev. 1) (Reference 11). A required RWST makeup volume calculation has been prepared and approved (2013-0016, Rev. 0) (Reference 12). The following Westinghouse calculations have been completed: CN-SEE-II-14-15, Rev. 0, "Point Beach Nuclear Plant RCS Makeup Boration Evaluation for a Beyond Design Basis Extended Loss of All AC Power Event," September 5, 2014 (Reference 26). CN-LIS-14-30, Rev. 0, "Point Beach Extended Loss of Alternating Current Power (ELAP) Calculations for Boron Mixing Strategy," September 4, 2014 (Reference 27).

	Overall Integrated Plan Pending Actions	Status
30	Required operator actions to cross connect the TDAFW pump discharge and steam supply lines will be time validated.	In Progress The Point Beach Phase 2 staffing study has been completed and submitted to the NRC (Reference 38). Verification and validation is currently in progress in accordance with the Pont Beach Verification and Validation Plan.
31	Specific actions per AOP-30, "Temporary Ventilation for Vital Areas," will be developed to account for the loss of all AC power. Additional analysis will be performed to determine what additional time may be gained by opening cabinets and area doors.	Complete FLEX Support Guidelines (FSGs) FSG-5, "Initial Assessment and FLEX Equipment Staging," and FSG-4, "ELAP DC Bus Load Shed/Management," are the primary response guidance documents used to address ventilation conditions. AOP-30 is also available for use should it be applicable to station conditions. A review of AOP-30, Rev. 9, was performed to determine if any additional information was needed to be added to incorporate the results of calculations performed to support an ELAP event. All of the attachments of AOP-30 were reviewed and each attachment contains actions to establish emergency ventilation by using portable equipment (fans and power cords) if power cannot be restored to the normal ventilation. It directs connecting the fan power cords into any available 120V AC power source. Portable equipment purchased for the implementation of Point Beach's mitigating strategy will include fans, ducting, power cables and portable diesel generators. Propping open of doors in response to beyond design basis events will be included in the FLEX Support Guidelines (FSGs) and will not be included in AOP-30. FSG-5, "Initial Assessment and FLEX Equipment Staging," and FSG-4, "ELAP DC Bus Load Shed/Management," will provide guidance for monitoring area conditions and providing alternate HVAC cooling and

	Overall Integrated Plan Pending Actions	Status
		ventilation. AR 1934150, assignment number 42, was created to ensure temporary ventilation to vital areas (this may include opening of doors, cabinets and installation of portable fans) is included in the appropriate FSGs.
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 Steam Generator 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 Steam Generator pressure, in addition to any line losses associated with its connecting equipment. The Point Beach 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. Subsequently, Point Beach purchased higher pressure capacity portable diesel driven pumps for the backup strategy of injection directly into the steam generators. Point Beach purchased pumps with a capacity of 325 gpm and 400 psig. Use of the pumps is addressed in FSG-3, "Alternate Low Pressure Feedwater Unit 1 (Unit 2)." Calculation 2015-04238, "Hydraulic Analysis of Flow Path With the Supply of Lake Water to the SGs via the AFW System During a FLEX Scenario," demonstrates the capability of the pumps.

	Overall Integrated Plan Pending Actions	Status
33	Develop performance requirements for Phase 2 and 3 portable equipment following completion of required analyses and modification design efforts.	Complete The performance requirements are documented in FLEX implementation Engineering Change, EC 279879. Phase 2 portable equipment specifications have been developed and equipment purchased. Point Beach required Phase 3 equipment has been communicated to the Regional Response Center (RRC) and the generic equipment procured by the RRC meets Point Beach requirements.
34	The Phase 2 staffing study for FLEX will include an assessment of communications for FLEX activities.	In Progress The Point Beach Phase 2 staffing study has been completed and submitted to the NRC (reference 38). Verification and validation is currently in progress in accordance with the Point Beach Verification and Validation Plan.
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.
36	Point Beach 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 Fleet program document EN-AA-110, "Diverse and Flexible Coping Strategies (FLEX) Program," has been issued. Site program description NP 7.7.36, "Diverse and Flexible Coping Strategies (FLEX) Program," has been drafted. It defines responsibilities, hazards, FLEX strategies, equipment design, validation, procedures, guidelines and configuration control. OM 3.42, "Control of WR SFP Level Instrumentation and FLEX Equipment," has been drafted and will control FLEX equipment availability.

	Overall Integrated Plan Pending Actions	Status
		Maintenance and testing procedures are under development. FLEX Support Guidelines implement the FLEX strategies. They have been drafted and training is in progress. The FSGs are in the review and approval cycle.

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.	Complete Acceptable analyses for the reactor coolant system inventory and core cooling strategy have been completed (References 26 and 27). The NOTRUMP code has been used for the thermal-hydraulic evaluations. This application utilizes the methods and guidance as well as the restrictions and limitations specified in PWROG-1464-P, Revision 0 (Reference 28).
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.	Complete The NOTRUMP computer code was used to develop the thermal-hydraulic evaluations. This application utilizes the methods and guidance as well as the restrictions and limitations specified in PWROG-1464-P, Revision 0 (Reference 28). The incorporation of low leakage RCP seals does not challenge the timeline relating to RCS makeup pump timing and reflux condensation initiation and is evaluated in the plant specific analysis (References 26 and 27). The RCP seal leakage model is based on Reference 29 as endorsed by the U.S. NRC (Reference 14). Responses to Confirmatory Items 3.2.1.2.A and

	3.2.1.2.B support the applicability of the RCP leakage model utilized in Reference 30.
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.	Complete Analyses (Reference 26 and 27) were performed to adequately justify the boron mixing concern. These analyses incorporated a delay period of one hour after boron injection was completed with flow in both reactor coolant system (RCS) loops equivalent to that associated with single phase natural circulation flow for complete boron mixing (per Reference 9). These analyses demonstrate that the current proposed diverse and flexible coping strategies (FLEX) for Point Beach Units 1 and 2 (with low leakage reactor coolant pump seals installed) results in the completion of boration evolutions prior to loss of RCS subcooling. There is no breakdown in single phase natural circulation cooling and the RCS does not enter a reflux cooling period.

