UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

May 5, 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, COMPONENT DESIGN BASES INSPECTION REPORT 05000266/2015008; 05000301/2015008

Dear Mr. McCartney:

On March 27, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed a Component Design Bases Inspection at your Point Beach Nuclear Plant, Units 1 and 2. The enclosed report documents the results of this inspection, which were discussed on March 27, 2015, with you and other members of your staff.

Based on the results of this inspection, one NRC-identified finding of very-low safety significance was identified. The finding involved a violation of NRC requirements. However, because of its very-low safety significance, and because the issue was entered into your Corrective Action Program, the NRC is treating the issue as a Non-Cited Violation (NCV) in accordance with Section 2.3.2 of the NRC Enforcement Policy

If you contest the subject or severity of the 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 copies to the Regional Administrator, Region III; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at 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 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 http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Christine A. Lipa, Chief
Engineering Branch 2
Division of Reactor Safety

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

Enclosure:
Inspection Report 05000266/2015008; 05000301/2015008
w/Attachment: Supplemental Information

cc w/encl: Distribution via LISTSERV®

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-266; 50-301
License Nos:	DPR-24, DPR-27
Report No:	05000266/2015008; 05000301/2015008
Licensee:	NextEra Energy Point Beach, LLC
Facility:	Point Beach Nuclear Plant, Units 1 and 2
Location:	Two Rivers, WI
Dates:	February 23-27, 2015; March 9-13, 2015; and March 23-27, 2015
Inspectors:	B. Jose, Senior Engineering Inspector, Lead C. Phillips, Project Engineer, Operations V. Meghani, Engineering Inspector, Mechanical J. Gilliam, Engineering Inspector, Electrical H. Leake, Electrical Contractor C. Edwards, Mechanical Contractor
Approved by:	Christine A. Lipa, Chief Engineering Branch 2 Division of Reactor Safety

Enclosure

SUMMARY OF FINDINGS

Inspection Report 05000266/2015008, 05000301/2015008; 02/23/2015-03/27/2015; Point Beach Nuclear Plant (PBNP), Units 1 and 2; Component Design Bases Inspection.

The inspection was a 3-week onsite baseline inspection that focused on the design of components. The inspection was conducted by four regional engineering inspectors, and two consultants. One Green finding was identified by the inspectors. The finding was considered a Non-Cited Violation (NCV) of U.S. Nuclear Regulatory Commission (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 Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" dated June 2, 2011. Cross-cutting aspects are determined using 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 July 9, 2013. 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.

NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding of very-low safety significance, and an associated Non-Cited Violation of Title 10, *Code of Federal Regulations* (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to implement timely corrective actions to address the longstanding issue of electrical power cables that have not been verified to be sized or protected in accordance with their design bases, as described in PBNP's Final Safety Analysis Report Section 8.0.1. Specifically, the licensee failed to correct known deficiencies regarding: (1) power cables with operating currents in excess of their current-carrying capacities; (2) power cables that are not protected against overload in accordance with the National Electrical Code; and (3) power cables for which their current-carrying capacities are undetermined. Although various corrective action documents have been initiated since these issues first came to light in the 1990 to 1991 time period, the licensee has not taken appropriate actions to correct the conditions adverse to quality to this date. The licensee entered this finding into their Corrective Action Program as Condition Report (CR) 02035020 and CR 02035680, with recommended actions to perform ampacity analysis for applicable cables, verify cables are protected against overload in accordance with the National Electrical Code, verify cable ampacities are higher than their respective load currents, and perform an evaluation to determine why this issue has not been resolved and address the safety culture aspect.

  The inspectors determined the licensee's failure to promptly correct the conditions adverse to quality regarding electrical power cables was a performance deficiency warranting a significance determination. The performance deficiency was determined to be more than minor, and a finding in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because it was associated with the Design Control attribute of the Reactor Safety, Mitigating Systems Cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the finding in accordance with IMC 0609.04,

Phase 1, “Initial Screening and Characterization of Findings.” The finding screened as having very-low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function on the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The inspectors identified a crosscutting aspect associated with this finding in the area of Human Performance, associated with the Design Margin component, because the licensee failed to ensure equipment is operated within design margins, and margins are carefully guarded and changed only through a systematic and rigorous process. [H.6] (Section 1R21.3.b (1))

Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R21 Component Design Bases Inspection (71111.21)

.1 Introduction

The objective of the Component Design Bases Inspection is to verify that design bases have been correctly implemented for the selected risk-significant components, and that operating procedures and operator actions are consistent with design and licensing bases. As plants age, their design bases may be difficult to determine, and an important design feature may be altered or disabled during a modification. The Probabilistic Risk-Assessment (PRA) model assumes the capability of safety systems and components to perform their intended safety function successfully. This inspectable area verifies aspects of the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones for which there are no indicators to measure performance.

Specific documents reviewed during the inspection are listed in the Attachment to the report.

.2 Inspection Sample Selection Process

The inspectors used information contained in the licensee's PRA, and the Point Beach Nuclear Plant (PBNP), Units 1 and 2, Standardized Plant Analysis Risk Model as the basis for component selection. Based on this, a number of risk-significant components, including those with Large Early Release Frequency (LERF) implications, were selected for the inspection.

