

# UNITED STATES NUCLEAR REGULATORY COMMISSION

REGION III 2443 WARRENVILLE RD. SUITE 210 LISLE, IL 60532-4352

April 30, 2015

Mr. Eric McCartney Site Vice President NextEra Energy Point Beach, LLC 6610 Nuclear Road Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 NRC INTEGRATED

INSPECTION REPORT 05000266/2015001; 05000301/2015001

Dear Mr. McCartney:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Point Beach Nuclear Plant, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on April 14, 2015, with Mr. D. DeBoer and other members of your staff.

Based on the results of this inspection, two NRC-identified findings of very low safety significance were identified. One finding involved a violation of NRC requirements. Additionally, two licensee identified violations are listed in Section 4OA7. However, because of their very low safety significance and because the issues were entered into your corrective action program, the NRC is treating the issues as non-cited violations (NCVs) in accordance with Section 2.3.2 of the NRC Enforcement Policy.

If you contest the subject or severity of this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555–0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission—Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532–4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001; and the Resident Inspector Office at the Point Beach Nuclear Plant. In addition, if you disagree with the cross-cutting aspect assigned to any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Point Beach Nuclear Plant.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jamnes Cameron, Chief Branch 4 Division of Reactor Projects

Docket Nos. 50–266; 50–301 License Nos. DPR–24; DPR–27

Enclosure:

IR 05000266/2015001; 05000301/2015001 w/Attachment: Supplemental Information

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#### U.S. NUCLEAR REGULATORY COMMISSION

#### REGION III

Docket Nos: 05000266; 05000301 License Nos: DPR-24; DPR-27

Report No: 05000266/2015001; 05000301/2015001

Licensee: NextEra Energy Point Beach, LLC

Facility: Point Beach Nuclear Plant, Units 1 and 2

Location: Two Rivers, WI

Dates: January 1, 2015 through March 31, 2015

Inspectors: D. Oliver, Senior Resident Inspector

K. Barclay, Resident Inspector J. Boettcher, Reactor Engineer V. Myers, Health Physicist

Approved by: J. Cameron, Chief

Branch 4

**Division of Reactor Projects** 

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#### SUMMARY OF FINDINGS

Inspection Report (IR) 05000266/2015001, 05000301/2015001; 01/01/2015–03/31/2015; Point Beach Nuclear Plant, Units 1 & 2; Maintenance Effectiveness; and Occupational Dose Assessment.

This report covers a 3-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Two Green findings were identified by the inspectors. One of the findings was considered a non-cited violation (NCV) of NRC regulations. The significance of inspection findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using IMC 0609, "Significance Determination Process" dated June 2, 2011. Cross-cutting aspects are determined using Inspection Manual Chapter (IMC) 0310, "Aspects Within the Cross-Cutting Areas" effective date December 4, 2014. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG–1649, "Reactor Oversight Process" Revision 5, dated February 2014.

# **Cornerstone: Mitigating Systems**

Green: A finding of very low safety significance was identified by the inspectors for the failure to follow site procedure NP 7.2.13, "Processing of Vendor Technical Information." Specifically, the licensee failed to process a vendor technical bulletin in accordance with NP 7.2.13. The technical bulletin provided relevant information related to the inspection, adjustment, and replacement of an electrical connector located in some of the licensee's safety-related battery chargers. Procedure NP 7.2.13 ensured that relevant vendor correspondence received by the licensee was analyzed to identify specific actions needed to operate and maintain the plant safely. Licensee corrective actions included conducting a condition evaluation, which concluded that a lack of understanding of current vendor technical document process expectations may exist within key departments. The licensee plans to perform information sharing to increase awareness of expectations for processing vendor documents.

The finding was determined to be more than minor because, if left uncorrected, the finding had the potential to lead to a more safety significant concern. Specifically, if a degraded connector was not identified and corrected during safety-related battery charger maintenance, the charger may fail to limit current and open the supply breaker to the battery charger. The inspectors determined the finding could be evaluated using the Significance Determination Process (SDP) in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors concluded that the finding was of very low safety significance (Green), because the inspectors answered "No" to the Mitigating Systems screening questions. This finding has a cross-cutting aspect of Operating Experience (P.5), in the area of Problem Identification and Resolution, for the failure to systematically and effectively collect, evaluate, and implement relevant internal and external operating experience in a timely manner.

# **Cornerstone: Occupational Radiation Safety**

<u>Green</u>: The inspectors identified a finding of very low safety significance (Green), and an associated NCV of 10 CFR 20.1204 for the licensee's failure to take suitable measurements of quantities of radionuclides in the body for assessing internal dose for occupational exposure control. Immediate corrective actions included an evaluation of previous internal dose assessments to determine the extent of missed dose. Planned corrective actions include a review of procedures to ensure data is not disregarded without sound technical justification, and review of the duration of time for which whole-body counts are performed.

In accordance with IMC 0612, Appendix B, "Issue Screening," the inspectors determined that the performance deficiency was more than minor because it was associated with the program and process attribute of the occupational radiation safety cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, the failure to adequately assess internal exposure affects the licensee's ability to control and limit radiation exposure. The inspectors also reviewed IMC 0612, Appendix E, "Examples of Minor Issues," and did not find any similar examples. Using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve: (1) as-low-as-reasonably-achievable (ALARA) planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure; or (4) a compromised ability to assess dose. The primary cause of the finding is related to the cross-cutting aspect of resources in the human performance area (H.1). Specifically, procedures governing whole-body counting allow for the discounting of information without a proper technical justification. (Section 2RS4.1)

Violations of very low safety or security significance or Severity Level IV that were identified by the licensee have been reviewed by the NRC. Corrective actions taken or planned by the licensee have been entered into the licensee's CAP. These violations and CAP tracking numbers are listed in Section 4OA7 of this report.

#### **REPORT DETAILS**

# **Summary of Plant Status**

#### Unit 1

The unit operated at or near full power for the inspection period, except for brief power reductions to conduct planned maintenance and surveillance activities.

#### Unit 2

The unit operated at or near full power for the inspection period, except for brief power reductions to conduct planned maintenance and surveillance activities with two exceptions:

On January 25, 2015, the licensee reduced power to approximately 98 percent power after they received a low suction pressure alarm for the steam generator feed pumps. The cause of the low suction pressure was a failure of the 5B feedwater heater drain to control level and the subsequent secondary perturbation. The licensee repaired the feedwater heater drain positioner and returned to full power on January 26.

On March 11, 2015, the licensee reduced power to approximately 98.5 percent power after the failure of the leading edge flow meter, a feedwater flow measurement device that inputs into the calorimetric heat balance and reactor thermal output calculation. The licensee repaired the leading edge flow meter input to the reactor thermal output calculation and returned to full power on March 12.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

# 1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

#### a. <u>Inspection Scope</u>

The inspectors performed partial system walkdowns of the following risk-significant systems:

- Unit 1, 1P–53 auxiliary feedwater pump following testing;
- Unit 2, emergency diesel generator (EDG) fuel oil system following G–02 EDG monthly surveillance and manual fuel oil transfer; and
- Unit 1, train B residual heat removal system following testing.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, Final Safety Analysis Report (FSAR), Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, and the impact of

ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted three partial system walkdown samples as defined in Inspection Procedure (IP) 71111.04–05.

### b. Findings

No findings were identified.

### 1R05 <u>Fire Protection</u> (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

#### a. <u>Inspection Scope</u>

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Fire Zone 166: 2B–32 motor control center room;
- Fire Zone 237: component cooling water heat exchanger and boric acid tank room:
- Fire Zone 305: 4160V vital switchgear room;
- Fire Zone 306: battery room D-06;
- Fire Zone 307: battery room D-05; and
- Fire Zone 318: cable spreading room.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained passive fire protection features in good material condition, and implemented adequate compensatory measures for out-of-service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the Attachment to this report, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration

seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These activities constituted six quarterly fire protection inspection samples as defined in IP 71111.05–05.

### b. Findings

No findings were identified.

# 1R07 <u>Annual Heat Sink Performance</u> (71111.07)

#### .1 Heat Sink Performance

#### a. <u>Inspection Scope</u>

The inspectors reviewed the licensee's testing of HX–105A, the primary auxiliary building battery room ventilation cooler to verify the heat exchanger's readiness and availability. The inspectors accomplished this by observing the licensee's heat exchanger inspection and also visually verifying the cleanliness of the heat exchanger tubes. Documents reviewed for this inspection are listed in the Attachment to this document.

This annual heat sink performance inspection constituted one sample as defined in IP 71111.07–05.

#### b. Findings

No findings were identified.

#### 1R11 <u>Licensed Operator Requalification Program</u> (71111.11)

.1 Resident Inspector Quarterly Review of Licensed Operator Regualification (71111.11Q)

# a. <u>Inspection Scope</u>

On February 18, 2015, the inspectors observed crew E licensed operators in the plant's simulator during licensed operator requalification training. The inspectors verified that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and that training was being conducted in accordance with licensee procedures. In addition, the inspectors verified that the licensee's personnel were observing NRC examination security protocols to ensure that the integrity of the scenarios was being protected from being compromised. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications:
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;

- oversight and direction from supervisors; and
- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly licensed operator requalification program simulator sample as defined in IP 71111.11–05.

# b. Findings

No findings were identified.

# 1R12 <u>Maintenance Effectiveness</u> (71111.12)

#### .1 Routine Quarterly Evaluations

#### a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

D–107 battery charger.

The inspectors independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures:
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule:
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2), or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one quarterly maintenance effectiveness sample as defined in IP 71111.12–05.

#### b. Findings

# 1) Failure to Process Vendor Technical Information

Introduction: A finding of very low safety significance was identified by the inspectors for the failure to follow site procedure NP 7.2.13, "Processing of Vendor Technical Information." Specifically, the licensee failed to process a vendor technical bulletin in accordance with NP 7.2.13. Procedure NP 7.2.13 required that relevant vendor correspondence received by the licensee be analyzed to identify specific actions needed to operate and maintain the plant safely.

Description: The inspectors assessed licensee apparent cause evaluation (ACE) 1983930, "D–107 Current Limit Was Out of Range," related to multiple D–107 battery charger failures. The inspectors' review determined that the licensee's ACE identified a technical bulletin (TB) that provided relevant information related to the inspection, adjustment, and replacement of an electrical connector located in some of the licensee's safety-related battery chargers. The technical bulletin, TB-143001-00, "PCP edge card connector and terminals," was dated March 2004 with a revision published in March 2005. The licensee's ACE concluded that the vendor information was not incorporated into licensee procedures but failed to discuss why the vendor information had not been incorporated. The inspectors continued their assessment to determine why the information was not appropriately incorporated into licensee procedures and maintenance processes at the time the technical information was distributed. The inspectors reviewed procedure NP 7.2.13, which was in effect during the timeframe that TB-143001-00 and its revision were published, and found that it prescribed a process to assess vendor technical information to determine which licensee documents and drawings needed to be updated. The inspectors determined based on interviews with engineering personnel that the licensee did receive the technical bulletin around the general time of its publication; however, due to an oversight, NP 7.2.13 was not followed and the information was not submitted for review and processing.