7 Potential Draft Safety Evaluation Impacts *

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

* Draft Safety Evaluation has not been received yet. Point Beach did receive an Interim Staff Evaluation (Reference 13) containing Open and Confirmatory Items. Responses to the Open and Confirmatory Items were provided during the NRC FLEX audit conducted the week of June 8 – 12, 2015, and are contained in this submittal.

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:

Point Beach has upgraded the SG Storage Building for use as the primary FLEX equipment storage area. The building is a reinforced concrete structure that has been analyzed for seismic, wind, tornado, tornado missiles and flooding conditions. The building is equipped with HVAC units for internal environmental control. The design is documented in

EC279037. The building analysis is complete. The storage facility analysis is contained in calculation NEE-009-CALC-010, Rev. 0 (Reference 19).

Some equipment and material will be stored within existing plant structures, such as 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 analyzed or 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 the following information is provided in the table:

- Connection description
- Primary or Secondary Connection
- Connection Location
- Seismic Protection
- Flooding Protection
- Safety Function
- FLEX Phase
- MODE of Operation

A connection is located in either a Seismic Class I Structure or a seismically robust structure. Routes through the Turbine Building will be used to gain access to the Primary Auxiliary Building and the Control Building. Access routes to the Unit 1 and Unit 2 facades will be from the Primary Auxiliary Building. 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. FSG-5, "Initial Assessment and FLEX Equipment Staging," provides primary and backup routing paths.

The Primary Auxiliary Building (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 primary auxiliary building 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.*

The Façade structures were designed for loads which can be reasonably 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.

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:

This is included in FSG-7, "Loss of Vital Instrumentation or Control Power." FSG-7 contains guidance for operators to obtain necessary instrument readings to support the implementation of the coping strategies. FSG-7 contains guidance on how and where to measure key instrument readings from the control room and outside of the control room, use of a portable instrument (e.g., a Fluke meter) for obtaining required instrument readings, guidance on critical actions to perform until alternate indications can be connected, and how to control critical equipment without associated control power.

Confirmatory Item 3.1.1.4.A:

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

Response:

The receiving area for offsite resources is identified as "Staging Area B" in the Site SAFER Response Plan (Reference 55). Either of two large parking lots north of the plant will be used for this purpose. The primary method of moving equipment from Staging Area B to the point of use in the plant is towing. The tow vehicle maintained in the FLEX Storage Building onsite is equipped with a pintle hook that is compatible with the trailers provided by SAFER with all PBNP priority equipment. The Site SAFER Playbook (EPG 2.0 DRAFT) and the National SAFER Response Center Equipment Technical Requirements (Reference 39) contain this information.

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 of the primary or secondary connections relied upon for implementing the FLEX strategies and described in the Point Beach OIP, or modified by a subsequent six month status update report, is protected from flooding.

The Point Beach Flood Hazard Reevaluation is complete and was submitted to the NRC on March 12, 2015 (Reference 40). The revised flood hazards do not impact the Point Beach OIP strategies.

Connection Description	Primary or Secondary	Connection Location	Seismic Protection	Flooding Protection	Safety Function	FLEX Phase	MODE
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	Core Cooling RCS Inventory Containment	2	All
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	Core Cooling RCS Inventory Containment	2	All
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	Core Cooling	2	1 thru 4
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	Core Cooling	2	1 thru 4
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	Core Cooling	2	1 thru 4
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	Core Cooling	2	1 thru 4
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	Core Cooling RCS Inventory Containment	2	All
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	Core Cooling RCS Inventory Containment	2	All
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	Core Cooling RCS Inventory Containment	2	All

Connection Description	Primary or Secondary	Connection Location	Seismic Protection	Flooding Protection	Safety Function	FLEX Phase	MODE
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	Core Cooling RCS Inventory Containment	2	All
Unit 1 PDDCP discharge connection charging	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding	RCS Inventory	2	1 thru 4
Unit 1 PDDCP discharge connection	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding	RCS Inventory	2	1 thru 4
Unit 1 PDDCP suction connection to RWST	Primary	Unit 1 Façade	Seismic robust structure	Access restricted by flooding	RCS Inventory	2	1 thru 4
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	RCS Inventory	2	1 thru 4
Unit 2 PDDCP discharge connection charging	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding	RCS Inventory	2	1 thru 4
Unit 2 PDDCP discharge connection	Secondary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding	RCS Inventory	2	1 thru 4
Unit 2 PDDCP suction connection to RWST	Primary	Unit 2 Façade	Seismic robust structure	Access restricted by flooding	RCS Inventory	2	1 thru 4
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	RCS Inventory	2	1 thru 4
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	Core Cooling RCS Inventory	2	5 & 6
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	Core Cooling RCS Inventory	2	5 & 6

Connection Description	Primary or Secondary	Connection Location	Seismic Protection	Flooding Protection	Safety Function	FLEX Phase	MODE
Unit 1 PDDP (RHR) suction connection to RWST	Primary	Unit 1 Façade	Seismic robust structure	Access restricted by flooding	Core Cooling RCS Inventory	2	5 & 6
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	Core Cooling RCS Inventory	2	5 & 6
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	Core Cooling RCS Inventory	2	5 & 6
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	Core Cooling RCS Inventory	2	5 & 6
Unit 2 PDDP (RHR) suction connection to RWST	Primary	Unit 2 Façade	Seismic robust structure	Access restricted by flooding	Core Cooling RCS Inventory	2	5 & 6
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	Core Cooling RCS Inventory	2	5 & 6
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	Core Cooling	2	1 thru 4
PDDP Unit 1 SG connection	Secondary	Unit 1 Turbine Hall 8 ft. elevation	Seismically robust	Access initially restricted by internal flooding	Core Cooling	2	1 thru 4
PDDP Unit 2 SG connection	Secondary	Unit 2 Turbine Hall 8 ft. elevation	Seismically robust	Access initially restricted by internal flooding	Core Cooling	2	1 thru 4
PDDP SG make up pump suction	Primary	Lake Michigan	NA	NA	Core Cooling Containment	2 2	1 thru 4 All
PDDP SG make up pump suction	Secondary	Circulating Water Pump House	Seismic Class I structure	Protected from both external and internal flooding	Core Cooling Containment	2 2	1 thru 4 All