The inspectors also used additional component information such as a margin assessment in the selection process. This design margin assessment considered original design reductions caused by design modification, power uprates, or reductions due to degraded material condition. Equipment reliability issues were also considered in the selection of components for detailed review. These included items such as performance test results, significant corrective actions, repeated maintenance activities, Maintenance Rule (a)(1) status, components requiring an operability evaluation, U.S. Nuclear Regulatory Commission (NRC) resident inspector input of problem areas/equipment, and system health reports. Consideration was also given to the uniqueness and complexity of the design, operating experience, and the available defense in depth margins. A summary of the reviews performed and the specific inspection findings identified are included in the following sections of the report.

The inspectors also identified procedures for review that were associated with the selected components. In addition, the inspectors selected operating experience issues associated with the selected components.

This inspection constituted 20 samples as defined in Inspection Procedure 71111.21-05.

(13 Non-LERF components, 2 LERF components, and 5 operating experience)

.3 Component Design

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, Technical Specifications (TSs), design basis documents, drawings, calculations and other available design basis information, to determine the performance requirements of the selected components. The inspectors used applicable industry standards, such as the American Society of Mechanical Engineers Code, Institute of Electrical and Electronics Engineers (IEEE) Standards, and the National Electric Code, to evaluate acceptability of the components' design. The NRC also evaluated licensee actions, if any, taken in response to NRC issued operating experience, such as Bulletins, Generic Letters (GLs), Regulatory Issue Summaries, and Information Notices (INs). The review was to verify the selected components would function as designed when required, and support proper operation of the associated systems. The attributes that were needed for a component to perform its required function included process medium, energy sources, control systems, operator actions, and heat removal. The attributes to verify the component condition and tested capability was consistent with the design bases, and was appropriate may include installed configuration, system operation, detailed design, system testing, equipment and environmental qualification, equipment protection, component inputs and outputs, operating experience, and component degradation.

For each of the components selected, the inspectors reviewed the maintenance history, preventive maintenance activities, system health reports, operating experience-related information, vendor manuals, electrical and mechanical drawings, and licensee Corrective Action Program documents. Field walkdowns were conducted for all accessible components to assess material condition, including age-related degradation, and to verify that the as-built condition was consistent with the design. Other attributes reviewed are included as part of the scope for each individual component.

The following 15 components, including 2 with LERF implications, were reviewed:

- 125 Vdc Battery D-105: The inspectors reviewed various electrical documents for the 125 Volts Direct Current (Vdc) D-105 Battery, including battery sizing and short circuit current calculations, TS Surveillance requirements (Service and Performance tests) to confirm the 125 Vdc system health and sufficient capacity existed for the battery to perform its safety function. The inspectors also reviewed a sample of surveillance, service, and performance test results and procedures to ensure batteries are being tested in accordance to TSs and IEEE standards. A review of various discharge tests was performed to verify the battery capacity was adequate to support the design basis duty cycle requirements, and to verify the battery capacity meets the requirements of the TS. In addition, maintenance procedures were reviewed to ensure maintenance activities (i.e. electrical termination/connection, torque requirements, no-oxide grease, etc.) were being performed according to IEEE standards and vendor manuals. The inspectors also completed a system walk down to see material conditions of the batteries and if there was any indication of degradation. The inspectors reviewed corrective action documents, trend data, and the System Health Report

- 125 Vdc Battery Charger D-107: The inspectors reviewed electrical calculations associated with the safety-related D-107 Battery Charger. These included sizing, voltage drop, and capacity calculations. The review verified methodology, design inputs, assumptions, and results. Battery Charger surveillances, corrective actions, and performance history were reviewed to ensure acceptance criteria were met, and performance degradation would be identified. In addition, the test procedures were reviewed to determine whether maintenance and testing activities for the battery charger were in accordance with vendor/ industry recommendations. The review also verified the battery charger met the TS requirements. The electrolytic capacitors of the battery charger were also reviewed to verify they are being replaced within the recommended frequency. In addition, the physical and material condition of the charger was visually inspected and corrective action documents were reviewed.

- Unit 1 White Instrument Bus Inverter: The inspectors reviewed the circuit diagrams, the short circuit current calculation, and the coordination calculation to confirm the short circuit duty and the proper coordination between the panel fuses and branch circuit cabling with the upstream protective device. The inspectors reviewed the physical and material condition by visual inspection and review of corrective action documents in order to verify identification of adverse trends. The inspectors also reviewed seismic qualification, voltage drop and minimum voltage calculations. The calculation review verified methodology, design inputs, assumptions, and results. The inspectors also reviewed recent Condition Reports (CRs), operability evaluations, and operating procedures.

- Unit 1 4160 Vac Division 1 Bus A-05: In addition to the generic list of attributes listed above, the inspectors reviewed electrical diagrams, calculations, and procedures, including system short circuit and load flow calculations. Incoming breaker protective relay trip setpoints were reviewed to evaluate the adequacy of the switchgear bus and breakers to carry anticipated loads under limiting conditions, and to withstand and interrupt maximum available faults. The inspectors also reviewed the voltage profile of the offsite system, voltage drop calculations, and the undervoltage relay settings to assess adequacy of voltage at the terminals of the safety-related loads, and ability to remain connected to offsite power under worst operating and accident conditions. Sizing of the incoming feeder cable was reviewed to determine its capability under worst case accident conditions.