The inspectors also reviewed the licensee's handling of the same technical bulletin during the completion of the ACE 1983930 in 2014 and found that the licensee did initiate a corrective action to incorporate the technical bulletin information into the licensee's routine maintenance procedures (RMPs), but again did not follow the process prescribed in the licensee's current procedure EN-AA-204-1107, "Processing Vendor Documents." Procedure EN-AA-204-1107 replaced procedure NP 7.2.13 in early 2014 and contained a similar comprehensive assessment of the vendor documents, including updating the equipment database with the vendor document number.

<u>Analysis</u>: The inspectors determined that the failure to follow the process for the review and approval of the vendor technical bulletin TB–143001–00/01 was contrary to licensee procedure NP 7.2.13 and was a performance deficiency. The finding was determined to be more than minor because, if left uncorrected, the finding had the potential to lead to a more safety significant concern. Specifically, if a degraded connector was not identified and corrected during charger maintenance, the charger may fail to limit current and open the supply breaker to the battery charger. The inspectors concluded this finding was associated with the Mitigating Systems Cornerstone.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial

Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors concluded that the finding was of very low safety significance (Green), because the inspectors answered "No" to the Mitigating Systems screening questions.

The inspectors determined that the performance deficiency was indicative of current performance because the licensee failed to process the technical bulletin through their current procedure, EN-AA-204-1107, when they discovered the technical bulletin during the performance of the ACE in 2014. This finding has a cross-cutting aspect of Operating Experience (P.5), in the area of Problem Identification and Resolution, for the failure to systematically and effectively collect, evaluate, and implement relevant internal and external operating experience in a timely manner. Specifically, the licensee failed to process TB-143001-00 using NP 7.2.13 in the 2005 timeframe and also failed to process the same technical bulletin using the licensee's current procedure EN-AA-204-1107 in 2014.

Licensee corrective actions included conducting a condition evaluation, which concluded that a lack of understanding of current vendor technical document process expectations may exist within key departments. The licensee plans to perform information sharing to increase awareness of expectations for processing vendor documents.

<u>Enforcement</u>: No violation of regulatory requirements are associated with this finding (FIN 05000266/2015001–01; 05000301/2015001–01, Failure to Process Vendor Technical Information).

- 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)
  - .1 Maintenance Risk Assessments and Emergent Work Control

#### a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- February 25, 2015: D–108 battery charger, D–106 125 volt DC battery, G–05 gas turbine generator and additional equipment unavailable;
- March 17, 2015: D–107 battery charger, D–105 125 volt DC battery, HX–105A primary auxiliary building battery room vent cooler and additional equipment unavailable; and
- March 18, 2015: switchyard activities in progress with D–107 battery charger, D-105 125 volt DC battery, HX–105A primary auxiliary building battery room ventilation cooler and additional equipment unavailable.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope

of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed during this inspection are listed in the Attachment to this report.

These maintenance risk assessments and emergent work control activities constituted three samples as defined in IP 71111.13–05.

## b. Findings

No findings were identified.

# 1R15 Operability Determinations and Functional Assessments (71111.15)

#### .1 Operability Evaluations

#### a. <u>Inspection Scope</u>

The inspectors reviewed the following issues:

- AR 02025163: D–105 and D-106 Battery Lid Cracking;
- AR 01983930: D–107 Current Limit Out of Range;
- AR 02012679: Past Operability Determination (POD) Issues Identified Within Calculation 2010–002; and
- AR 02021827: POD OTDT SP1 T1 Time Constant Calibration Error.

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and FSAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

This operability inspection constituted four samples as defined in IP 71111.15–05.

#### b. Findings

The inspectors identified one licensee identified violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," which is documented in Section 4OA7.

# .2 <u>Annual Sample: Review of Operator Workarounds</u>

#### a. Inspection Scope

The inspectors evaluated the licensee's implementation of their process used to identify, document, track, and resolve operational challenges. Inspection activities included, but were not limited to, a review of the cumulative effects of the operator workarounds (OWAs) on system availability and the potential for improper operation of the system, for potential impacts on multiple systems, and on the ability of operators to respond to plant transients or accidents.

The inspectors performed a review of the cumulative effects of OWAs. The documents listed in the Attachment to this report were reviewed to accomplish the objectives of the IP. The inspectors reviewed both current and historical operational challenge records to determine whether the licensee was identifying operator challenges at an appropriate threshold, had entered them into their CAP, and proposed or implemented appropriate and timely corrective actions which addressed each issue. Reviews were conducted to determine if any operator challenge could increase the possibility of an initiating event, if the challenge was contrary to training, required a change from long-standing operational practices, or created the potential for inappropriate compensatory actions. Additionally, all temporary modifications were reviewed to identify any potential effect on the functionality of mitigating systems, impaired access to equipment, or required equipment uses for which the equipment was not designed. Daily plant and equipment status logs, degraded instrument logs, and operator aids or tools being used to compensate for material deficiencies were also assessed to identify any potential sources of unidentified OWAs.

This review constituted one OWA annual inspection sample as defined in IP 71111.05–05.

#### b. Findings

No findings were identified.

# 1R18 Plant Modifications (71111.18)

#### .1 Plant Modifications

#### a. <u>Inspection Scope</u>

The inspectors reviewed the following modification:

EC 282356: Temporary Alternate Relief Valve Installation on 2T–34B, SI Accumulator.

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the FSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system(s). The inspectors, as applicable, observed ongoing and completed work activities to ensure that the modifications were installed as directed and consistent with the design control documents; the modifications operated as expected; post-modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing

systems. As applicable, the inspectors verified that relevant procedure, design, and licensing documents were properly updated. Lastly, the inspectors discussed the plant modification with operations, engineering, and training personnel to ensure that the individuals were aware of how the operation with the plant modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one temporary modification sample as defined in IP 71111.18–05.

# b. Findings

No findings were identified.

# 1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

# a. <u>Inspection Scope</u>

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- 1P–11A component cooling water pump after seal replacement;
- D–107 battery charger after maintenance; and
- G-01 EDG output breaker to bus 2A-05 control switch after replacement.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSs, the FSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted three post-maintenance testing (PMT) samples as defined in IP 71111.19–05.

#### b. Findings

# 1R22 <u>Surveillance Testing</u> (71111.22)

#### .1 Surveillance Testing

# a. <u>Inspection Scope</u>

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function, and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- 1ICP 02.032: 1P–29 AFW Suction Header Pressure Trip Channel Operability Test (Routine);
- O–PT–FP–003: Monthly Electrical Motor Driven Fire Pump Functional Test (Routine);
- 1RMP 9071–2: A06 4160/480 Degraded and Loss of Voltage Monthly Surveillance (Routine);
- 2–TS–ECCS–002 Train B: Safeguards System Venting (Routine);
- IT 12 Train A: 1P–11A, Component Cooling Water Pump and Valves Unit (In Service Test); and
- IT 65: Containment Isolation Valves Unit 2 (Containment Isolation Valve).

The inspectors observed in-plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- the effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;
- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the FSAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;

- where applicable for safety-related instrument control surveillance tests,
   reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

This inspection constituted four routine surveillance testing samples, one in service test sample, and one containment isolation valve sample as defined in IP 71111.22, Sections–02 and–05.

## b. Findings

No findings were identified.

# 1EP6 <u>Drill Evaluation</u> (71114.06)

# .1 Emergency Preparedness Drill Observation

#### a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on January 28, 2015, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the emergency operations facility to determine whether the event classification, notifications, and protective action recommendations were accurate and met the time requirements. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the CAP. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This emergency preparedness drill inspection constituted one sample as defined in IP 71114.06–06.

#### b. Findings

No findings were identified.

#### .2 Training Observation

#### a. Inspection Scope

The inspector observed a simulator training evolution for licensed operators on February 18, 2015, which required emergency plan implementation by a licensee

operations crew. This evolution was planned to be evaluated and included in performance indicator (PI) data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post-evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the CAP. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the Attachment to this report.

This inspection of the licensee's training evolution with emergency preparedness drill aspects constituted one sample as defined in IP 71114.06–06.

# b. Findings

No findings were identified.

#### 2. RADIATION SAFETY

**Cornerstones: Occupational Radiation Safety** 

2RS2 Occupational As-Low-As-Reasonably-Achievable Planning and Controls (71124.02)

The inspection activities supplement those documented in IR 05000266/2014002; 05000301/2014002, and constitute one complete sample as defined in IP 71124.02–05.

.1 <u>Inspection Planning</u> (02.01)

#### a. Inspection Scope

The inspectors reviewed pertinent information regarding plant collective exposure history, current exposure trends, and ongoing or planned activities in order to assess current performance and exposure challenges. The inspectors reviewed the plant's 3-year rolling average collective exposure.

The inspectors reviewed the site-specific trends in collective exposures, and source term measurements.

The inspectors reviewed site-specific procedures associated with maintaining occupational exposures ALARA, which included a review of processes used to estimate and track exposures from specific work activities.

#### b. Findings

No findings were identified.

#### .2 Radiological Work Planning (02.02)

#### a. Inspection Scope

The inspectors selected the following work activities of the highest exposure significance:

remove/reinstall reactor vessel head;

- containment outage in service inspection/non-destructive examination activities;
- reactor coolant pump maintenance; and
- fuel motion.

The inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements. The inspectors determined whether the licensee reasonably grouped the radiological work into work activities based on historical precedence, industry norms, and/or special circumstances.

The inspectors assessed whether the licensee's planning identified appropriate dose mitigation features, considered alternate mitigation features, and defined reasonable dose goals. The inspectors evaluated whether the licensee's ALARA assessment has taken into account decreased worker efficiency from use of respiratory protective devices and/or heat stress mitigation equipment (e.g., ice vests). The inspectors determined whether the licensee's work planning considered the use of remote technologies (e.g., teledosimetry, remote visual monitoring, and robotics) as a means to reduce dose, and the use of dose reduction insights from industry operating experience and plant-specific lessons learned. The inspectors assessed the integration of ALARA requirements into work procedure and radiation work permit documents.

The inspectors compared the results achieved (dose rate reductions and person-rem used) with the intended dose established in the licensee's ALARA planning for these work activities. The inspectors compared the person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements and evaluated the accuracy of these time estimates. The inspectors assessed the reasons (e.g., failure to adequately plan the activity and failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses.

The inspectors determined whether post-job reviews were conducted and if identified problems were entered into the licensee's CAP.

#### b. Findings

No findings were identified.

.3 <u>Verification of Dose Estimates and Exposure Tracking Systems</u> (02.03)

#### a. Inspection Scope

The inspectors reviewed the assumptions and basis (including dose rate and man-hour estimates) for the current annual collective exposure estimate for reasonable accuracy of select ALARA work packages. The inspectors reviewed applicable procedures to determine the methodology for estimating exposures from specific work activities and the intended dose outcome.

The inspectors evaluated whether the licensee established measures to track, trend, and, if necessary, to reduce occupational doses for ongoing work activities. The inspectors assessed whether trigger points or criteria were established to prompt additional reviews and/or additional ALARA planning and controls.