Connection Description	Primary or Secondary	Connection Location	Seismic Protection	Flooding Protection	Safety Function	FLEX Phase	MODE
PDDP SFP make up connection	Primary	Primary Auxiliary Building 8 ft. elevation	Seismic Class I structure	Protected from both external and internal flooding	SFP Inv/Cooling Core Cooling RCS Inventory	2 2	NA 6
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	SFP Inv/Cooling Core Cooling RCS Inventory	2 2	NA 6
PDDP SFP make up pump suction	Primary	Lake Michigan	NA	NA	SFP Inv/Cooling Core Cooling RCS Inventory	2 2	NA 6
PDDP SFP make up pump suction	Secondary	Circulating water pump house	Seismic Class I structure	Protected from both external and internal flooding	SFP Inv/Cooling Core Cooling RCS Inventory	2 2	NA 6
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	Core Cooling RCS Inventory Containment SFP Inv/Cooling	3	All
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	Core Cooling RCS Inventory Containment SFP Inv/Cooling	3	All

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:

Point Beach Nuclear Plant FLEX Equipment Deployment Position Paper (Reference 20) for debris removal and impact on deployment, dated March 11, 2014, has been issued. A Cat 950K wheel loader has been procured as the primary piece of equipment for debris removal. In addition, the site has tractors with front end loaders and forklifts onsite for normal maintenance that could be used as a backup. Control of the designated backup will be established.

The F350 and F550 deployment vehicles will be stored in the fully protected FLEX Storage Building which is the north half of the SG storage building. The Cat 950K wheel loader will

be stored in the south half of the SG storage building. The west end of the south half of the SG storage building is not fully missile protected but provides substantial protection. The SG storage building is located on the north side of the plant. A backup to the Cat 950K will be a designated tractor with bucket loader located on the south side of the plant at least 1800 feet (600 yards) from the Cat 950K storage location. The separation distance is based on FSAR Section 2.6, Meteorology, which documents a local tornado causing significant damage as having a path 600 yards wide. By comparison, the National Oceanic and Atmospheric Administration (NOAA) website lists the average tornado width for Green Bay, Wisconsin, as 121 yards. Tornado paths typically move from west to east which is perpendicular to the storage locations and the 600 yards (minimum) separation distance.

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:

Point Beach Nuclear Plant FLEX Equipment Deployment Position Paper (Reference 20) for debris removal and impact on deployment, dated March 11, 2014, has been issued. A Cat 950K wheel loader has been procured for FLEX and can be used for snow and ice removal. A one ton truck stored in the FLEX Storage Building will be equipped with a snow plow. In addition, the site has tractors with front end loaders and trucks with snow plows on site for snow removal that could be used as a backup. Control of the designated backup will be established.

Confirmatory Item 3.2.1.A:

In light of the potential for consequential damage to the atmospheric dump valves (ADV), 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 has been performed to determine if adequate boron mixing can be demonstrated during a single loop cooldown based on the calculated RCS conditions and loop flows during the periods of single phase and two phase cooling, prior to the initiation of reflux cooling. Point Beach contracted with Westinghouse to perform this analysis using the NOTRUMP code. Boric acid injection prior to commencing a cooldown will be performed unless both SG ADVs are available for a symmetrical cooldown. Westinghouse completed an analysis that modeled the extended loss of alternating current power (ELAP) scenario with an asymmetric cooldown (Reference 27). The analysis demonstrated that this strategy is acceptable with no credit taken for boron mixing during asymmetric cooldown. After boron injection, a hold period of one hour with flow in both reactor coolant system loops equivalent to that associated with single phase natural circulation flow is allowed for complete boron mixing in the RCS prior to initiation of an asymmetric cooldown. These instructions will be included in Point Beach procedure ECA-0.0 Unit 1 (Unit 2), "Loss of All AC Power."

Point Beach has the capability of injecting boric acid to either RCS loop. A primary and secondary connection point has been identified. The two connection points are located in

separate charging pump cubicles. To provide diverse flexibility, either connection point may be isolated and aligned to either normal charging to Loop A, or through auxiliary charging to Loop B. Manual realignment is required to inject through auxiliary charging, but this is not a time constraint.

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:

The NOTRUMP computer code was used to develop the thermal-hydraulic evaluations. This application utilizes the methods and guidance as well as the restrictions and limitations specified in PWROG-1464-P, Revision 0 (Reference 28). The incorporation of low leakage RCP seals does not challenge the timeline relating to RCS makeup pump timing and reflux condensation initiation and is evaluated in the plant specific analysis (References 26). This plant-specific NOTRUMP analysis (Reference 26) showed that the flow conditions remain single phase and the RCS does not enter a reflux cooling period. RCS conditions remain below the limit for reflux condensation cooling (one hour centered moving average of flow quality less than 0.1 at steam generator U-tube bend).

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 CFR Part 21 report, "Notification of the Potential Existence of Defects Pursuant to 10 CFR Part 21," dated July 26, 2013 (ML13211A168), on the use of the low seal leakage rate in the ELAP analysis.

Response:

Point Beach has installed the Westinghouse SHIELD® Passive Thermal Shutdown Seal (SDS) Generation III in Unit 1 and will be installing the seals in Unit 2 during the fall 2015 outage.

Westinghouse completed qualification testing of the Generation III SHIELD® Passive Thermal SDS which confirmed once the SDS is actuated, it will limit RCP shaft leakage to less than 1 gpm during Loss of All Seal Cooling (LOASC) events, such as ELAP conditions (Reference 29). Westinghouse addressed the deficiencies of the Generation I and II shutdown seals reported in Reference 33.

The U.S. NRC has formally endorsed the use of the Westinghouse SHIELD® product as described in Westinghouse's technical report (Reference 29) and supplemental information (References 34 and 35) with some limitations as documented in Reference 14. These limitations are assessed in the response to Confirmatory Item 3.2.1.2.B.