- 1A Residual Heat Removal Pump (1P-10A): In addition to the generic list of attributes listed above, the inspectors reviewed the piping and instrumentation diagram, system flow path, pump capacities, and in-service testing procedures and trending results. Also, the inspectors reviewed calculations related to pump head, flow, and net positive suction head (NPSH) to ensure the pumps are capable of performing their accident mitigation function. An overview of the post-accident containment pressure/temperature analysis was performed to verify assumptions regarding residual heat removal (RHR) flowrate inputs to this analysis were consistent with the RHR system hydraulic network analysis. The inspectors reviewed system operating procedures to ensure they were consistent with design requirements. A walkdown was performed to assess material condition of the pump and supporting components. The inspectors reviewed elementary diagrams to confirm the pump operation conformed to the design

requirements. The inspectors reviewed the one-line diagram and the motor overload protection calculation to confirm proper selection of the motor circuit and motor overload protection. The voltage drop calculations were reviewed to determine whether the motor had adequate voltage for starting and running under degraded voltage conditions, and the motor circuit cabling had adequate ampacity. The inspectors also reviewed available control voltage to verify it was adequate for operation of the motor starter contactor. The maximum power demand of the pump was reviewed to verify it was properly reflected in alternating current (AC) distribution system and diesel generator loading analyses.

- 1A Residual Heat Removal Heat Exchanger (HX) (1HX-11A): In addition to the generic list of attributes listed above, the inspectors reviewed related Westinghouse Electric design basis support documentation including the procurement specification and data sheet. The inspectors reviewed the licensee's heat exchanger inspection procedures, recent inspection/test results and trending data to assess the licensee's efforts to maintain the performance capability of this equipment. The licensee's tube plugging analysis was reviewed to confirm adequate margin on heat transfer capability has been maintained after recent maintenance activities to plug a number of tubes.

- Component Cooling Water Motor Operated Valve Inlet to RHR HX-11A (CCW-MOV-CC738A): The inspectors reviewed the design basis documents, and the Motor Operated Valve (MOV) Program documents. The inspectors reviewed calculations, including required thrust, weak link, and maximum differential pressure, to ensure the valve was capable of functioning under design and licensing bases conditions. The inspectors reviewed recent surveillance and inservice test (IST) results as well as the system health report and preventive maintenance records. The inspectors also reviewed the seismic qualification documentation for the MOV. The inspectors reviewed the MOV actuator terminal voltage, and thermal overload sizing and setpoint calculations. The review verified methodology, design inputs, assumptions, and results. The inspectors also verified separation from other trains and divisions by reviewing electrical drawings and cable routing information.

- Service Water Ring Header Isolation Valves (SW-2869/2870): The inspectors reviewed the design basis documents, and the MOV Program documents. The inspectors noted the licensee had performed an evaluation in 1995, and de-classified the valve motors from safety-related to non-safety related. Since the valves did not have any active safety-related function, they were removed from the GL 89-10 MOV Program. The inspectors reviewed the AC power supply to the valve motors to confirm they received adequate voltage to operate when called upon. This review determined the valves are manually actuated, and that the motors and associated circuits have been re-classified as non-safety related. The inspectors also noted the NRC staff had reviewed the licensee evaluation, and determined the de-classification and the removal from the MOV Program were acceptable as documented in a Task Interface Agreement memorandum, TIA-95-0264. Considering the valves did not have any active safety-related function, and were not included in the MOV Program, the inspectors did not perform additional reviews.

- Unit 1 Component Cooling Water Surge Tank and Instrumentation: The inspectors reviewed the design basis documents for the Unit 1 component cooling water (CCW) surge tank as well as calculations determining the tank level set points, and the available NPSH for the CCW pumps under bounding conditions. The inspectors reviewed the seismic qualification documentation including the anchorage evaluations, and the associated modification. The inspectors reviewed the preventive maintenance work orders associated with tank periodic inspections and non-destructive examinations. The inspectors also reviewed the operator actions required to isolate the in-leakage prior to a tank overflow or relief condition. The inspectors reviewed level setpoint analyses, and the modification package for the instrumentation of the CCW Surge Tanks.

- Unit 1 Turbine Driven Auxiliary Feed Water Pump/Turbine (1P-29): In addition to the generic list of attributes listed above, the inspectors reviewed the piping and instrumentation diagram, system flow path, pump capacities, and in-service testing procedures/trending results. Also, the inspectors reviewed calculations related to pump head, flow, and NPSH to ensure the pumps are capable of performing their accident mitigation function. The inspectors reviewed system operating procedures to ensure they were consistent with design requirements. A walkdown was performed to assess material condition of the pump and supporting components.

- Turbine Driven Auxiliary Feed Water Pump Discharge Check Valve to Steam Generator 1A (1AF-106): In addition to the generic list of attributes listed above, the inspectors reviewed the forward flow and back flow surveillance test procedures, and most recent test results for this valve. The valve's procurement specification and bill of materials were also reviewed.

- 1A Safety Injection Pump (1P-15A): The inspectors reviewed safety injection pump design bases including the flow requirements, design capacity and head, NPSH, and seismic requirements as well as design calculations for determining the minimum allowable IST acceptance criteria, and the minimum water level requirements for pump protections considering NPSH and vortexing. Seismic qualification documentation for the pump including anchorage evaluation was also reviewed. Inspectors reviewed the system health reports, preventive maintenance records, and the surveillance/IST records. The inspectors reviewed elementary diagrams to confirm the pump operation conformed to the design requirements. The inspectors reviewed the one-line diagram and the motor overload protection calculation to confirm proper selection of the motor circuit and motor overload protection. The voltage drop calculations were reviewed to determine that the motor had adequate voltage for starting and running under degraded voltage conditions, and that the motor circuit cabling had adequate ampacity. The inspectors also reviewed control voltage to verify it was adequate for operation of the motor breaker. The maximum power demand of the pump was reviewed to verify it was properly reflected in AC distribution system, and diesel generator loading analyses.