The inspectors evaluated the licensee's method of adjusting exposure estimates, or re-planning work when unexpected changes in scope or emergent work were encountered. The inspectors assessed whether adjustments to exposure estimates (intended dose) were based on sound radiation protection and ALARA principles or if they were just adjusted to account for failures to control the work. The inspectors evaluated whether the frequency of these adjustments called into question the adequacy of the original ALARA planning process.

# b. Findings

No findings were identified.

# .4 Source Term Reduction and Control (02.04)

#### a. <u>Inspection Scope</u>

The inspectors used licensee records to determine the historical trends and current status of significant tracked plant source terms known, to contribute to elevated facility aggregate exposure. The inspectors assessed whether the licensee had made allowances or developed contingency plans for expected changes in the source term as the result of changes in plant fuel performance issues, or changes in plant primary chemistry.

# b. <u>Findings</u>

No findings were identified.

# .5 <u>Problem Identification and Resolution</u> (02.06)

#### a. Inspection Scope

The inspectors evaluated whether problems associated with ALARA planning and controls are being identified by the licensee at an appropriate threshold, and were properly addressed for resolution in the licensee's CAP.

#### b. <u>Findings</u>

No findings were identified.

#### 2RS4 Occupational Dose Assessment (71124.04)

The inspection activities supplement those documented in IR 05000266/2014002; 05000301/2014002, and constitute one complete sample as defined in IP 71124.04–05.

# .1 <u>Internal Dosimetry</u> (02.03)

Routine Bioassay (In Vivo)

#### a. Inspection Scope

The inspectors reviewed procedures used to assess the dose from internally deposited nuclides using whole-body counting equipment. The inspectors evaluated whether the procedures addressed methods for differentiating between internal and external

contamination, the release of contaminated individuals, the route of intake, and the assignment of dose.

The inspectors reviewed the whole-body count process to determine if the frequency of measurements was consistent with the biological half-life of the nuclides available for intake.

The inspectors reviewed the licensee's evaluation for use of its portal radiation monitors as a passive monitoring system to determine if instrument minimum detectable activities were adequate to determine the potential for internally deposited radionuclides sufficient to prompt additional investigation.

The inspectors selected several whole-body counts, and evaluated whether the counting system used had sufficient counting time/low background to ensure appropriate sensitivity for the potential radionuclides of interest. The inspectors reviewed the radionuclide library used for the count system to determine its appropriateness. The inspectors evaluated whether any anomalous count peaks/nuclides indicated in each output spectra received appropriate disposition. The inspectors reviewed the licensee's 10 CFR Part 61 data analyses to determine whether the nuclide libraries included appropriate gamma-emitting nuclides. The inspectors evaluated how the licensee accounts for hard-to-detect nuclides in the dose assessment.

#### b. Findings

# 1) Failure to Quantify Radionuclides in the Body for Internal Dose Assessments

<u>Introduction</u>: The inspectors identified a finding of very-low safety significance (Green), and an associated NCV of 10 CFR 20.1204 for the licensee's failure to take suitable measurements of quantities of radionuclides in the body for assessing internal dose for occupational exposure control.

<u>Description</u>: Fleet procedure RP–AA–101, "Personnel Monitoring Program", requires that all radiation workers be monitored for radiation exposure. This includes the analysis of internal radiation exposure by performing whole-body counts. The analysis of whole-body counts and subsequent dose assessments are governed by site-specific procedures, HPIP 1.74, "Operation of the Canberra Whole-Body Counter," and HPIP 1.57.1, "Evaluation of Whole-Body Count Results". The whole-body count is used to determine the amount of each radionuclide present in the body at the time the count was performed. Based on this information, dose calculations are performed to determine the dose to the individual due to these internally deposited radionuclides. Therefore, in order to perform correct dose calculations, it is important to determine which radionuclides are in the body and the quantity present of each of these radionuclides.

While reviewing various internal dose calculations performed with investigative whole-body counts, the inspectors identified that the licensee was not accurately determining the quantity of radionuclides in the body and, therefore, was not capable of performing adequate internal dose assessments. Specific examples include:

1) On several occasions, only one energy peak of Co–60 was identified. Since both peaks were not identified, the licensee's computer software indicated that the nuclide was "unknown," and, therefore, did not assign an activity to the

radionuclide. In accordance with HPIP 1.74, radionuclides that are not assigned an activity are discounted. There was not a sound technical justification for discounting the radionuclide, and further analysis should have been performed.

- 2) On several occasions, Pb–214 was identified with the 786 keV gamma that is emitted, and was discounted due to being naturally occurring. Although Pb–214 can be found in the radon decay chain, it is not typically present in quantities sufficient enough to be detected in whole-body counts. Nb–95 and Zr–95 emit gamma radiation at 765 keV and 757 keV respectively, which had been identified on nasal swabs from the individuals and on smears taken in the work locations. As it was possible that the system misidentified Nb/Zr–95 as Pb–214, further analysis should have been performed.
- In one case, the whole-body count indicated Mn–54 was present and generated an activity for this radionuclide, but did not assign an energy value to the radionuclide. In accordance with HPIP 1.74, radionuclides that are not assigned energy are discounted. A review by the inspectors showed that Co–58 had been identified via a gamma at about 828 keV, and included an energy and activity (i.e., it was not discounted). Mn–54 emits a gamma at about 835 keV which is very close to the energy of the gamma emitted by Co–58. The lack of an energy being given for Mn–54 may have been due to the software's inability to determine whether the nuclide was Co–58, Mn-54, or a mixture of the two. Mn–54 should not have been discounted solely because the software did not assign energy for the radionuclide, and further analysis should have been performed.
- In several cases, an "unknown" radionuclide was identified via gamma radiation at about 780 keV, and the software assigned no activity associated with this radionuclide because its identity was unknown. In accordance with HPIP 1.74, radionuclides that are not assigned an activity are discounted. The inability of the software to determine which radionuclide was present, and thus the assignment of an activity, is not a sound technical justification for discounting the unknown radionuclide. Further analysis should have been performed.

<u>Analysis</u>: The inspectors determined that the licensee's inability to accurately determine the types and amounts of radionuclides in the body to perform adequate internal dose assessments was a performance deficiency that was reasonably within the licensee's ability to foresee and correct and, therefore, should have been prevented.

In accordance with IMC 0612, Appendix B, "Issue Screening," the inspectors determined that the performance deficiency was more than minor because it was associated with the program and process attribute of the occupational radiation safety cornerstone, and adversely affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that, the failure to adequately assess internal exposure affects the licensee's ability to control and limit radiation exposure. The inspectors also reviewed IMC 0612 Appendix E, "Examples of Minor Issues," and did not find any similar examples.

Using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve: (1) ALARA planning and controls; (2) a radiological overexposure; (3) a substantial potential for an overexposure;

or (4) a compromised ability to assess dose. The primary cause of the finding is related to the cross-cutting aspect of resources in the human performance area (H.1). Specifically, procedures governing whole body counting allow for the discounting of information without a proper technical justification.

Enforcement: Title 10 CFR 20.1204 requires, in part, that for purposes of assessing dose used to determine compliance with occupational dose equivalent limits, the licensee shall, when required under 10 CFR 20.1502, take suitable and timely measurements of quantities of radionuclides in the body. Contrary to the above, on multiple occasions, the licensee failed to take suitable measurements of quantities of radionuclides in the body for the purpose of assessing dose used to determine compliance with regulatory limits. Immediate corrective actions included an evaluation of previous internal dose assessments to determine the extent of missed dose. It was determined that the dose missed to individuals was typically one mrem or less. Planned corrective actions include a review of procedures to ensure data is not disregarded without sound technical justification and review of the duration of time for which whole-body counts are performed. Since the violation of 10 CFR 20.1204 was of very low safety significance and has been entered into the licensee's CAP as AR 02024304, this violation is being treated as a NCV consistent with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000266/2015001-02; 05000301/2015001-02, Failure to Quantify Radionuclides in the Body for Internal Dose Assessments).

#### 4. OTHER ACTIVITES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Occupational Radiation Safety, and Security

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours

#### a. <u>Inspection Scope</u>

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours Performance Indicator (PI) (IE01) Point Beach Nuclear Plant, Units 1 and 2, for the first quarter through the fourth quarter of 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC Integrated IRs during this time period to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two unplanned scrams per 7000 critical hours samples as defined in IP 71151–05.

#### b. Findings

# .2 <u>Unplanned Scrams with Complications</u>

# a. <u>Inspection Scope</u>

The inspectors sampled licensee submittals for the Unplanned Scrams with Complications PI (IE04) Point Beach Nuclear Plant, Units 1 and 2, for the first quarter through the fourth quarter of 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, was used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC Integrated IRs during this time period to validate the accuracy of the submittals. The inspectors also reviewed the licensee's CAP database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two unplanned scrams with complications samples as defined in IP 71151–05.

### b. Findings

No findings were identified.

#### .3 Unplanned Transients per 7000 Critical Hours

#### a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours PI (IE03) Point Beach Nuclear Plant, Units 1 and 2, for the first quarter through the fourth quarter of 2014. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99–02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, dated August 31, 2013, was used. The inspectors reviewed the licensee's operator narrative logs, CAP reports, maintenance rule records, event reports, and NRC Integrated IRs during this time period to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection constituted two unplanned transients per 7000 critical hours samples as defined in IP 71151–05.

#### b. Findings

# 4OA2 <u>Identification and Resolution of Problems</u> (71152)

# Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Occupational Radiation Safety, and Security

# .1 Routine Review of Items Entered into the Corrective Action Program

#### a. Inspection Scope

As part of the various baseline IPs discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: identification of the problem was complete and accurate; timeliness was commensurate with the safety significance; evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment to this report.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

# b. Findings

No findings were identified.

#### .2 Daily Corrective Action Program Reviews

# a. <u>Inspection Scope</u>

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages or equivalent.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

#### b. Findings

# .3 <u>Selected Issue Follow-Up Inspection: Emergency Operating Procedure Revisions</u> Following Extended Power Uprate

# a. <u>Inspection Scope</u>

During a review of items entered in the licensee's CAP, the inspectors recognized several corrective action items documenting concerns associated with deficiencies of the licensee's emergency and abnormal operating procedures, particularly following the plant's extended power uprate (EPU) for Point Beach Nuclear Plant, Units 1 and 2. The inspectors performed a review of the licensee's corrective actions for the affected procedures on both units to confirm adequate resolution of these issues. Specifically, the inspectors verified the following attributes during their review of the licensee's corrective actions for the affected procedures:

- complete and accurate identification of the problem in a timely manner commensurate with its safety significance;
- consideration of the extent of condition, generic implications, common cause, and previous occurrences;
- classification and prioritization of the resolution of the problem, commensurate with safety significance;
- identification of the apparent and/or contributing causes of the problem; and
- identification of corrective actions, which were appropriately focused to correct the problem.