In addition, Reference 36 addressed the two open items listed in Reference 29. The first open item was related to incorporating a design requirement for the SDS to be capable of withstanding a short duration pressure increase to 2500 psia. This requirement has been incorporated into the SDS design specification, and has been closed based on the testing performed at 2500 psia. The second open item was related to testing of the internal o-rings of the direct acting actuator. O-ring accelerated aging testing was completed and the o-rings met the requirement of a 9 year SDS service life.

Point Beach is not impacted by Nuclear Safety Advisory Letter (NSAL)-14-1, Revision 1 (Reference 37), because of the installation of the Generation III SHIELD® Passive Thermal SDS.

Confirmatory Item 3.2.1.2.B:

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

Point Beach has installed the Westinghouse SHIELD® Passive Thermal Shutdown Seal (SDS) Generation III in Unit 1 and will be installing the seals in Unit 2 during the fall 2015 outage.

The U.S. NRC has formally endorsed the use of the Westinghouse SHIELD® product with some limitations (Reference 14). These limitations are assessed below:

1. *Credit for SHIELD® seals is only endorsed for Westinghouse Models 93, 93A and 93A-1.*

   PBNP Unit 1 and Unit 2 utilize Westinghouse Model 93 reactor coolant pumps.

2. *The maximum steady-state RCS cold-leg temperature is limited to 571°F during the ELAP (i.e., the applicable main steam safety valve setpoint results in a RCS cold-leg temperature of 571°F or less after a brief post-trip transient).*

   The lowest main steam safety valve setpoint at PBNP is 1085 psig + 3% due to uncertainty. This corresponds to a maximum cold leg temperature of 559.9°F.

3. *The maximum RCS pressure during the ELAP (notwithstanding the brief pressure transient directly following the reactor trip comparable to that predicted in the applicable analysis case from WCAP-17601P) is as follows: For Westinghouse Models 93 and 93A-1 RCPs, RCS pressure is limited to 2250 psia; for Westinghouse Model 93A RCPs, RCS pressure is to remain bounded by Figure 7.1-2 of TR-FSE-14-1-P, Revision 1.*

The generic analysis (References 30 and 32) upon which the plant specific analyses (References 26 and 27) are based do not indicate an increase in pressure beyond the brief transient shown in Reference 30.

4. *Nuclear power plants that credit the SHIELD® seal in an ELAP analysis shall assume the normal seal leakage rate before SHIELD® seal actuation and constant seal leakage rate of 1.0 gallon per minute for the leakage after SHIELD® seal actuation.*

   The basis analysis considered 1 gpm leakage per seal and 1 gpm of additional RCS leakage (Reference 30). The analysis did not credit reduced leakage due to depressurization. However, normal leakage prior to actuation was not assessed directly. Based on a conservative interpretation of the analysis regarding SHIELD® actuation timing, normal seal leakage will occur for no more than 1 hour. Given a potential and allowed normal seal leak rate of at most 5 gpm (typical leakage is 1.5 to 2.0 gpm) per seal and a 1 gpm Technical Specification allowed leakage, the total leakage rate over the first hour is 11 gpm. This correlates to a fluid loss of 660 gallons. Given the analyzed leakage of 3 gpm in the PBNP site specific analysis, the reduction in coping time should be less than 3.7 hours. Given normal leakage for the first hour into the event prior to SDS actuation, the leakage rate is 0.02451 cubic feet/sec. With a RCS subcooled liquid density of 46.205 lbm/cubic foot, based on a minimum cold leg temperature of 560°F and a maximum RCS pressure of 2250 psia, the total integrated mass loss is 4,077 lbm. Similarly, given an assumed injection time of 8 hours into the event, the SDS leakage rate is 0.0067 cubic feet/sec for 7 hours and results in an integrated mass loss of 7,783 lbm. With a pressurizer saturated liquid density of 37.070 lbm/cubic foot based on a maximum pressure of 2250psia, this corresponds to an inventory loss of approximately 320 cubic feet. This loss is less than the no load pressurizer water volume plus the upper head dead volume. Therefore, it is reasonable to assume single phase cooling through the steam generators beyond the planned injection time.

   The time at which make-up is required based on inventory control, considering even the limiting case of maintaining single phase natural circulation, is significantly less constrictive than the regulatory constraints on inventory maintenance based on boron mixing and boron transport consistent with the U.S. NRC endorsement of the PWROG boron mixing position (Reference 9). Thus, the analyses performed by Westinghouse for PBNP (References 26 and 27) are considered bounding with respect to the required RCS make-up time. The effective actuation of the SDS will limit leakage such that boron injection to maintain subcriticality for the no leakage condition is limiting for either the time frame at which reflux conditions would be entered or the time frame at which cold leg velocity would be reduced such that there would be a potential challenge to the assumed time frame for mixing of injected boric acid.

It is therefore concluded that there is significant margin available to any undesirable flow transition based on the planned deployment time of RCS make-up when maximum allowed operation seal leakage is considered prior to SHIELD® seal actuation.

FSG-1 and FSG-8 control RCS pressure less than 2250 psia to meet SHIELD Endorsement Letter, Condition 3.

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:

Point Beach procedures ECA-0.0 Unit 1 (Unit 2), "Loss of All AC Power" (Reference 21), specifies the isolation of RCP seal cooling, both charging and component cooling, with no guidance for restoration of seal cooling. Point Beach 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:

The GOTHIC® analysis is complete; calculation NAI-1761-004, "Point Beach - Containment Response for ELAP with Cooldown" (Reference 16). The analysis shows that containment design pressure and temperature are not challenged with no containment cooling.

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 Contingency Action in use for an ELAP event. The initial AFW flow rate could be as high as 310 gpm at the Main Steam Safety Valve setpoint based on an 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. The 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 implementation Engineering Change and the Final Integrated Plan submittal. The current time estimate is approximately 30 minutes from the time the operators are instructed to make the alignment. It is expected that the operators will be instructed to make the alignment when CST level reaches a level of 4 feet. This allows approximately 9400 gallons of CST water per unit. At 310 gpm, the CST water would last approximately 30 minutes. Based on simulator performance, it is reasonable to expect the control operator to control feed flow to maintain level and conserve CST volume. Thus it is reasonable to expect that the alternate AFW supply can be established prior to depleting the CST protected volume and well before SG dryout. In addition, FSG-2 will provide guidance on how to reset the low suction pressure trip on the TDAFW pump if the CST volume is depleted prior to establishing alternate AFW supply. 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.