- Safety Injection Pump Minimum Flow Common Air Operated Valve (1SI-897A): The inspectors reviewed the design basis of the air-operated valve including requirements for the normal and failure position. Inspectors reviewed the thrust and weak link calculations as well as the seismic qualification documents for

consistency with the Seismic Qualifications Utility Group methodology. Inspectors reviewed the IST requirements identified in the PBNP IST Program, and also reviewed recent test documentation to verify completion of tests per the program requirements. Inspectors also reviewed the recent system health report, and the preventive maintenance documents.

- Main Steam Atmospheric Dump Valve (1MS-AOV-2015) (LERF Related): In addition to the generic list of attributes listed above, the inspectors reviewed the valve's procurement specification, assembly drawing and bill of materials. The IST acceptance criteria, trend data, procedures and completed work orders were also reviewed. The environmental qualification for limiting temperature, and radiation conditions for the valve were reviewed as well.

- Main Steam Isolation Valve (1MS-2017) (LERF Related): The inspectors reviewed the design basis of the main steam isolation valve (MSIV) including the basis for its closure time requirements. The inspectors reviewed the IST Program requirements, and surveillance tests to verify their performance as required with acceptable results. The inspectors also reviewed the system health report, and the preventive maintenance records. The inspectors reviewed the Direct Current voltage drop calculation for the MSIV solenoid valves to confirm they received adequate voltage to operate during the most limiting conditions.

b. Findings

(1) Failure to Promptly Correct Conditions Adverse to Quality Regarding Electrical Power Cable Sizing and Protection

Introduction: The inspectors identified a finding of very-low safety significance, and an associated Non-Cited Violation (NCV) of Title 10, *Code of Federal Regulations* (CFR) Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to implement timely corrective actions to address the longstanding issue of electrical power cables that have not been verified to be sized or protected in accordance with their design bases, as described in PBNP's Final Safety Analysis Report (FSAR) Section 8.0.1. Specifically, the licensee failed to correct known deficiencies regarding: (1) power cables with operating currents in excess of their current-carrying capacities; (2) power cables that are not protected against overload in accordance with the National Electrical Code; and (3) power cables for which their current-carrying capacities are not determined. Although various corrective action documents have been initiated since these issues first came to light in the 1990 to 1991 time period, the licensee has not taken appropriate actions to correct the conditions adverse to quality to this date.

Description: PBNP's FSAR Section 8.0.1, states, "All cables are designed using conservative margins with respect to their current-carrying capacities." Section 8.0.1.2, states, "Supports for cable trays are designed in accordance with the tray manufacturer's recommendation based on 100 percent tray load. In general, cable trays are loaded such that power and control trays are filled less than 30 percent. Cables in trays are derated by factors recommended by Insulated Cable Engineers Association." Section 8.0.1.10, states, "All cables are protected against overload in accordance with the National Electrical Code." In 1990, the NRC conducted an Electrical Distribution System Functional Inspection (EDSFI). The Inspection Report Number 50-266/90-201 and 50-301/90-201, dated June 1, 1990, identified 210 cable tray sections for power

cables did not conform to the FSAR and the original design criteria with respect to tray fill and ampacity. The inspectors documented this condition as Deficiency 90-201-05, “Non-Conformance to Design Basis Criteria for Electrical Cable Tray Fill and Cable Ampacity Derating.” On April 5, 1990, the licensee initiated Non-Conformance Report (NCR) N-90-092 to address this condition. On August 3, 1990, the licensee responded to the EDSFI concerns, in a letter to the NRC entitled "Response to Inspection Reports 50-266/90-201 and 50-301/90-201 Electrical Distribution System Functional Inspection, which included an action to develop a tool to provide the ability to evaluate the steady state electrical loading on plant equipment (including cables) for various combinations of plant operating conditions. In this letter, the licensee further stated: “We have begun a process to formally evaluate the ampacity of cables running through these trays and evaluate the adequacy of the ampacity to perform the required functions of the cables.” On December 11, 1991, the licensee issued Calculation N-90-047, “The Derated Ampacity of Cables in Power and Control Cable Trays with Greater than 30 percent Fill,” Revision 0. This calculation discusses, on pages 10-11, analytical results that concluded 86 cables were found to have operating current in excess of their current-carrying capacities. It states, “of the 86 cables that have a calculated ampacity less than the operating current, 16 supply safety related loads.” The calculation further discusses, on pages 10-11, analytical results that concluded 488 cables were found to have overload protective device amperage settings that are in excess of the maximum settings allowed by the National Electrical Code. On December 11, 1991, the licensee issued Condition Report (CR) 01223215 entitled “Cables have Calculated Ampacity Less than Operating Current.” However, this CR was closed without correcting the issues identified in N-90-047. No CR from that time period was found that addressed the 488 cables that did not meet the FSAR requirement for overload protection.