The inspectors determined that numerous emergency operating procedures (EOPs) for both units contained at least two erroneous setpoints because they were not properly updated following the plant's EPU outages that were completed in 2012. In April 2011, Calculation 2010–0016 was issued which contained an error in an assumption for a reference point for pressurizer level. This error resulted in a Westinghouse Emergency Response Guideline (ERG) setpoint, used for the licensee's EOPs for pressurizer level, to be 10 percent lower than what the ERG calculation actually required for both normal and adverse containment environmental conditions. This error remained in place until the licensee discovered in 2013 that the setpoint for normal containment conditions was incorrect. Calculation 2010–0016 was revised and procedure change requests (PCRs) were generated for the corresponding EOPs; however, the adverse pressurizer level setpoint remained in error. This was discovered by the licensee during the approval process to implement the procedures with the correct normal containment pressurizer level setpoint. The inspectors determined that at that time, the licensee elected to place all of the EOP changes on hold for the normal containment pressurizer level setpoints until Calculation 2010-0016 could be revised with the adverse containment pressurizer level setpoint.

The inspectors determined that as a result of the decision to place the PCRs on hold, at least ten EOPs for both units were not revised with either correct setpoint by the completion of this inspection period. Inspectors were concerned with the timeliness of these changes and the licensees tracking of the changes. However, the inspectors determined that these changes were ultimately risk insignificant and did not warrant a finding. The licensee documented the inspectors concerns in AR 02032159 and AR 02032160 to track the completion of the changes.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152–05.

# b. Findings

No findings were identified.

# .4 <u>Selected Issue Follow-Up Inspection: Repeated Failures of the D–107 Battery Charger</u> Current Limiter Function

# a. Inspection Scope

During the performance of a maintenance rule inspection related to multiple failures of the D–107 battery charger current limiter function, the inspectors identified a trend of failures going back to the 2003 timeframe. The inspectors did not identify a violation of the maintenance rule, but were concerned with potential corrective action program weaknesses associated with the issue. The inspectors performed a selected issue follow-up of the issue to assess the licensee's corrective actions from 2003 failures up to and including the failure in the first quarter of 2015.

This review constituted one in-depth problem identification and resolution sample as defined in IP 71152–05.

#### b. Findings

The inspectors identified one licensee identified violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," which is documented in Section 4OA7.

# 4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 (Discussed) Licensee Event Report 05000266/2015–001–00: Inadequately Sealed Pipe Penetrations Result in an Unanalyzed Condition for Internal Flooding

On November 19, 2014, the inspectors questioned the adequacy of sealant in a through-wall pipe penetration separating independent trains of residual heat removal pumps in Unit 2. On November 21, 2014, the licensee inspected the same penetration on Unit 1 and discovered that the penetration gaps were not adequately sealed and the seismic qualification of the penetration seal was called into question. The licensee's review of the combined effects in the plant from various flood sources, and previous deficiencies that had been corrected, led them to the conclusion that the plant had previously been in an unanalyzed condition within the last three years. Inspection of this issue and licensee event report (LER) was in progress at the end of the quarter and will continue into the second quarter.

.2 (Closed) Licensee Event Report 05000266/2015–002–00: Unit 1 Manual Reactor Trip

On December 2, 2014, the licensee manually tripped unit 1 from 62 percent power as previously documented in IR 05000266/2014005; 05000301/2014005. A reactor startup was commenced on December 3, 2014, and the main generator was synchronized to the grid on December 4, 2014. On January 30, 2015, this event was reported by the licensee in accordance with 10 CFR 50.73(a)(2)(iv)(A) for the manual reactor protection

system actuation and the automatic system actuation of the auxiliary feedwater (AFW) system.

The licensee performed a root cause analysis and determined that the condensate pump, 1P–25B, motor bearings had been improperly assembled following a recent vendor refurbishment, which resulted in a sheared motor shaft. Because this was a multi-stage, horizontally-mounted pump and motor assembly, the pump was also damaged and was replaced prior to reactor startup. The licensee determined that extent of condition and cause was restricted to non-safety related motors due to the type and construction of motor and the licensee's reduced requirements for repair/refurbishment orders on non-safety related motors. The licensee's corrective actions included plans to revise the repair/refurbishment specifications and inspection requirements for non-safety related motors.

Based on a review of the LER, the licensee's root cause analysis of the failure, and the proposed corrective actions, the inspectors determined that no findings or violations of NRC requirements existed. Documents reviewed are listed in the Attachment to this report. This LER is closed.

This event follow-up review constituted one sample as defined in IP 71153–05.

#### 4OA6 Management Meetings

#### .1 Exit Meeting Summary

On April 14, 2015, the inspectors presented the inspection results to Mr. D. DeBoer and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

#### .2 Interim Exit Meetings

On February 13, 2015, the inspection results for the areas of occupational ALARA planning and controls and occupational dose assessment were discussed with Mr. E. McCartney, Site Vice President. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

#### 4OA7 Licensee-Identified Violations

The following violations of very low significance (Green) or Severity Level IV was identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy for being dispositioned as an NCV.

 The licensee identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to assure that design basis information was correctly translated into calibration procedures for both units over temperature delta temperature (OTDT) reactor trip instrumentation.

On January 29, 2015, the licensee discovered that lead time-constants associated with the OTDT reactor trip function for all four channels on both units 1 and 2 were incorrect, and that the calibration procedures, 1/2ICP 04.001C, for this setting also contained the incorrect values. The licensee identified this issue in AR 02021827,

which described the condition and stated that the incorrect lead time-constant values were not updated following EPUs for both units.

Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures, and instructions.

Contrary to the above, from June 15, 2012 to January 29, 2015, the licensee's calibration procedures 1/2ICP 04.001C did not contain the correct lead time-constant setting for the proper calibration for all channels of the TS required OTDT reactor trip instrumentation. The licensee entered this issue into the CAP as AR 02021827, realigned all eight of the affected channels (four on each unit), and initiated procedure changes to incorporate the correct values for these settings.

The inspectors determined that this issue was of very low safety significance (Green) after reviewing IMC 0609, "Significance Determination Process," Attachment 0609.04, "Initial Characterization of Findings," dated July 1, 2012 and IMC 0609, Appendix A, "The Significance Determination Process for Findings At-Power," dated July 1, 2012. Because the licensee determined that operability was maintained, the inspectors answered "No" to all questions in Exhibit 2, Section A, "Mitigating Structures, Systems, Components (SSCs), and Functionality". Therefore, the finding screened as very low safety significance (Green).

• The licensee identified a finding of very low safety significance (Green) and an NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," due to the licensee's failure to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures. Specifically, the licensee unacceptably preconditioned the D–107 battery charger by lifting and reseating the wire harness connector to the current limiter card prior to conducting required surveillance testing on the battery charger.

Title 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," states, in part, that a test program shall be established to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Contrary to this, from November 15, 2008 through on August 14, 2014, the licensee failed assure that all testing required to demonstrate that SSCs will perform satisfactorily in service is identified and performed in accordance with written test procedures. Specifically, procedure RMP 9359-6A, "D-105 Station Battery, D-107 Battery Charger Maintenance and Surveillances," Revisions 0-8, which the licensee used to perform its 18-month TS surveillance, improperly sequenced the step to lift and reseat the current sensing and limiting card edge connector prior to performing the surveillance test. The current limiting function for the charger is necessary to prevent the charger input current from exceeding the supply breaker current setting and tripping the battery charger when its needed for accident mitigation. The licensee entered this issue into the CAP as AR 01993719.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process,"

Attachment 0609.04, "Initial Characterization of Findings," dated June 19, 2012, and Appendix A, "The Significance Determination Process for Findings At-Power," Exhibit 2, Mitigating Systems Screening Questions, dated June 19, 2012. The inspectors answered "Yes" to question number 3 and concluded a detailed risk evaluation was necessary. To evaluate this finding, the Senior Reactor Analysts assumed that the exposure time was one-year which is the maximum allowed by the SDP.

The Point Beach Standardized Plant Analysis Risk model version 8.22 and Systems Analysis Programs for Hands-on Integrated Reliability Evaluations version 8.1.2 software was used to obtain a delta core damage frequency (ΔCDF Internal) for internal events of 6.22E–7/yr. The dominant core damage sequences involve a loss-of-offsite-power initiating event with a loss of reactor coolant pump seal cooling, a failure of rapid secondary depressurization, failure of the reactor coolant pump seals, failure of RCS cooldown (primary and secondary), and failure of high pressure recirculation.

Since the total estimated change in core damage frequency was greater than 1.0E-7/yr, an evaluation was performed for external event delta risk contributions. The evaluation found that external event risk contribution was 3.09E-7/yr, giving a total  $\Delta CDF$  of

 $\Delta$ CDF Total = 6.22E–7/yr + 3.09E–7/yr = 9.31E–7/yr.

## Large Early Release Frequency

Sequences important to Large Early Release Frequency include steam generator tube rupture events and inter-system loss-of-coolant-accident events. These were not the dominant core damage sequences for this finding.

Based on the Detailed Risk Evaluation, the inspectors determined that the finding was of very low safety significance (Green).

ATTACHMENT: SUPPLEMENTAL INFORMATION

#### SUPPLEMENTAL INFORMATION

#### **KEY POINTS OF CONTACT**

# <u>Licensee</u>

- E. McCartney, Site Vice President
- D. DeBoer, Plant General Manager
- S. Aerts, Performance Improvement Manager
- D. Forter, Project Site Manager
- A. Gustafson, Training Operations Supervisor
- T. Jessessky, Operation Shift Manager
- B. Kopetsky, Security Site Manager
- T. Lesniak, Mechanical Department Head
- M. Millen, Licensing Manager
- R. Mrozinsky, Senior Engineer
- R. Parker, Chemistry Manager
- J. Ramski, Outage Manager
- T. Schneider, Senior Engineer
- R. Seizert, Emergency Preparedness Manager
- G. Strharsky, Site Quality Manager
- R. Webber, Operations Site Director
- R. Welty, Radiation Protection Manager
- J. Wilson, Maintenance Site Director

# Nuclear Regulatory Commission

J. Cameron, Chief, Reactor Projects Branch 4

# LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

<u>Opened</u>		
05000266/2015001–01 05000301/2015001–01	FIN	Failure to Process Vendor Technical Information (Section 1R12.1)
05000266/2015001–02 05000301/2015001–02	NCV	Failure to Quantify Radionuclides in the Body for Internal Dose Assessments (Section 2RS4.1)
Closed		
0500266/2015-002-00	LER	Unit 1 Manual Reactor Trip (Section 4OA3.3)
05000266/2015001–01 05000301/2015001–01	FIN	Failure to Process Vendor Technical Information (Section 1R12.1)
05000266/2015001–02 05000301/2015001–02	NCV	Failure to Quantify Radionuclides in the Body for Internal Dose Assessments (Section 2RS4.1)
<u>Discussed</u>		
05000266/2015–001–00	LER	Inadequately Sealed Pipe Penetrations Result in an Unanalyzed Condition for Internal Flooding (Section 4OA3.2)

#### LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspector reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