The PBNP strategy is to protect a portion of the CST water volume which will be available to supply the TDAFW pump to feed the SGs. The availability of protected CST water volume to supply the SGs will significantly extend the time to SG dry out. Calculation 2015-04236, "Time Required to Switch TDAFW Pump Suction to SW," determined the time before the SGs will be reduced to 60" of SG wide range level. The 60" level was chosen to ensure heat sink and natural circulation is available per WCAP 17601-P. The result of this calculation shows the SGs will not be reduced to 60" of SG wide range level until 1 hour and 53 minutes (1.88 hours).

The critical step to complete supplying the TDAFW pump (via the SW system) from the DDFP is evaluated at 1.75 hours. This time will be verified per the PBNP Verification and Validation Plan.

Based on the draft analysis and time study, there is margin to prevent the SGs from boiling completely dry.

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 original primary Point Beach strategy was to isolate the accumulators before initiating a cooldown to eliminate any potential of injecting nitrogen into the RCS. The strategy has been altered to maintain the accumulators available during the cooldown for RCS makeup, if required, consistent with PWROG guidance. Point Beach will not initiate a cooldown until RCS makeup via the portable diesel charging pump is available and the means for isolating the accumulators (via a portable diesel generator) has been established. Calculations have been performed following the PWROG Core Cooling Interim Position Paper 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 Power," 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. The applicable setpoints per calculation 2010-0020 (Reference 22) are H.7, H.8 and H.15. Their setpoints are 280 psig, 380 psig and 320 psig, respectively. ECA-0.0 Unit 1 (Unit 2) are being revised.

The accumulator isolation valves are remote operated MOVs. They will be shut from the control room when the portable diesel generator is connected to the 480V safeguards bus or directly to the motor control center. As a backup plan, the cooldown can be delayed until necessary repairs are made or the cooldown can be stopped at the SG setpoint that prevents nitrogen injection and hold at that condition until repairs are complete or containment entry is possible.

Confirmatory Item 3.2.1.8.B:

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

Response:

Calculation 2005-0021, Revision 1 (Reference 18), addresses the use of the TDAFW pump during a beyond design basis loss of external load and loss of offsite power event, with acceptable results. The calculation applies to the modified TDAFW pumps and replacement TDAFW pump turbines that were installed by Engineering Changes (EC) 272527 and EC 272529, and the TDAFW pump discharge and steam supply cross-tie modifications installed by EC 278750 and EC 278751. These modifications have been implemented and turned over to Operations. Calculation 2005-0021 addresses a single steam supply line, TDAFW pump and discharge line for capability of supporting both units during an ELAP event.

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 high pressure pump designated for Steam Generator (SG) injection, or the low pressure 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 Point Beach Overall Integrated Plan (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 a lower head pump, similar to the B.5.b pump.

After issuance of the OIP, Point Beach purchased higher pressure capacity portable diesel driven pumps for the backup strategy of injecting directly into the steam generators. A Godwin Model 3316 pump, 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 Spent Fuel Pool (SFP) makeup. Flow from this high pressure 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 have been purchased to meet the N+1 requirement. Calculation 2015-04238, "Hydraulic Analysis of Flow Path With the Supply of Lake Water to the SGs via the AFW System During a FLEX Scenario" demonstrates the capability of the pump to provide the required flow.

Godwin Model HL130M pumps dedicated to FLEX use, with a nominal rating of 1000 gpm @ 160 psig, are designated as FLEX Phase 2 portable equipment. They can be used for SFP spray or makeup capability and containment spray. Two pumps have been procured to meet the N+1 requirement.

All of the high pressure and low pressure pumps are onsite and stored in the FLEX storage facility. Use of the pumps will be appropriately addressed in the 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:

Documentation of adequate capacity is included in the Unit 1 and Unit 2 Fukushima FLEX strategy implementation modification, EC 279879. Calculation 2013-12974, "Evaluation of Portable Skid Pump for High Pressure RCS Makeup," includes a hydraulic analysis for the portable charging pumps.

Calculation 2013-12974 is being revised to address the portable diesel charging pump lower capacity. With the lower capacity and minimal RCS leakage, additional cycling of the reactor vessel head vent may be required beyond what was determined in the NOTRUMP analysis to ensure that the RCS pressure remains below the capability of the portable diesel driven charging pump. FSG-8, "Alternate RCS Boration," provides instructions to maintain RCS pressure below 2235 psig (2250 psia) which meets the Condition 3 RCS pressure requirement in NRC letter ML14132A128 (Reference 14). This may extend the BAST and RWST boration periods determined in the NOTRUMP analysis. It does not affect the overall

strategy however, since boration and cooldown is not a time constraint. The pumps have been tested to show they are capable of discharge pressures up to 2500 psig.

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:

Calculation 2013-0020, Rev. 1, "PAB Scenarios for Fukushima Coping" (Reference 17), is complete. The calculation predicts the conditions which will exist in the PAB when a defined ventilation configuration is established and demonstrates the adequacy of the PAB environment for equipment and personnel access with SFP boiling. A Point Beach White Paper, "HVAC Summary During an Extended Loss of AC Power" (Reference 56), is complete, providing a summary of area environmental conditions and strategic response actions to establish the ventilation configuration within appropriate time frames. Doors will be opened to provide adequate vent paths. During the performance of FSG-4, "ELAP DC Bus Load Shed/Management," battery/inverter room doors and AFW room doors will be blocked open. FSG-5, "Initial Assessment and FLEX Equipment Staging," provides guidance for venting the PAB to address the steam being produced from a boiling SFP. These documents contain guidance to monitor the following conditions in vital areas, required work areas and access routes:

- Temperature
- Air quality (exhaust fumes from diesel engines)
- Radiation

Confirmatory Item 3.2.4.2.A:

The Integrated Plan does not address heat up 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:

Calculation 2013-0020, Rev. 1, "PAB Scenarios for Fukushima Coping" (Reference 17), and Calculation 2005-0054, Rev. 6, "Control Building GOTHIC Temperature Calculation," are complete. A Point Beach White Paper, "HVAC Summary During an Extended Loss of AC Power" (Reference 56), is also complete, providing a summary of area environmental conditions and strategic response actions. These documents demonstrate the adequacy of the PAB and Control Building environments for equipment and personnel access. FSG-5, "Initial Assessment and FLEX Equipment Staging," will provide guidance for providing cooling and ventilation. Doors will be opened to provide adequate vent paths. Monitoring of area conditions and response actions will be included in FSG-4 "ELAP DC Bus Load Shed/Management."