On August 12, 1992, the licensee issued Action 5 to NCR N-90-092, to “Modify the Cable and Raceway Data System (CARDS) to automatically determine the ampacity ratings of electrical cables.” On December 18, 1992, this Action was closed because the same issue was being tracked in Commitment Tracking item 90232. Commitment 06068, stated, “the CARDS data base contains all the data necessary to calculate the allowable ampacity of electrical cables. A function will be added to the CARDS system which will calculate the allowable ampacity of each cable based on an algorithm provided by Wisconsin Electric. The value determined will be retained in the database as an attribute of the cable.” On January 22, 2003, the licensee issued corrective action document CR 01226467 entitled “Non-Compliance with FSAR for Cable Overload Protection,” which stated, “There are several occurrences where the breaker does not protect the cable in accordance to article 240 of the national electrical code.” A number of actions were initiated under this CR, none of which, corrected the breaker settings to protect the cables. The CR is still open, but the only open action is No. 05, which has a due date of May 15, 2015, to “Resolve Ampacity Related Calculations on quarantine.”

On October 30, 2007, the licensee issued corrective action document CR 01331133, which identified the current EDISON cable, and raceway data system (replacement for CARDS) is not being used to automatically generate cable ampacity values, contrary to Commitment 06068 discussed above. This CR was closed on June 4, 2013 without resolution of the issue of power cables for which no determination of current-carrying capacity has been made. Resolution of this issue was characterized as a “long term corrective action.” On September 30, 2009, the licensee issued Calculation 2009-0026, which discusses, on page 24, that safety-related cable ZGD0316A is not protected by its protective devices (fuses). On September 30, 2009, the licensee issued corrective

action document CR 01373101, which identified that cable ZGD03016A is not protected against overloads in accordance with the National Electrical Code. This issue has not been corrected to this date, and it is being tracked as a "long term corrective action."

In summary, since 1990, the licensee generated numerous corrective action documents to address concerns at PBNP associated with cable sizing and protection. However, timely and adequate corrective actions to address the non-conformances have not been implemented. Some of the corrective action documents deferred to long term corrective actions that are unclear regarding the specific conditions adverse to quality that have yet to be corrected.

The licensee entered this finding into their Corrective Action Program as CR 02035020 and CR 02035680 with recommended actions to perform ampacity analysis for applicable cables, verify cables are protected against overload in accordance with the National Electrical Code, verify cable ampacities are higher than their respective load currents, and perform an evaluation to determine why this issue has not been resolved and address the safety culture aspects.

Analysis: The inspectors determined that the licensee's failure to promptly correct the conditions adverse to quality regarding electrical power cables was a performance deficiency warranting a significance determination. The performance deficiency was determined to be more than minor, and a finding in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," because it was associated with the Design Control attribute of the Reactor Safety, Mitigating Systems Cornerstone, and it adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the finding in accordance with IMC 0609.04, "Phase 1-Initial Screening and Characterization of Findings." The finding screened as having very-low safety significance (Green) because it was a design or qualification deficiency that did not represent a loss of operability or functionality; did not represent an actual loss of safety function on the system or train; did not result in the loss of one or more trains of non-technical specification equipment; and did not screen as potentially risk-significant due to seismic, flooding, or severe weather. The inspectors identified a cross-cutting aspect associated with this finding in the area of Human Performance, associated with the Design Margin component, because the licensee failed to ensure equipment is operated within design margins, and margins are carefully guarded and changed only through a systematic and rigorous process. [H.6]

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, "Measures shall be established to assure conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected." Contrary to the above, as early as the 1990 to 1991 time period, the licensee was aware of non-conformances with FSAR Section 8.0.1 requirements regarding power cables with operating currents in excess of their analyzed current-carrying capacities, power cables not protected against overload in accordance with the National Electrical Code, and power cables for which their current-carrying capacities are undetermined. These non-conformances have not yet been corrected. Because this violation was of very-low safety significance, and it was entered into the licensee's Corrective Action Program as CR 02035020 and CR 02035680, this violation is being treated as an NCV, consistent

with Section 2.3.2 of the NRC Enforcement Policy. (NCV 05000266/2015008-01; 05000301/2015008-01, Failure to Promptly Correct Conditions Adverse to Quality Regarding Electrical Power Cable Sizing and Protection)

.4 Operating Experience

a. Inspection Scope

The inspectors reviewed five operating experience issues to ensure that NRC generic concerns had been adequately evaluated and addressed by the licensee. The operating experience issues listed below were reviewed as part of this inspection:

- IN 88-45: Problems in Protective Relay and Circuit Breaker Coordination;
- IN 2013-14; Potential Design Deficiency in Motor-Operated Valve Control Circuitry;
- IN 2012-17; Inappropriate Use Of Certified Material Test Report Yield Stress And Age-Hardened Concrete Compressive Strength In Design Calculations;
- IN 2014-03; Turbine Driven Auxiliary Feedwater System Overspeed Trip Mechanism; and
- Power Conversion Products Technical Bulletin TB-143001-01 PCP Edge Card Connector and Terminals.

b. Findings

No findings were identified.

.5 Modifications

a. Inspection Scope

The inspectors reviewed six permanent plant modifications related to selected risk-significant components to verify the design bases, licensing bases, and performance capability of the components had not been degraded through modifications. The modifications listed below were reviewed as part of this inspection effort:

- Engineering Change (EC) 99-49341, Replacement of LT-618 T-12 CC Surge Tank Level Transmitter;
- EC 94-091B, Auxiliary Building Design Enhancements;
- EC 278265, Unit 1 & 2 P-15A, B Safety Injection Pump Anchor Bolt Drawing Discrepancies;
- EC 13407, Transition to New Motor-Driven Auxiliary Feedwater Pump Trains for Units 1 & 2;
- EC 272527, Auxiliary Feedwater Pump Turbine Replacement; and
- EC 94-653, Raised Covers for Overfilled Cable Trays.

b. Findings

No findings were identified.