# 1R04 Equipment Alignment (71111.04)

- AR 01731292; 1AF-195A 1P-53 Aux Feedwater Pump Discharge Valve Leaking
- AR 01869931; 1P-53 AFP Discharge to 1HX-1A SG First Isolation Leak
- AR 02000350; IT-40oB Procedure Performance
- AR 02015818; 2CW-52 Found ½ Turn Open
- AR 02017484; 2MOB-182 Inadvertently Opened in C-01
- AR 02020656; Inadvertent Operation of Breaker While Hanging Danger Tag
- AR 02028206; 1AF-195A Discharge to "A" SG Body to Bonnet Leak
- AR 02033371; Momentary Condenser Hotwell Level Alarm
- CE 02015861; P-35B Diesel Fire Pump Engine HTR Found Unplugged
- CL 7A; Safety Injection System Checklist Unit 1; Revision 35
- CL 10D; Fuel Oil Systems; Revision 23
- CL 13E Part 2; Auxiliary Feedwater Valve Lineup Motor Driven; Revision 51
- Control Room Logs for April 10, 2013
- Control Room Logs for April 15, 2013
- Control Room Logs for October 27, 2014
- Control Room Logs for October 29, 2014
- Control Room Logs for January 15, 2015
- Drawing 110E018; Sheet 1; P&ID Auxiliary Coolant System; Revision 70
- Drawing M-217; Sheet 1; Auxiliary Feedwater System; Revision 100
- Drawing M-217; Sheet 3; Auxiliary Feedwater System; Revision 6
- Drawing M-219; Sheet 1; Diesel Generator Building Fuel Oil System; Revision 14
- Drawing M-219; Sheet 2; Fuel Oil System; Revision 48
- Drawing P023-821140-D02; Bolted Bonnet Gate Valve (Cast); Revision 2
- FSAR; Section 6.2; Safety Injection System (SI); 2014
- IT 290; Manual Valve Stroke of AFW Pump Discharge and Service Water Supply Valves (Cold Shutdown), Unit 1; Revision 44
- IT 400; Test of 1P-53 Motor-Driven Auxiliary Feed Pump and Valves; Revision 6
- MDB 3.2.5 1B32: Master Data Book 1B32 480 V AC Motor Control Centers; Revision 23
- MDB 3.2.5 1B42: Master Data Book 1B42 480 V AC Motor Control Centers; Revision 29
- NP 2.1.3; Administrative Control of Red Locks, Lead Seal Wires, and Padlocks on Plant Equipment (Valves, Switches, etc); Revision 10
- OI 92A; Fuel Oil Ordering, Receipt, Sampling, and Offloading; Revision 23
- WO 40241246; 1AF-00195A/AFP Discharge to 1HX-1A SG First Offleak; October 30, 2014
- WO 40310269; IT-400, 1P-53 Motor-Driven Auxiliary Feed Pump and Valves; February 23, 2015

#### 1R05 Fire Protection (71111.05)

- AR 01990873; Hot Work Performed in CCW HX Room and TDAFW Room As Low Risk
- AR 01991772; Ensuring Compliance with NRC Commitments for NP 1.9.13
- AR 02021279; HELB Door Lower Capture Bolt/Pin not Functional

- AR 02026349; NRC Identified: WO Incorrectly Coded As Medium Risk
- AR 02026727; Issues with POD 02010158
- AR 02026824; CA from ACE Inappropriately Closed
- AR 02033786; Lessons Learned from Plant Fire 3/18/15
- Drawing PBC-219; Sheet 20; Fire Emergency Procedure 4.8 Aux Building & Containment Elev. 26'-0"; Revision 5
- Drawing PBC-219; Sheet 24; Fire Emergency Procedure 4.10 Aux Building & Containment Elev. 44'-0"; Revision 5
- Drawing PBC-219; Sheet 26; Fire Emergency Procedure 4.12 Turbine Building & Aux Building Elev. 8'-0"; Revision 13
- Drawing PBC-219; Sheet 3; Fire Emergency Procedure 4.3 Aux Building & Containment Elev. 8'-0"; Revision 5
- Drawing PBC-219; Sheet 36; Fire Emergency Procedure 4.16 Cable Spreading Room Elev. 26'-0"; Revision 6
- FEB 4.12; Auxiliary Feedwater Pump and Vital Switchgear Area; Revision 10
- FEP 4.3; PAB North-El. 8' Charging Pump Area Unit 2, Cryogenic Equipment Area; Revision 10
- FEP 4.8; PAB-26' Unit 1 & 2 VCT Area, Central Tank Area; Revision 9
- FEP 4.10; Auxiliary Building El. 46' CCW HX Room, GS Equipment Room; El. 26' Truck Access, Drum Prep; Revision 8
- FEP 4.16; Control Room/Cable Spreading Room/Computer Room; Revision 10
- FPER; Fire Protection Evaluation Report; Revision 14
- License Amendment Request 271; Transition to 10 CFR 50.48(c) NFPA 805;
   "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants"; 2001
- NP 1.9.9; Transient Combustible Control; Revision 25
- NP 1.9.13; Ignition Control Procedure; Revision 19
- NP 1.9.13; Ignition Control Procedure; Revision 21
- Point Beach Daily Quality Summary; March 23, 2015
- WM-AA-100-1000; Work Activity Risk Management; Revision 1
- WO 40098759-27; 1P-029/Install New Piping, Drains and Traps; November 17, 2014
- WO 40320572-16; HX-012B Contingency to Weld Repair Heat Exchanger Flange

# 1R07 Annual Heat Sink Performance (71111.07)

- AR 02026056; Delaminating Coating and Small Pits Inside HX-12B
- AR 02028117; 2HX-012D OBN Item Repair Pitting of Inlet Channel Head
- Bio/Silt Fouling Inspection Form for HX-105A; Completed on March 17, 2015
- Condition Report Search for Heat Exchanger from January 1, 2015 March 18, 2015
- ER-AA-123; NRC Generic Letter 89-13 Service Water Program; Revision 1
- GL 89-13; Program Document; Revision 11

# <u>1R11 Licensed Operator Requalification Program</u> (71111.11)

- AR 02003567; THOR: Verify Upgrade Model Steam Dump Capacity
- AR 02004604; Condensate Pumps Running With Switches in Pullout
- AR 02010595; Unit 1 MFPS Were Secured Post Unit 1 RX Trip Response
- AR 02012484; EX14 Management of Simulated Failed Fuel Event
- AR 02012530; EX14 EOP-3 VS. ECA-3.1 Consistency in Implementation
- Individual Simulator Evaluations for Operations Crew E Personnel; February 18, 2015
- LOC Cycle 15A Schedule; Revision 2

- PBN LOC 15A 001E; Simulator Exercise Guide for Crew E Cycle 15A with DEP; Revision 0
- Simulator Action Request Report from October 2014 February 18, 2015

# <u>1R12 Maintenance Effectiveness</u> (71111.12)

- 0-SOP-DC-003; 125 VDC System, Bus, D-03 & Components; Revision 15
- ACE 01983930-02; D-107 Current Limit Was Out of Range; October 23, 2014
- AOP-0.0; Vital DC System Malfunction; Revision 21
- AOP-0.0; Vital DC System Malfunction; Revision 22
- AOP-0.0; Vital DC System Malfunction; Revision 23
- AOP-0.0; Vital DC System Malfunction; Revision 24
- AOP-0.0; Vital DC System Malfunction; Revision 25
- AOP-0.0; Vital DC System Malfunction; Revision 34
- AR 01748254; D-107 Current Limit A3 Card Not Working Correctly
- AR 01990797; 1P-2B Charging Pump Speed Control Missed Opportunity
- AR 01993728; Replace A3 Molex Flug Connector Associated with D-107
- AR 01996729; ECS 282054 and 281710 Did Not Include Impacts to MR
- AR 02023851; NRC Identified D-107 Sensing Board A3 Molex Connectors
- AR 02024152; D-107 Overcurrent Protection Maintenance
- AR 02025391; Vendor Tech Manual Not Updated
- AR 02025765; Inadequate Incorporation of Vendor Information
- AR 02028436; AOP-0.0 Vital DC System Malfunction
- AR 02031054; D-107 Charger Did Not Current Limit During As Found Checks
- AR 02031431; Current Limit on D-107 Charger Exceeds 497 AMPs
- CAL 3-04-001; Confirmatory Action Letter; April 21, 2004
- Condition Report Search for Maintenance Rule; October 1, 2014 March 31, 2015
- Control Room Logs; July 24, 2014
- Control Room Logs; August 10, 2014
- Drawing 499B466; Sheet 554; Elementary Wiring Diagram D-105 DC Station Battery Charger Supply D-107; Revision 6
- Drawing 6118 E-2092; Sheet 50; Connection Diagram Train A Battery Charger MCC 2839; Revision 1
- EN-AA-204-1107; Processing Vendor Documents; Revision 1
- ER-AA-204-2006; Management of Critical Components and Single Point Vulnerabilities (SPVS); Revision 2
- FP-E-TS-01; Troubleshooting Process; Revision 2
- FP-E-TS-01; Troubleshooting Process; Revision 3
- MA-AA-100-1011; Equipment Troubleshooting; Revision 0
- Maintenance Rule Function List for 125 VDC Electrical; March 12, 2013
- Maintenance Rule Functional Failure Evaluation for AR 01983930; D-107 Current Limit Out of Range
- Maintenance Rule Performance Criteria for System 125 VDC; October 13, 2004
- NP 1.3.3; Component Instrumentation Manual; Revision 4
- NP 7.2.13; Processing of Vendor Technical Information; Revision 0
- NP 7.2.13; Processing of Vendor Technical Information; Revision 4
- NP 7.7.4; Scope and Risk Significant Determination for the Maintenance Rule; Revision 23
- PBSA-ENG-02-01; Point Beach Vendor Information Program Assessment Report
- PI-AA-100-1002; Procedure for Failure Investigation Process; Revision 10
- POR 01983930; D-107 Current Limit out of Range
- RMP 9201; Control and Documentation for Troubleshooting and Repair Activities; Revision 13
- Station Logs; July 22, 2014-August 27, 2014

- System Assessment Reports for System 125V; March 24, 2015
- TB-143001-01; PDP Edge Card Connector and Terminals; Revision 1
- Temp Change 2003-0310; Vital DC System Malfunction; July 3, 2003
- WO 40121722-19; D-107, Perform Battery Charger Load Test; March 25, 2012
- WO 40121722-20; D-107, Current Limit A3 Card Not Working Correctly; March 25, 2012
- WO 40302870-15; D-107, Troubleshoot and Repair Battery Charger
- WO 40339575; A3 Molex Plug Connector
- WO 40352228-11; D-107, Charger Inspection and Maintenance