Confirmatory Item 3.2.4.4.A:

The NRC staff has reviewed the licensee communications assessment (ML12305A538 and ML13053A400) 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:

The actions associated with upgrades to the Site Communications Systems are tracked in the Corrective Action Program (Reference 41).

The only remaining communications commitment relies on the FLEX Phase 2 portable diesel generator and will be implemented as a part of FLEX:

- Provide additional portable generators to power battery chargers for the existing installed batteries that supply power to the radio system, PBX phone system and Gai-Tronics system within the station power block (the same battery supplies both the radio and Gai-Tronics system). Complete appropriate training and update the applicable procedures.

Communications Assessment Completed Actions:

1. Improve availability of satellite phones at Offsite Response Organization (ORO) facilities and update the applicable procedures.

Action Complete:

Satellite phones have been procured for Manitowoc County and Kewaunee County OROs. ETD 02, "Point Beach Nuclear Plant Emergency Telephone Directory Offsite Agency Call List," has been revised to include the satellite phone numbers (Reference 42).

2. Obtain Government Emergency Telecommunications Service (GETS) cards for selected phones/positions. Complete appropriate training and update the applicable procedures.

Action Complete:

Government Emergency Telecommunication Cards have been obtained and placed in the following Emergency Response Organization (ERO) facilities: Control Room, Joint Public Information Center, Technical Support Center, Emergency Operations Facility, and the Alternate Emergency Operations Facility. Procedure ETD 07, "Point Beach Nuclear Plant Emergency Telephone Directory Emergency Plan Telephone Systems and Operations," has been updated to include use of the GETS cards. Training was completed during the third quarter of 2013 (Reference 43). All ERO members who attend quarterly ERO training at each Emergency Response Facility received this training. An information sharing e-mail sent to Senior Reactor Operators, Shift Technical Advisors, Control Operators, Auxiliary Operators and

appropriate ERO personnel. The information sharing was sent out by e-mail on June 4, 2013 (Reference 44).

3. Install larger Uninterruptible Power Supply (UPS) devices or re-power existing UPS devices for the PBX phone system and stationary satellite phone system.

Action Complete:

A larger Uninterruptible Power Supply (UPS) has been installed in the Telephone Equipment Room in the Unit 1 Turbine Building which will provide power for more than 5 hours for the Telephone Interchange (TI) circuits. These circuits tie the internal plant telephone system to the Nuclear Engineering Services (NES) Building telephone system and the stationary satellite phones.

4. Provide backup emergency power at the Emergency Operations Facility (EOF).

Action Complete:

A 6kW diesel generator has been staged at the Emergency Operations Center (EOF). The generator is currently housed in a non-flammable storage container located south of the Site Boundary Control Center. This generator is staged primarily to provide power for recharging batteries for hand held radios and satellite phones.

5. Provide additional portable generators to power battery chargers for portable radio batteries and portable satellite phone batteries. Complete appropriate training and update the applicable procedures.

Action Complete:

Two portable 6kW diesel powered generators have been staged to provide backup power for radio and satellite phone battery chargers. One is located at the south side of the Site Boundary Control Center (SBCC) for the EOF, and the other is located in the southeast corner of the 8 ft elevation of the Unit 1 Turbine Hall for the Technical Support Center (TSC). ETD 07, "Point Beach Nuclear Plant Emergency Telephone Directory Emergency Plan Telephone Systems and Operations," has been revised to reflect the location of the diesel generators and indicates operating instructions are enclosed with each generator. Information sharing was sent to the ERO teams on December 13, 2013 (Reference 45), covering the location of the new small generators, satellite phone carts and other portable equipment.

6. Provide permanent docking stations and remote antenna capabilities for our portable satellite phones. Complete appropriate training and update the applicable procedures.

Action Complete:

Satellite phone docking stations with portable remote antennae have been provided in the EOF and TSC. ETD-07 has been revised to reflect this capability (Reference

46). AR1920267-04 was completed for training on satellite phone docking stations and portable remote antennae. An information sharing was sent by e-mail to ERO teams on December 12, 2013 (Reference 47).

7. Provide additional radio repeaters or backup power for existing repeaters to allow multiple talk groups at any given time. Complete appropriate training and update the applicable procedures.

Action Complete:

The commitment was satisfied by staging a 6kW portable diesel generator, storage cabinet, fuel in a can, extension cords, receptacle strips, and a copy of the Operating Procedure. The equipment is located by the radio room in the Non-Nuc Room. OI-82, "Communication System Operation" (Reference 48), was revised to include use of the new equipment. Engineering Change EC282652 (Reference 49) describes the installation and approach. Preventive maintenance tasks have been established for the diesel generator. ETD 08, "Point Beach Nuclear Plant Emergency Telephone Directory Radio Operation," was also revised referencing OI-82. Training on installation and use of this equipment has been completed (Reference 50).

8. Provide a portable radio antenna at the EOF.

Action Complete:

A portable radio antenna, stand, and requisite cabling have been placed in the SBCC for EOF use. ETD 08, "Point Beach Nuclear Plant Emergency Telephone Directory Radio Operation" (Reference 51), has been revised to provide guidance for this additional antenna. EPIP 4.7, "Offsite Radiation Protection Facility (OSRPF) Activation and Evacuation" (Reference 52), has also been revised to refer the user to ETD 08 if a portable radio antenna is required.

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:

This topic is included in FSG-5, "Initial Assessment and FLEX Equipment Staging". FSG-5 includes establishing clear access routes and provides guidance for de-energizing down power lines and debris removal. It also includes area monitoring for habitability.