.6 Time Critical Operator Action Review

a. Inspection Scope

The inspectors observed licensed operators perform a Loss of Coolant Accident (LOCA) with Loss of 4160 V Electrical Bus scenario that required the performance of the following time critical operator actions:

- Safety-Related Battery Charger Restoration (1 hour)
- Switchover from Refueling Water Storage Tank to Containment Sump Recirculation (34 to 10 percent)
- Restore Auxiliary Building Ventilation within 30 Minutes after Establishing Containment Sump Recirculation

The inspectors also observed licensed operators perform a LOCA with Loss of 4160 V Electrical Bus scenario that required the performance of the following time dependent Operator Action:

- Secure Containment Spray Injection on a Large Break LOCA no Earlier than 40 Minutes

The Inspectors also observed licensed operators perform the following:

- Reactor Coolant Pump Thermal Barrier Failure with the Failure of 1CC 761A to Close Scenario
- Perform Manual Hand Pump Operation of the Containment Sump B Isolation Valves Job Performance Measure

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA2 Identification and Resolution of Problems

.1 Review of Items Entered Into the Corrective Action Program

a. Inspection Scope

The inspectors reviewed a sample of the selected component problems identified by the licensee and entered into the Corrective Action Program. The inspectors reviewed these issues to verify an appropriate threshold for identifying issues, and to evaluate the effectiveness of corrective actions related to design issues. In addition, corrective action documents written on issues identified during the inspection were reviewed to verify adequate problem identification, and incorporation of the problem into the Corrective

Action Program. The specific corrective action documents sampled and reviewed by the inspectors are listed in the Attachment to this report.

The inspectors also selected five issues identified during previous Component Design Bases Inspections to verify that the concern was adequately evaluated, and corrective actions were identified and implemented to resolve the concern, as necessary. The following issues were reviewed:

- FIN 5000266/301/2011009-04; Turbine Building Structural Steel Floor beams did not Meet AISC Requirements;
- NCV 05000266/301/2011009-02; Failure to Incorporate Minimum Auxiliary Feedwater Flow Requirements into EOPs;
- NCV 05000266/301/2008009-01; Equalizing Charge Voltage not Bounded by Battery Room H2 Generation Calculation;
- NCV 05000266/301/2008009-02; Non-Conservative Design Basis for Primary Auxiliary Buildings Heat-up; and
- NCV 05000266/301/2008009-04; RHR Pump Suction Pressure Gages Repeatedly found to be out of Tolerance.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On March 27, 2015, the inspectors presented the inspection results to Mr. E. McCartney, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. Several documents reviewed by the inspectors were considered proprietary information, and were either returned to the licensee or handled in accordance with NRC policy on proprietary information.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

E. McCartney, Site Vice President
J. Jensen, Vice President Fleet Support
D. Deboer, Plant General Manager
M. Millen, Licensing Manager
L. Chistensen, Licensing Project Manager
S. Aerts, Performance Improvement Manager
R. Webber, Operations Director
R. Seizert, EP Manager
R. Parker, Chemistry Manager
J. Pierce, Training Manager
L. Hawki, Engineering Manager
G. Strharsky, NOS Manager
D. Forter, Project Site Manager
B. Woyak, Engineering Manager
P. Wild, Engineering Design Manager
M. Rosseau, Engineering Design Supervisor
A. Gustafson, Operations Training Supervisor
B. Gerbers, Design Engineering
C. Gerbers, Design Engineering
J. Hudson; Design Engineering
T. Lensmire, Design Engineering
K. Locke, Licensing

U.S Nuclear Regulatory Commission

M. Shuaibi, Deputy Director, DRS
D. Oliver, Senior Resident Inspector
K. Barclay, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000266/2015008-01; 05000301/2015008-01	NCV	Failure to Promptly Correct Conditions Adverse to Quality Regarding Electrical Power Cable Sizing and Protection (Section 1R21.3.b.(1))

Discussed

None.

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections of 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.

CALCULATIONS

Number	Description or Title	Revision
2009-0013	Extended Power Uprate Related EOP Setpoint Calculations	01
N-93-058	D105 DC System Sizing, Voltage Drop, and Short Circuit	08
PDE-RFS-W-864	Component Cooling Surge Tank Level Set Points	September 18, 1969
N-93-041	Hydrogen Buildup in the Battery Rooms	03
N-92-005	125 Vdc Coordination Analysis	02
2003-0014	MOV Operating Parameters	07
P-94-005	Motor Stem Thrust Calculation for Gate and Globe Valves	11
N-93-70	1(2) CC-738A, 738B (Group 10) MOV Differential Pressure Calculation	February 1, 1994
DC-037	Required Thrust and Weak Link Calculations	A
2005-0010	Component Cooling Water System Relief Valve Setpoint Capacity	00A
91C2696-C-11	USI A-46 / IPEEE, Equipment Fragilities for 1T12 and 2T12	0
WE-100145	Piping analysis for the SI pump minimum flow lines (1SI 897A/B)	01
10.4.148	COPES-VULCAN Report, Thrust and Limiting Component Calculations (for 1SI 897A/B valves)	01
129187-C-0080	Corrective Action Report of Structural Steel Turbine Building Operating Floor for Legacy Issues	0
N-92-086	ECCS Pump Protection	04
96-0191	Minimum Allowable IST Acceptance Criteria for SI Pump Performance	05
N-92-086	ECCS Pump Protection	4a
CN-LIS-08-67	Point Beach Units 1 and 2 (WEP/WIS) Extended Power Uprate (EPU) Post-LOCA Long Term Cooling	01
96-0244	Minimum allowable I(ST Acceptance Criteria for Turbine and Motor-Driven Auxiliary Feedwater (AFW) Pump Performance	---
1109-C-003	Main Steam Air Operated Valves (AOVs) Functional and MEDP Calculation	01
1109-C-014	AOV Component Level Calculation, MS-02015 (Units 1 & 2), MS-02016 (Unit 1 & 2)	01