# 1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

- AOP-30; Temporary Ventilation for Vital Areas; Revision 10
- AR 01974333; No Qual Risk Assessment for RE-234/235 OOS
- AR 01993969; Unplanned Change in Safety Monitor in Schedule
- AR 02005345; 2SI-830B OOS will Exceed Allowed Config Time for Online Risk
- AR 02009572; Based on MRFF Conclusion ACE needed for CR 0200289 Issue
- AR 02018379; Key PRA Equipment Work Activity Risk Assessment
- AR 02030674; PRA Input Required on Safety Monitor and 2-50G/A52-88 Relay
- Clearance Tag List; 0 VNCSR HX-38A1/A2 EM
- Execution Week Look-Ahead; March 16, 2015
- Execution Week Look-Ahead; March 17, 2015
- Maintenance Rule Function List; Control Room HVAC; March 12, 2013
- NP 7.7.4; Scope and Risk Significant Determination for the Maintenance Rule; Revision 23
- NP 10.3.5; Risk Monitoring and Risk Management; Revision 2
- NP 10.3.7; On-Line Safety Assessment; Revision 33
- PI-AA-100; Condition Assessment and Response; Revision 7
- PI-AA-100-1002; Procedure for Failure Investigation Process; Revision 10
- Point Beach Station Daily Status Report; Unit 1; March 17, 2015
- Station Logs; March 1719, 2015
- Station Logs; March 920, 2015
- Unit 1 Risk Safety Monitor for February 24, 2015
- Unit 1 Risk Safety Monitor for March 4, 2015
- Unit 1 Risk Safety Monitor for March 16, 2015
- Unit 1 Risk Safety Monitor for March 17, 2015
- Unit 2 Risk Safety Monitor for February 24, 2015
- Unit 2 Risk Safety Monitor for March 4, 2015
- Unit 2 Risk Safety Monitor for March 16, 2015
- Unit 2 Risk Safety Monitor for March 17, 2015
- Unit 2 Risk Safety Monitor for March 24, 2015

# 1R15 Operability Determinations and Functional Assessments (71111.15)

- 10 CFR Applicability Determination Form for Adjusting SI Accumulator Level;
   January 15, 2015
- AR 01921091; Unit 2 SI Accumulator Parameter Trends
- AR 01990795; 1/2SI-830A/B Leak Tightness Testing Versus OI-100B
- AR 01991787; Multiply Tops of Batteries with Cracks in Them
- AR 01996752; Part 21 C&D Technologies
- AR 02014625; Cracks Found on Multiple Jars of D-105
- AR 02020369; Functionality vs Operability Confusion
- AR 02020813; Operator Burdens List Discrepancies

- AR 02021493; Perform Operator Burden Review for AR 02010158 Comp Measure
- AR 02023660; U1 B SI Accumulator Pressure Alarms Early
- AR 02025163; D-105 Battery
- AR 02026399; POD Timeliness Performance at PBNP
- AR 02026554; D-105(106) Battery Repair Vendor Information
- AR 02027734; Two Control Room Deficiencies-Add to Operator Burdens List
- Calculation 2004-0025; Methodology for Determination of Power Cable Ampacity and Verification of Overload Protection Calculation; March 16, 2010
- Calculation 2008-0014; Determination of Power Cable Ampacities and Verification of Overload Protection Calculation; June 9, 2009
- Calculation 2010-0002; Cable Ampacity Evaluation for Three-Hour Fire Wrap;
   November 15, 2010
- Calculation CN-CPS-08-1; Point Beach Unit 1 Overtemperture Delta T and Overpower Delta T Loop Scaling Calculation; Revision 5
- Calculation CN-CPS-08-2; Unit 2 ΟΤΔΤ and ΟΡΔΤ Loop Sealing Calculation; Revision 4
- Calculation PBNP-IC-05-01; Unit 1 Overtemperature Delta T (OTDT) and Overpower Delta T (OPDT) Loop Scaling Calculation; Revision 2
- Calculation PBNP-IC-05-02; Unit 2 Overtemperature Delta T (ΟΤΔΤ) and Overpower Delta T (ΟΡΔΤ) Loop Scaling Calculation; Revision 2
- Condition Report Search for EN-AA-203-1001 from October 1, 2014-March 31, 2015
- Condition Report Search for Operability Determinations from October 1, 2014-March 31, 2015
- DBD-11; Safety Injection and Containment Spray System Design Basis Document; Revision 22
- DBD-19; 125 VDC System Design Basis Document; Revision 14
- Final Report 10 CFR Part 21 Evaluation Regarding Misaligned Separators in LCR-25 Standby Batteries; Revision 1
- FSAR Section 8.7; 125 VDC Electrical Distribution Systems (125V); 2014
- IEEE STD 690-2004; IEEE Standard for the Design and Installation of Cable Systems for Class 1E Circuits in Nuclear Power Generating Stations; February 18, 2005
- IEEE STD 848-1996; IEEE Standard Procedure for the Determination of the Ampacity Derating of Fire-Protected Cables; August 5, 1996
- IP 65001.09; Inspection of ITAAC-Related Installation of Electric and Fiber Optic Cable;
   August 5, 2009
- LER 266/2010-001-01; Engineered Safety Features Steam Line Pressure Dynamics Modules Discovered Outside of Technical Specification Values
- OP-AA-108-1000; Operator Burdens Program Management; Revision 0
- OP-AA-108-1000-F01; Operator Burden Assessment Sheet; Revision 0
- Operator Burdens List; February 5, 2015
- PCR 01991196; OI-100B Pressurize SI Accumulators From the Nitrogen Truck
- POD 02012679; Issues Identified within Calculation 2010-0002; December 17, 2014
- POD 02021827; OTDT SP1 T1 Time Constant Calibration Error
- POD 1727026-01; Safety Related Battery Lid Cracks; Revision 0
- Point Beach Nuclear Plant; Units 1 and 2; Technical Specifications
- Point Beach Nuclear Plant; Units 1 and 2; Technical Specifications Bases
- POR 02021827; OTDT SP1 T1 Time Constant Calibration Error; March 6, 2015
- TRHB 13.3; Point Beach Nuclear Plant Training Handbooks; Revision 4
- TRM 2.1 U1; Core Operating Limits Report (COLR); Unit 1 Cycle 36; Revision 16
- WO 40197144-01; 2ICP 4.1C Delta T SP1 Instruments Calibration; March 29, 2014
- WO 40253898-01; 1ICP 4.1C Delta T SP1 Instruments Calibration; October 12, 2014
- WO 40302870-14; D-107 Current Limit Out of Range; August 14, 2014

# 1R18 Plant Modifications (71111.18)

- Calculation 95-0149; Safety Injection (SI) System Relief Valves Setpoint Capacity; Revision 2
- Calculation 2010-10074; Qualification for Relief Valve Addition to 2T-34A and 2T-34B;
   Revision 0
- Calculation CN-LIS-08-15; Point Beach Units 1&2 (WEP/WIS) Extended Power Uprate (EPU)
   Small Break LOCA (SBLOCA) Analysis; Revision 1
- Drawing 110E035; Sheet 1; ISI Classification Diagram Safety Injection System; Revision 22
- Drawing 110E035; Sheet 1; Safety Injection System; Revision 52
- Drawing 110E035; Sheet 1; Safety Injection System; Revision 54
- Drawing DS-C-69959-2; Nozzle Type Relief Valve; Revision A
- EC 282356; Temporary Alternate Relief Valve Installation on 2T-34B, SI Accumulator; September 12, 2014
- EN-AA-205-1105; Temporary Configuration Changes; Revision 5
- FSAR Section 6.2; Safety Injection System (SI); September 2014
- FSAR Section 14.3.1; Small Break Loss of Coolant Accident Analysis; 2010
- Maintenance Rule Safety Injection Function List; March 12, 2013
- NEI 99-07; Guidelines for 10 CFR 50.59 Implementation; Revision 1
- NUMARC 93-01; Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants; Revision 4A
- OI 100 B; Pressurize SI Accumulators From the Nitrogen Truck; Revision 16
- OI 100; Unit 1 Adjusting SI Accumulator Level and Pressure Unit 1; Revision 9
- OI 100; Unit 2 Adjusting SI Accumulator Level and Pressure Unit 1; Revision 8
- PB-EPU-08-0021; Final Transmittal of WeCAIR Data Input Requested by Westinghouse for the Point Beach Extended Power Uprate; February 15, 2008
- Point Beach Nuclear Plant Maintenance Rule (a)(1) Status; January 19, 2015
- Safety Injection System Maintenance Rule Performance Criteria; October 3, 2013
- SCR 2014-0161; EC 282356 TMOD for Temporary Relief Valve on Unit 2 SI Accumulator, 2T-34B 10 CFR 50.59 Screening Form; September 6, 2014
- Unit 2 Abnormal Alignment Tracking Sheet; February 9, 2015

# 1R19 Post-Maintenance Testing (71111.19)

- AR 02000524; 1WG-1786 CIV Worked with No ORT Scheduled
- AR 02000740; 1WG-1788, Pre and Post ORTs Not Associated with Work on CIV
- AR 02019637; 1P-11A RTS Inboard Pump Seal Significant Leakage
- AR 02026504; (P) RMP 9359-6A D-105 Station (CA Tracking WW 3/9/2015)
- AR 02031054; D-107 Charger Did Not Current Limit During As Found Checks During WO 40352228-14
- AR 02031283; M&TE Not Checked Out Electronically
- Condition Report Search for PMT; October 3, 2015–March 31, 2015
- DBD-16; Emergency Diesel Generator System Design Basis Document; Revision 18
- DBD-19; 125 VDC System; Revision 14
- Drawing 499B466; Sheet 293A; Elementary Wiring Diagram 4160V SWGR 2A05 EDG G01 Cubicle 7; Revision 14
- Drawing E-1234E-A; Connection Diagram Main Control Board Section C02 Front CPR38;
   Revision 5
- Drawing E-1239E-C; Connection Diagram Main Control Board Section C02 Front Vertical;
   Revision 1
- FSAR Section 8.7; 125 VDC Electrical Distribution Systems (125V); 2014
- FSAR Section 8.8; Diesel Generator (DG) System; 2012

- Report of Calibration for MCDP-005; July 2, 2014
- Report of Calibration for MCMM-042; January 5, 2015
- Report of Calibration for MCMM-049; November 4, 2014
- Report of Calibration for OPSDP-005; June 23, 2014
- TS 81; Emergency Diesel Generator G-01 Monthly; Revision 83
- WO 40165686-01; 2A52-73-CS/Replace W2 Control Switch; August 20, 2014
- WO 40334037-01; 1P-11A CCW Pump Inboard Seal IS Leaking; January 20, 2015
- WO 40334037-02; 1P-11A Ops PMT/RTS for Bearing/Seal Replacement; January 21, 2015
- WO 40334037-06; 1P-11A Record Running Current During Pump PMT Run; January 21, 2015
- WO 40334037-09; 1P-11A CCW Pump Inboard Seal IS Leaking; January 21, 2015
- WO 40339575-01; D-107, Replace A3 Molex Plug Connector D-107; March 20, 2015
- WO 40352228-01; D-105, Battery Discharge Test; March 12, 2015
- WO 40352228-02; D-105, Pre Discharge RMP 9046-1 Qtrly Data; March 13, 2015
- WO 40352228-03; D-105/D-107 Ops Remove from Service; March 9, 2015
- WO 40352228-04; D-105/D-107, Ops Post Maint Test / RTS; March 20, 2015
- WO 40352228-05; D-105, Post Equalization RMP 9046-1 Qtrly Data; March 19, 2015
- WO 40352228-07; D-105, Re-Eval Discharge Test / Calc Capacity; March 12, 2015
- WO 40352228-08; D-105/D-107, Battery Recovery/Charger Testing; March 12, 2015
- WO 40352228-09; D-105, Battery Equalizing Charge; March 14, 2015
- WO 40352228-10; D-105/D-107, Stage Load Test Equipment; March 9, 2015
- WO 40352228-11; D-107, Charger Inspection and Maintenance; March 13, 2015
- WO 40352228-12; D-105, R/E Review Pre Disch RMP 9046-1 (Qtrly Data); March 11, 2015
- WO 40352228-13; D-105, R/E Review Post Maint RMP 9046-1 (Qtrly Data); March 19, 2015
- WO 40352228-14; D-107, Perform Pre-Maintenance Current Limiter Checks; March 20, 2015
- WO 40352228-15; D-107/Ammeter Found out of Calibration; March 12, 2015
- WO 40364523-01; 2A52-73 Control Switch Will Not Push In; January 23, 2015
- WO 40364523-02; 2A52-73-CS/Perform Bench Check of New W2 Control Switch; January 23, 2015
- WO 40364523-04; 2A52-73-CS/Ops RTS/PMT G-01 EDG Output Cktbkr (TS-81)
- WO 40367823-01; Capacitor and Printed Circuit Board Replacement; March 20, 2015