Access through locked doors is available with the keys the Operators normally carry for their assigned watch station. Additional keys are available in the Control Room.

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:

Actions are included in FSG-5, "Initial Assessment and FLEX Equipment Staging," and FSG-4, "ELAP DC Bus Load Shed/Management." These documents will contain guidance to monitor the following conditions in vital areas, required work areas and access routes:

- Temperature
- Air quality (exhaust fumes from diesel engines)
- Radiation

FSG-4 and FSG-5 provide guidance for actions to take for low temperature and high temperature such as, use of portable heaters and fans, etc.

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:

Actions are included in FSG-5, "Initial Assessment and FLEX Equipment Staging," and FSG-4, "ELAP DC Bus Load Shed/Management." These documents will contain guidance to monitor the following conditions in vital areas, required work areas and access routes:

- Temperature
- Air quality (exhaust fumes from diesel engines)
- Radiation

FSG-4 and FSG-5 provide guidance for actions to take for low temperature and high temperature such as, use of portable heaters and fans, etc.

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:

The appropriate human performance aids have been included in multiple FSGs. The Phase 2 Staffing Assessment, training and validation walk downs were used to help identify additional human performance aids. In addition, an independent review has been performed of all the FLEX Support Guidelines (FSGs) by an individual that has an extensive Operations background and an advanced degree in Human Factors Psychology.

Confirmatory Item 3.2.4.8.A:

Need to confirm that appropriately sized FLEX DGs are procured.

Response:

Two 404kW / 505 kVA (standby rating) portable diesel generators have been procured in accordance with SPEC-E-059, and received. They exceed the Phase 2 load requirements documented in EC279879.

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 Diagram (CSD) modules (URS, PB028-17-STUDY-002 and URS, PB028-17-STUDY-003) (Reference 24). The ETAP CSD module was utilized to establish the minimum voltage requirements for each credited piece of equipment to ensure the equipment remains above the equipment 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.

Final DC load study calculation 2014-0013, Revision 0, "125Vdc System Calculation for FLEX Strategy" (Reference 31), is complete. Point Beach confirms that the FLEX strategy station battery run-time has been 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 letter form Jack R. Davis to Joseph E. Pollock dated September 30, 2013 ML 13267A382) (Reference 10). The calculation and supporting information have been posted on the Point Beach NRC web portal. 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. The calculated battery life is approximately 10 hours and the estimated time to deploy the portable diesel generator and repower the battery chargers is 8 hours.

The load shedding strategy is guided by FSG-4 which meets the requirements identified in calculation 2014-0013.

The Phase 2 Staffing Assessment and the verification and validation walk downs will be used to validate the Sequence of Events Timeline.

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 requirement to adequately implement the Point Beach Phase 2 strategies. Documentation of adequate capacity is included in the Unit 1 and Unit 2 FLEX implementation Engineering Change for NRC Order EA 12-049, EC 279879.

Description/Purpose	Model	Capacity	"N" Requirement	Quantity Required
Portable diesel driven charging pump	Cat 3560 Pump and Kubota DH902 Diesel Engine	15 gpm @ 2000 psig	1 per unit	3
Portable diesel driven high capacity containment and SFP spray	Godwin Model HL130M and Cat Diesel C9	Nominal rating 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 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
Portable diesel driven Mode 5/6 RCS injection pump	IPT Pump Model 25FPBZR and Hatz 1B50 Diesel Engine	80 gpm @ 85 psig	1 per unit	3

Point Beach has put together a listing of all identified FLEX supporting equipment and the N and N+1 requirements, if applicable. This list is being incorporated into the FLEX program document and will be included in Operations Manual, OM 3.42, "Control of WR SFP Level Instrumentation and Credited FLEX Equipment."

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:

The provisions specified in NEI 12-06, Section 12.2, Guidelines 2 through 10, are covered in the agreement that PBNP has in place with the SAFER organization. The NEI document, "White Paper - National SAFER Response Centers," dated September 11, 2014 (Reference 53), and NRC letter, "Staff Assessment of National SAFER Response Centers Established in Response to Order EA-12-049," dated September 26, 2014 (Reference 54), provide the industry framework for the Phase 3 offsite resources. Also, AREVA document 51-9199717, Rev. 13, "National SAFER Response Center Equipment Technical Requirements," provides information on the specific Phase 3 equipment (Reference 39). The SAFER Response Plan for Point Beach Nuclear Plant (Reference 55) has been approved. On August 10, 2015, the SAFER organization issued the National SAFER Response Center (NSRC) Checklist to declare SAFER operational for Point Beach Nuclear Plant.

Site activities to implement SAFER, including training, are complete. The implementing document, EPG 2.0, Site SAFER Playbook, is awaiting final issuance with other documents associated with the site emergency planning function.

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 (ML 13053A401)
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 (ML 12073A195)
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," dated September 12, 2013 (ML 13256A063)

4. "Point Beach Nuclear Plant, Unit 1 - Relaxation of the Scheduler Requirements of Order EA-12-049," dated December 11, 2013 (ML13322B208)
5. "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, "Final Resolution of Generic Letter 81-14 Seismic Qualification of Auxiliary Feedwater System Point Beach Nuclear Plant, Units 1 and 2," dated April 26, 1985
9. Jack Davis (NRC) to Jack Stringfellow (PWROG), dated January 8, 2014 (ML13276A183)
10. NRC letter form Jack R. Davis to Joseph E. Pollock, dated September 30, 2013 (ML13267A382)
11. PBN-BFJF-13-098, Rev. 1, "Point Beach Extended Station Blackout Boron Requirements"
12. Calculation 2013-0016, Rev. 0, "Calculation to Support FSG 8 Attachments"
13. "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 (ML13338A510)
14. NRC Endorsement Letter for Westinghouse Technical Reports, "Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies," dated May 28, 2014 (ML14132A128)
15. Boron Mixing Endorsement Letter, dated January 8, 2014 (ML13235A135)
16. Calculation NAI-1761-004, Rev. 0, "Point Beach – Containment Response for ELAP with Cooldown"
17. Calculation 2013-0020, Rev. 1, "PAB Scenarios for Fukushima Coping"
18. Calculation 2005-0021, Rev. 1, "Turbine Driven Auxiliary Feedwater Pump Motive Force"
19. Calculation NEE-009-CALC-010, Rev. 0, "Evaluation and Modification of Steam Generator Storage Facility for Storage of FLEX Equipment"
20. FLEX Equipment Deployment Position Paper, dated March 11, 2014
21. ECA-0.0 Unit 1, Rev. 62 (Unit 2 Rev. 64), "Loss of All AC Power"
22. Calculation 2010-0020, Rev. 2, "Steam Generator Pressure EOP Setpoints"
23. PRA 5.25A, Rev. 0, "Cable Spreading and Computer Room (IRR) Heat-Up Analysis With GOTHIC® For Point Beach Units 1 & 2"