CALCULATIONS

Number	Description or Title	Revision
M-09334-298-ECCS.1	Thermal Hydraulic Model	05
2006-0021	ECCS System Accident Analysis flow Inputs	0
2006-0022	Emergency Core Cooling System Pump Motive Force	0
96-0229	Minimum Allowable IST Acceptance Criterion for RHR Pump Performance	03
96-0244	Minimum Allowable IST Acceptance Criterion for Turbine Driven and Motor Driven AFW Pump Performance	03
2005-0021	Turbine Driven Auxiliary Feedwater Pump Motive Force	09
2005-0011	AFW Thermal Hydraulic Flow Model	1-G
09334-007-2	Calc for Firestop Ampacity Derating Factors	0
129187-ER-0001	Medium Voltage Cable Ampacity Calculation	01
2001-0033	Electrical Input Calc, 345-480V SWGR Circuits	10
2001-0049	480V Switchgear Coordination and Protection	02
2002-0023	MCC Breaker Sizing	01
2003-0007	Electrical Input Calc, 480V MCC Circuits	10
2004-0001	AC Electrical System Analysis--Model Inputs	10
2004-0002	AC Electrical System Analysis	05
2004-0003	Differential Relay Application and Setting Calculation	01
2004-0009	13.8KV and 4.16KV Protection and Coordination	02
2004-0025	Methodology for Determination of Power Cable Ampacity and Verification of Overload Protection Calculation	0
2004-0030	480V MCC and Power Panel Coordination	01
2005-0007	Electrical System Transient Analysis	03
2005-0008	Minimum Voltage Requirements for SR MCC Control Circuits	0
2005-0048	Overload Heater Sizing Calculation	0
2006-0022	Emergency Core Cooling System Pump Motive Force	0
2008-0005	4.16 kV and 480 V Loss of Voltage and Under-Frequency Relay Settings	02
2008-0014	Determination of Power Cable Ampacities and Verification of Overload Protection Calculation	0
2009-0026	Cable Ampacity for Fire Wrapped Raceways	0
2010-0002	125 VDC Master Input Calculation	0
6704.001-C-075	Control Building Cable Tray Supports	01
E-09334-229-AP-1	Justification for CR 91-557, Item 6	0
E-09334-399-AP.3	Design Guideline DG-E09 (Cable Ampacity Derating Factors for Firestops)	0
FPTE-2007-001	Technical Evaluation of Associated Circuits by Common Power Supply and by Common Enclosure	0

CALCULATIONS

Number	Description or Title	Revision
N-90-047	The Derated Ampacity of Cables in Power and Control Cable Trays with Greater than 30% Fill	0
N-92-005	125 VDC Coordination Analysis	02
N-93-056	D05 DC System Sizing, Voltage Drop and Short Circuit Calculation	07
N-93-093	Electrical Containment SC Current Capability	01
P-89-031	Voltage Drop Across MOV Power Lines	13
P-90-017	MOV Undervoltage Stem Thrust and Torque	23
P-94-004	MOV Overload Heater Evaluation	14
PB009-CALC-005	Cable Ampacity Calculation for the 1X04 Feed to Switchgear 1-A03 and 1-A04	0
V878-15-CA-02	Appendix R 120 VAC and 125 VDC Branch Circuit Coordination	0

CORRECTIVE ACTION DOCUMENTS GENERATED DUE TO THE INSPECTION

Number	Description or Title	Date
02027535	Calculation 2001-0033 not Updated for X-04 Tap Modification	February 23, 2015
02027673	FSAR not Updated for Kewaunee Closure	February 24, 2015
02027906	Incorrect DBD-22 Reference regarding Delayed LOOP	February 24, 2015
02028133	Documents not Updated for Current Maximum Switchyard Voltage	February 25, 2015
02028886	No Loading Calculation	February 27, 2015
02029537	Calculation 2001-0049 not Updated to Reflect Decision regarding RHR Pump Breaker Settings	March 3, 2015
02031057	Calculation 2006-0022 Maximum Frequency Value Inconsistent with Other Documents	March 9, 2015 15
02031224	Voltmeter Uncertainty not Accounted for regarding Maximum Switchyard Voltage Levels	March 10, 2015
02031234	Downgrade of SW-2869-M and SW-2870-M to NSR not Implemented Correctly	March 10, 2015
02031553	Wording Error in Procedure ARB C02 D 3-3	March 11, 2015
02031582	Procedure ARB C02 D 3-3 not Explicit regarding TS Implications of Loss of Transformer 1X-13 Fans	March 11, 2015
02031613	TS Basis 3.8.1 References a Cancelled Calculation	March 11, 2015
02031620	Minor Errors in Calculation 2001-0033	March 11, 2015
02034713	Irrelevant Step 3.2 in Procedure 1-SOP-19KV-001	March 24, 2015
02035020	Outstanding Cable Ampacity Issues not Explicitly Described in Existing Corrective Action Documents	March 25, 2015
02035014	Calculation 2004-0030 not Updated to Reflect Resolution of Breaker Miscoordination Issue	March 25, 2015
02035096	50.59 Inadequate for Procedure Change to Allow BOP Loads to be Aligned to HVSAT	March 25, 2007
02035433	Adverse Trend Regarding Documentation Errors	March 26, 2015