# 1R22 Surveillance Testing (71111.22)

- 0-PT-FP-003; Monthly Electrical Motor-Driven Fire Pump Functional Test; Revision 6
- 0-PT-FP-004; Annual Fire Pump Capacity Test; Revision 12
- 1ICP 02.032; 1P-29 Auxiliary Feedwater Suction Header Pressure Trip Channel Operability Test: Revision 5
- 1-SOP-CC-001; Component Cooling System; Completed on January 21, 2015
- 2-TS-ECCS-002 Train B; Safeguards System Venting (Monthly) Unit 2; Revision 5
- AR 01990438; 1SC-00951 PZR Steam Space Smpl CIV Surveillance Compliance
- AR 01991900; Unit 1 Flux Map Detector C Drift Unacceptable
- AR 01992610; Tech Spec 3.3.3 Surveillance Conflict
- Calculation 96-0284; Minimum IST Acceptance Criteria for CC Pumps; Revision 003
- Calculation 97-0231; Auxiliary Feedwater Pump Low Suction Pressure Trip Instrument Loop Uncertainty/Setpoint Calculation; Revision 2C
- CE 01621414; Preconditioning of the Unit 2 CFCS on September 21, 2010
- CE 01992610; Tech Spec 3.3.3 Surveillance Conflict
- CE 02008028; NRC Identified Potential Preconditioning
- Condition Report Search for Preconditioning; January 21, 2010-January 21, 2015
- CR 01621414; Pre-Conditioning of U1 and U2 CFCs; Revision 0
- DBD-T-40; Fire Protection/Appendix R Design Basis Document; Revision 9

- Drawing 110E163; Sheet 12B; Schematic Diagram, SI Logic Engineered Safety Featured (ESF) Systems Train 'B' Reactor Safeguards Systems; Revision 21
- Drawing 499B466; Sheet 305; Elementary Wiring Diagram 1B-04 480V Undervoltage Scheme; Revision 20
- Drawing 499B466; Sheet 306; Elementary Wiring Diagram 1B-04 480V Undervoltage Scheme; Revision 16
- Drawing 499B466; Sheet 743; Elementary Wiring Diagram Turbine Driven Auxiliary Feedwater Trip/Throttle Valve 1MS-02082; Revision 6
- Drawing 499B466; Sheet 818; Elementary Wiring Diagram Auxiliary Feed Pump Suction from Service Water AF-4006; Revision 12
- Drawing 6090F02501; Sheet 1; Elementary Wiring Diagram Engine Control for G03 (G04); Revision 14
- Drawing 6704-D-323103; Schematic Diagram 4160V SWGR Bus 1-A06 (2-A06) Undervoltage
   Diff. L.O. Relay Schemes Sheet 1 of 2; Revision 17
- Drawing CD1-15-1; Connection Diagram Rack 1C171B-F/1C-197; Revision 1
- Drawing M-217; Sheet 2; Auxiliary Feedwater System; Revision 31
- ER-AA-113-1000; Inservice Testing Procedure; Revision 0
- FPER; Fire Protection Evaluation Report; Revision 14
- FSAR; Figure 5.2-28b Reactor Coolant System Sample Lines (PZR Liquid Sample)
- FSAR; Figure 5.2-28c Reactor Coolant System Sample Lines (PZR Steam Space Sample)
- FSAR; Figure 5.2-71 Containment Sump Discharge; 2013
- FSAR Section 5.2; Containment Isolation System; 2013
- FSAR Section 6.1; Engineered Safety Features; 2012
- FSAR Section 7.4.3; AFW Pump Suction Transfer and Trip on Low Suction Pressure; UFSAR 2014
- FSAR Section 8.5; 480 Volt AC Electrical Distribution System (480V); 2012
- FSAR Section 9.1; Component Cooling Water (CC); 2014
- IT 12 Train A; 1P-11A, Component Cooling Water Pump and Valves Unit 1; Completed January 21, 2015
- IT 65; Containment Isolation Valves (Quarterly) Unit 2; March 2, 2015
- MA-AA-203-1001; Work Order Planning; Revision 3
- OI 62B; Turbine-Driven Auxiliary Feedwater System (P-29); Revision 32
- PBNP Inservice Testing Background Valve Data Sheet for 1CC-00738A; CCW Supply to RHR 1HX-11A
- PBNP Inservice Testing Background Valve Data Sheet for 2WL-01003A; P-18 RCDT Pump Suction Isolation Valve
- PBNP Inservice Testing Background Valve Data Sheet for 2WL-01003B; P-66 RCDT Pump Suction Isolation Valve
- PBNP Inservice Testing Background Valve Data Sheet for 2WL-01698; RCDT Drain to Auxiliary Building Sump Isolation Valve
- PBNP Inservice Testing Background Valve Data Sheet for 2WL-01723; Sump A Drain to Aux Bldg Sump Isolation Valve
- PBNP Inservice Testing Background Valve Data Sheet for 2WL-01728; Sump A Drain to Aux Bldg Sump Isolation Valve
- SCR 2003-0379; Evaluation of Post Maintenance Stroke Times for Unit 2 WG-1786 AOV;
   October 25, 2003
- SCR 2007-0043; Revise IT 12 (and 12A) After Rebaseline of 1P-11A Component Cooling Water; Revision 0
- SCR 2008-0185; Rebaseline of 2WL-1728 per CAP01135801; September 19, 2008
- SCR 2009-0121; Revision to IT 65 Following Rebaseline of 2WL-1723 per CAP 01145908

- SCR 2012-0008; Revision to IT 65 Following Rebaselining of 2WL-1698; January 11, 2012
- SCR 2013-0196; Revise IT 12 Train A (and 12A) After Maintenance on 1P-11A Component Cooling Water; November 7, 2013
- STPT 14.11; Setpoint Document Auxiliary Feedwater; Revision 28
- Tech Spec 3.3; Instrumentation
- Tech Spec 3.6; Containment Systems
- Tech Spec Bases 3.6; Containment Systems
- Temp Change 2003-0663; Containment Isolation Valves (Quarterly) Unit 2; October 21, 2003
- Temp Change 2003-0696; Containment Isolation Valves (Quarterly) Unit 2; October 27, 2003
- WO 40210377-01; IT 12 Train A; August 20, 2013
- WO 40214210-01; 1P-011A Change Oil, Flush Bearings and Clean Intake Grills; August 21, 2013
- WO 40310295-01; U1B-UV, Test U1 Train B Undervoltage and Degraded

## 1EP6 Drill Evaluation (71114.06)

- AR 01878574; DR2Q ERO Tabletop Drill Dep Failure
- AR 01910258; DEP Opportunity Not Presented
- AR 01964350; DR 2Q14 ERO Tabletop Drill Dep Failure
- AR 02012484; EX14 Management of Simulated Failed Fuel Event
- AR 02012490; EX14 Ineffective Use of Facility Updates
- AR 02012515; 14EX: Weakness in Implementing On-Site Protective Actions
- AR 02012522; EX14 Potentially Inadequate Validation of Mini-Scenarios
- AR 02012532; EX14: Ran Out of EPDS at South Gate House During Exercise
- AR 02012537; Normal Management Notification Process Not Used
- AR 02012539; EX14 Poor Frisking Techniques Observed Entering TSC/OSC
- AR 02012546; EX14- Identification of Other EAL Conditions CR
- AR 02012576; TSC Ventilation Alignment Delay During Drill 12/9/14
- AR 02012619; EX14: Revise 10 CFR 50.54(Q) Evaluation for 2014-PB-016
- AR 02018237; EPIP 4.1 Technical Support Center (TSC) Activation and EVA
- AR 02023701; EP Call Up A13-01 Not Completed in 2014
- AR 02029686; Requested Actions Not Completed From Graded EP Exercise CR
- CE 02012537; EX14 Normal Management Notification Process Not Used: January 13, 2015
- Completed DEP Package for February 18, 2015
- Condition Report Search for Critique from January 28, 2013-January 28, 2015
- EOF Tabletop Drill PB EPR 115 001D for January 28, 2015
- EPIP 2.1; Notifications ERO, State and Counties, and NRC; Revision 50
- NPM#2014-0309; 2014 PBNP Evaluated Exercise Final Report; December 17, 2014
- PBN LOC 15A 001E; Simulator Exercise Guide for Crew E Cycle 15A with DEP; Revision 0

#### 2RS2 Occupational ALARA Planning and Controls (71124.02)

- ALARA Package for RWP 14-1016; Remove/Reinstall RV Head
- ALARA Package for RWP 14-1019; Fuel Motion
- ALARA Package for RWP 14-1021; Reactor Coolant Pump Maintenance
- ALARA Package for RWP 14-2016; Remove/Reinstall Reactor Vessel (RV) Head
- ALARA Package for RWP 14-2035; Containment Outage In Service Inspection/Non-Destructive Examination Activities
- AR 01961451; SG Disposal ALARA Challenge Board
- AR 02007659; Outage Source Term Trending Surveys Not Completed
- AR 02014082; Hot Spot Program Deficiencies Identified

- AR 02015680; Source Term Ownership Has Not Been Assigned Per Procedure
- NP 4.2.29; Source Term Reduction Program; Revision 12
- Point Beach Nuclear Plant (PBNP) 5-Year ALARA Plan 20142018; Revision 0
- RCE 02001230; PBNP Has Experienced Higher Than Anticipated Dose Rates; Revision 1
- RP-AA-104; ALARA Program; Revision 3
- RP-AA-104-1000; ALARA Implementing Procedure; Revision 5
- RP-AA-104-1000-F02; Pre-Job ALARA Review; Various Dates
- RP-AA-104-1000-F03; Job In Progress Review; Various Dates
- RP-AA-104-1000-F04; Post-Job ALARA Review; Various Dates
- U2R33 Radiation Protection Post Outage Report; Revision 0