24. ETAP Battery Discharge and Control System Diagram (CSD) modules (URS, PB028-17-STUDY-002 and URS, PB028-17-STUDY-003)

25. NRC letter form Jack R. Davis to Joseph E. Pollock, dated September 16, 2013 (ML13241A188)

26. Westinghouse Calculation CN-SEE-II-14-15, Revision 0, "Point Beach Nuclear Plant RCS Makeup Boration Evaluation for a Beyond Design Basis Extended Loss of All AC Power Event," September 5, 2014

27. Westinghouse Calculation CN-LIS-14-30, Revision 0, "Point Beach Extended Loss of Alternating Current Power (ELAP) Calculations for Boron Mixing Strategy," September 4, 2014

28. Pressurized Water Reactor Owners Group Correspondence, OG-14-339, "Transmittal of PWROG-14064-P, Revision 0, "Application of NOTRUMP Code Results for PWRs in Extended Loss of AC Power Circumstances, For Information Only (PA-ASC-1274)," September 26, 2014 (provided on Pressurized Water Reactor Owners Group website)

29. Westinghouse Report TR-FSE-14-1-P, Revision 1, "Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies," March 18, 2014

30. Westinghouse Report WCAP-17601-P, Revision 1, "Reactor Coolant System Response to the Extended Loss of AC Power Event for Westinghouse, Combustion Engineering and Babcock & Wilcox NSSS Designs," January 2013

31. Calculation 2014-0013, Revision 0, "125Vdc System Calculation for FLEX Strategy"

32. Westinghouse Report WCAP-17792-P, Revision 0, "Emergency Procedure Development Strategies for the Extended Loss of AC Power Event for all Domestic Pressurized Water Reactor Designs," December 2013

33. Westinghouse Letter LTR-NRC-13-52, Revision 0, "Notification of the Potential Existence of Defects Pursuant to 10 CFR Part 21," July 26, 2013 (ML 13211A168)

34. Westinghouse Letter LTR-NRC-14-24, Revision 0, Submittal of LTR-FSE-29, Revision 0, "Acceptance Criteria and Applicability of the Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies (Non-Proprietary)," April 22, 2014 (ML 14129A353)

35. Westinghouse Letter LTR-NRC-14-16, Revision 0, Submittal of TR-FSE-14-1-P, Revision 1, "Use of Westinghouse SHIELD® Passive Shutdown Seal for FLEX Strategies (Proprietary/Non-Proprietary)," March 19, 2014 (ML 14084A497)

36. Westinghouse Letter LTR-RAM-I-14-057, Revision 0, "Status of Open Items from TR-FSE-14-1, Revision 1," September 30, 2014

37. Nuclear Safety Advisory Letter NSAL-14-1, Revision 1, "Impact of Reactor Coolant Pump No 1 Seal Leakoff Piping on Reactor Coolant Pump Seal Leakage During a Loss of All Seal Cooling," September 8, 2014

38. NRC 2015-0030, May 28, 2015, "Response to NRC Request for Information Pursuant to 10 CFR 50.54(f) Regarding Recommendation 9.3 of the Near-Term Review of Insights from the Fukushima Dai-ichi Accident, Emergency Preparedness-Phase 2 Staffing Assessment"

39. AREVA Inc. Engineering Information Record, 51-9199717-013, January 30, 2014
40. NRC 2015-0017, "Point Beach Flood Hazard Revaluation Report," dated March 12, 2015
41. Action Request 1745063 dated March 15, 2012, 50.54(f) Letter, 9.3 Emergency Preparedness
42. ETD 02, "Point Beach Nuclear Plant Emergency Telephone Directory Offsite Agency Call List"
43. Lesson Plan, PBNP ERP 113 001L, 3rd Quarter EP Training
44. E-mail to SROs, STAs, COs, AOs and appropriate ERO personnel, ETD 07 Revision plus GETS Info Share.ppt, June 4, 2013
45. E-mail to ERO Teams, December 13, 2013, Emergency Planning Communications Enhancements
46. Emergency Telephone Directory, ETD 07, Rev. 12, dated March 26, 2014, "Emergency Plan Telephone Systems and Operations"
47. E-mail to ERO Teams, December 12, 2013, ETD – 07 Revision, plus ETD 07 Rev. 11 Change Summary
48. Operating Instructions, OI-82, Rev. 17, dated October 22, 2014, "Communication System Operation"
49. Engineering Change, EC 282652, dated October 18, 2014, "Engineering Evaluation for Radio System Backup Power Commitment"
50. Lesson Plan, PBN LOC 14D 020 L, Outage Updates
51. Emergency Telephone Directory, EDT 08, Rev. 8, dated October 22, 2014, "Radio Operation"
52. Procedure, EPIP 4.7, Rev. 11, dated October 22, 2014, "Offsite Radiation Protection Facility (OSRPF) Activation and Evacuation"
53. NEI "White Paper - National SAFER Response Centers," September 11, 2014
54. NRC letter, Staff Assessment of National SAFER Response Centers established in Response to Order EA-12-049, to Mr. Joe Pollock, Vice President, Nuclear Operations, Nuclear Energy Institute, dated September 26, 2014, ADAMS Accession No. ML14265A107
55. AREVA Document 38-9238008-000, "SAFER Response Plan for Point Beach Nuclear Plant"
56. Point Beach White Paper, Rev. 1, "HVAC Summary During an Extended Loss of AC Power," dated August 5, 2015