# <u>2RS4 Occupational Dose Assessment</u> (71124.04)

- HPIP 1.57.1; Evaluation of Whole-Body Count Results; Revision 18
- HPIP 1.74; Operation of the Canberra Whole-Body Counter; Revision 12
- PBF-4056; Whole-Body Count Evaluation; Various Dates
- PBF-4056a; Bioassay Evaluation Using Chi Squared Statistic; Various Dates
- RP-AA-101; Personnel Monitoring Program; Revision 0

# <u>4OA1 Performance Indicator Verification</u> (71151)

- Control Room Logs; February 28 March 1, 2014
- Control Room Logs; March 17, 2014
- Control Room Logs; April 17, 2014
- Control Room Logs; April 28, 2014
- Control Room Logs; May 1, 2014
- Control Room Logs; August 2425, 2014
- Control Room Logs; October 4, 2014
- Control Room Logs; October 30, 2014
- Control Room Logs; December 23, 2014
- LER 266/2015-002-00; Unit 1 Manual Reactor Trip
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 7
- NP 5.2.16; NRC Performance Indicators; Revision 19
- Performance Indicators; Units 1 And 2; Unplanned Power Changes Per 7000 Critical Hours; 1Q/20144Q/2014
- Performance Indicators; Units 1 And 2; Unplanned Power Scrams Per 7000 Critical Hours; 1Q/20144Q/2014
- Performance Indicators; Units 1 And 2; Unplanned Power Scrams with Complications Per 7000 Critical Hours; 1Q/20144Q/2014
- Point Beach PI Reporting Data; Units 1 And 2; 1Q14 Through 4Q14 For Unplanned Power Changes Per 7,000 Critical Hours
- Point Beach PI Reporting Data; Units 1 And 2; 1Q14 Through 4Q14 For Unplanned Scrams Per 7,000 Critical Hours
- Point Beach PI Reporting Data; Units 1 And 2; 1Q14 Through 4Q14 For Unplanned Scrams with Complications Per 7,000 Critical Hours

#### 4OA2 Identification and Resolution of Problems (71152)

- 10 CFR 50.59 Applicability Determination Form for EOP-3 Unit 1 and 2 Rev 48/49; February 26, 2015
- ACE 01779635; 2Q12 Green NCV Received for Deficiencies With ERG Rev 2; Revision 1

- AOP-18; Electrical System Malfunction; Revision 6
- AR 01772798; Calculation CN-CPS-07-2 Needs Revision
- AR 01779635; 2Q12 Green NCV Received for Deficiencies With ERG Rev 2
- AR 01900403; EOP-3 Setpoint Not Consistent With License Basis Analysis
- AR 01996064; AOP-30; Operator Response Time Does Not Match OM 4.3.8 Time
- AR 01996091; EOP D.8 NRML PZR Level Updated, D.09 Adverse ADV. Cont Level
- AR 02010267; Material Leakage onto Containment Penetration 1Q-26
- AR 02012855; Train LOC on Specific Condition to Support EOP-1.3 Revision
- AR 02013145; Water Level in Manholes 19 & 4
- AR 02017484; 2MOB-182 Inadvertently Opened in C-01
- AR 02017498; MOB 182 Power Inadvertently Interrupted/CI Indication Lost
- AR 02017985; Revise Damping Constant on RCP Seal Flow Low Range XMTRS
- AR 02018206; 4Q14 NRC Green NCV ? EDG Heater Room
- AR 02018680; Are HUT Floor Drain Flanges a Flood Barrier per NP 8.4.17
- AR 02018682; NRC IN: Degraded Ability to Mitigate Flooding Events
- AR 02022558; Legacy Issue With Various EOPs, SEPS, ECAS, AOPS and SEPS
- AR 02022856; 1P-001A, Inspect and Maintain Reactor Coolant Pump
- AR 02024831; Legacy Steps in EOP-1.3 Not Consistent With Design Bases
- AR 02025829; LOOP With ATWS Event Guidance for Beyond Design Event
- AR 02026108; EOP-3 Unit 2 Steam Generator Tube Rupture
- AR 02026567; Error in EOP-1.4 Transfer to Sump Recirc (Unit 1 & Unit 2)
- AR 02026792; Potential Trend EOP Procedure Challenges
- AR 02029303; RCS Temperature Control Strategy Following Faulted SG Dryout
- AR 02031258; Adverse Trend EOP Procedure Challenges
- AR 02032159; EOPs Require Update for Setpoint D8
- AR 02032160; EOPs Require Update for Setpoint PRZ Level Setpoint D9
- BG ECA-0.0; Loss of All AC Power; Revision 35
- Calculation 2010-0013; Pressurizer Pressure EOP Setpoints Calculation; Revision 0
- Calculation 2010-0014; RCS Pressure EOP Setpoints Calculation; Revision 0
- Calculation 2010-0016; Pressurizer Level EOP Setpoints Calculation; Revision 0
- Calculation 2010-0016; Pressurizer Level EOP Setpoints Calculation; Revision 1
- Calculation 2010-0016; Pressurizer Level Loop EOP Setpoint Calculation; Revision 2
- Calculation 2010-0016; Pressurizer Level Loop EOP Setpoint Calculation; Revision 3
- Calculation 2010-0019; Steam Generator Level EOP Setpoints Calculation; Revision 0
- Calculation 2010-0020; Steam Generator Pressure EOP Setpoints Calculation; Revision 1
- Calculation 2010-0022; Parameter EOP Setpoints Calculation; Revision 1
- Calculation CN-CPS-07-6; Steam Generator Narrow Range Level Instrument Uncertainty & Setpoint Calculation for Pre- and Post-EPU Conditions; Revision 3
- Calculation CN-CRA-08-47; Steam Generator Tube Rupture (SGTR) Margin to Overfill
   Analysis for Point Beach Units 1 and 2 (WEP/WIS) to Support the Extended Power Uprate;

   Revision 1
- EC 257452; EPU Final Implementation Extended Power Uprate Unit 1; Revision 1
- ECA-0.0 Unit 1; Loss of All AC Power; Revision 62
- ECA-1.1 Unit 1; Loss of Containment Sump Recirculation; Revision 39
- ECA-1.1 Unit 2; Loss of Containment Sump Recirculation; Revision 36
- ECA-1.3 Unit 1; Containment Sump Blockage; Revision 10
- ECA-1.3 Unit 1; Containment Sump Blockage; Revision 11
- ECA-1.3 Unit 2; Containment Sump Blockage; Revision 8
- EOP-0 Unit 1; Reactor Trip or Safety Injection; Revision 59
- EOP-0.1 Unit 1; Reactor Trip Response; Revision 43

- EOP-1.2 Unit 1; Post LOCA Cooldown and Depressurization; Revision 31
- EOP-1.2 Unit 2: Post LOCA Cooldown and Depressurization; Revision 30
- EOP-3 Unit 1; Steam Generator Tube Rupture; Revision 45
- EOP-3 Unit 1; Steam Generator Tube Rupture; Revision 48
- EOP-3 Unit 2; Steam Generator Tube Rupture; Revision 46
- EOP-3 Unit 2; Steam Generator Tube Rupture; Revision 48
- EOP-3 Unit 2; Steam Generator Tube Rupture; Revision 49
- EOP-3.1 Unit 1; Post-Steam Generator Tube Rupture Cooldown Using Backfill; Revision 25
- Letter NRC 2010-0005; License Amendment Request 261 Extended Power Uprate Response to Request for Additional Information; January 13, 2010
- Letter NRC 2011-0078; Calculation Project Schedule Update; September 21, 2011
- NRC Safety Evaluation Report for the Issuance of License Amendment Regarding Extended Power Uprate for Point Beach Units 1 and 2; May 3, 2011
- OM 4.3.2; EOP/AOP Verification/Validation Process; Revision 22
- PI-AA-104-1000; Corrective Action; Revision 2
- Procedure Writer's Guide; Revision 23
- SCR 2015-0017; 10 CFR 50.59 Screening Form for Update EOP-3 Unit 1 and 2 for Setpoint D.09 and G.17; February 26, 2015
- STPT 25.1; Emergency Operating Procedure (EOP) Setpoints; Revision 8
- STPT 25.1; Emergency Operating Procedure (EOP) Setpoints; Revision 9
- WO 40354876; Material Leakage onto Containment Penetration; December 4, 2014

# 4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

- AR 02010590; 1P-25B-M Lower Bearing Failed
- Calculation CN-CPS-08-1; Point Beach Unit 1 Overtemperture Delta T and Overpower Delta T Loop Scaling Calculation; Revision 5
- Calculation CN-CPS-08-2; Unit 2 ΟΤΔΤ and ΟΡΔΤ Loop Sealing Calculation; Revision 4
- Calculation PBNP-IC-05-01; Unit 1 Overtemperature Delta T (OTDT) and Overpower Delta T (OPDT) Loop Scaling Calculation; Revision 2
- Calculation PBNP-IC-05-02; Unit 2 Overtemperature Delta T (ΟΤΔΤ) and Overpower Delta T (ΟΡΔΤ) Loop Scaling Calculation; Revision 2
- LER 266/2010-001-01; Engineered Safety Features Steam Line Pressure Dynamics Modules Discovered Outside of Technical Specification Values
- LER 266/2015-002-00; Unit 1 Manual Reactor Trip
- RCE 02010590; Root Cause Evaluation for Condensate Pump Motor 1P-025B-M Failure Results in Unit 1 Reactor Trip; March 9, 2015
- TRHB 13.3; Point Beach Nuclear Plant Training Handbooks; Revision 4
- TRM 2.1 U1; Core Operating Limits Report (COLR); Unit 1 Cycle 36; Revision 16
- WO 40197144-01; 2ICP 4.1C Delta T SP1 Instruments Calibration; March 29, 2014
- WO 40253898-01; 1ICP 4.1C Delta T SP1 Instruments Calibration; October 12, 2014

#### LIST OF ACRONYMS USED

ACE Apparent Cause Evaluation

ADAMS Agencywide Document Access Management System

AFW Auxiliary Feedwater

ALARA As-Low-As-Reasonably-Achievable

AR Action Request

CAP Corrective Action Program
CCW Component Cooling Water
CFR Code of Federal Regulations
CIV Containment Isolation Valve
EDG Emergency Diesel Generator
EOP Emergency Operating Procedure

EPU Extended Power Uprate

ERG Emergency Response Guideline FSAR Final Safety Analysis Report IMC Inspection Manual Chapter

IP Inspection Procedure
IR Inspection Report
keV Kilo Electron-Volts
LER Licensee Event Report
NCV Non-Cited Violation
NEI Nuclear Energy Institute

NRC Nuclear Regulatory Commission
OTDT Over Temperature Delta Temperature

OWA Operator Workaround
PARS Publicly Available Records
PBNP Point Beach Nuclear Plant
PCR Procedure Change Request
PI Performance Indicator
PMT Post-Maintenance Testing

POD Prompt Operability Determination
RMP Routine Maintenance Procedure
SDP Significance Determination Process
SSC Structure, System, and Component

TB Technical Bulletin
TS Technical Specification

WO Work Order

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Sincerely,

/RA/

Jamnes Cameron, Chief Branch 4 Division of Reactor Projects

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