CORRECTIVE ACTION DOCUMENTS GENERATED DUE TO THE INSPECTION

Number	Description or Title	Date
02035680	Green NCV, Failure to take Timely Action to Correct a Non-Compliance with the FSAR in Regards Cable Ampacity	March 27, 2015
02032303	CMP 2.2.8.10 Incorrectly Lists Normal Position of CC-738's	March 13, 2015
02035413	During 2015 Component Design Bases Inspection (CDBI) DOC Updates Identified for CMP 2.2.8.10	March 26, 2015
02035177	During 2015 CDBI PRA 5.8 and PBN TRN HRHB Require Update	March 25, 2015
02034484	DBD-11 Sections 3.29.2, 3.29.3, 3.29.5 Require Update	March 24, 2015
02035610	2015 CDBI-Deficient SQUG Evaluation of Valves 1SI-897A/B	March 26, 2015
02035405	2015 CDBI Review 12918709-C-0033 Lateral Support from Gratin	March 26, 2015
02034756	Invalidated Assumptions in Calculation N-92-086	March 24, 2015
02033850	CDBI 2015; Non-Conservative Tolerance in As-found SI FIT-659	March 19, 2015
02035063	CDBI 2015: Station Log Oil Level Instructions EOC	March 25, 2015
02035012	CDBI 2015: Hydraulic Pump Used In EOPs and MRule Scope	March 25, 2015
02028380	2015 CDBI: 1P-15B HHSI Oil Level Questioned	February 24, 2015
02028270	D-107 ACE Differs from MR Evaluation	February 24, 2015
02028836	During RHR Walkdown Several Loose Items were Noted in Various Locations	February 27, 2015
02030298	DBDs Reference a DBD that does not Exist	March 5, 2015
02031290	A Transposition Error was Found in Calculation 96-0229	March 10, 2015
02032053	Breaker Check Steps Removed from RMP 9359-6C/D109	March 12, 2015
02032050	SI-852 Core Deluge Valves not Periodically Flow Tested	March 12, 2015
02032203	AOP-22 EDG Load Management has Inappropriate Direction	March 13, 2015
02032195	Uncertainty for System Curves not Addressed in ECCS	March 13, 2015
02035084	ECCS Flow Model Enhancements	March 25, 2015
02035106	FSAR Figure 6.2-5 Update	March 25, 2015
02030883	D-107 MR Evaluation Differs from Completed RMP	March 9, 2015
02028601	50.59 for PAB Floor Drain Filter Socks not Found	February 26, 2015
02028464	Discrepancy in N-93-058 Calculation Reference Numbers	February 26, 2015
02031343	Potential Drawing Errors	March 10, 2015

CORRECTIVE ACTION DOCUMENTS REVIEWED DURING THE INSPECTION

Number	Description or Title	Date
01626560	Modification May Be Required to HHSI Pumps for EPU/SUP	March 5, 2011
02031955	PC Part 1 – Monthly Operations Inventory Report	March 12, 2015
01785395	NRC Cross Cutting Issue H.2.c Human Performance – Resources – Documentation Adverse Trend," Revision 1	October 15, 2012
01678638	Evaluate ERG Setpoint Deviation for AFW Flow Setpoint in EOP	August 17, 2011
02019109	2015 CDBI FSA: Valve Position TS SR for CC	January 16, 2015
01917763	Cracked Battery	November 7, 2013
0128661	Request Evaluation of OE21741- Cracks Identified on 125V DC Battery	December 15, 2005
01750659	D-105 has Cracks on Jar Lids	April 4, 2012
0138657	Low Electrolyte in all D-105 Cells	July 16, 2009
01396690	D-105 Discharge Profile- Uprate Mods	September 19, 2010
01346654	CDBI- Battery Room Hydrogen Calculation Inconsistent with RMP	July 8, 2008
01813170	Issues Identified in CALC N-93-058	October 15, 2012
01952174	Battery Testing Non-Conforming to CLB Requirements	March 27, 2014
01983930	D-107 Current Limit Out of Range	August 13, 2014
1901191	IN 2013-14	October 11, 2013
01396926	Tripped D-107 Battery Charger During Testing	September 22, 2010
01922250	1CC-738A Leakage From Packing and Body-to Bonnet Areas	November 21, 2013
1392069	Unit 1 CCW is leaking into Unit 2 CCW	July 2, 2010
1951427	Unit 1 CC Surge Tank Level Lowering at Increased Rate	March 25, 2014
1802753-01	NRC Information Notice 2012-17	October 25, 2012
1839469	2P-15A / Anchor Bolt DOC Discrepancy	January 15, 2013
1813334	FUKU Seismic WD: DOC Discrepancy 2P-15B Anch Bolt	October 15, 2012
2024054	SQUG GIP Not Followed for Conduit Installation	February 9, 2015
1682352-02	2011 CDBI: Inadequate Justification for Non-compliance; Apparent Cause Evaluation, Revision 1	November 26, 2011
1360677	RHR heat exchanger insulation concerns	January 29, 2009
1385005	FM found in RHR HX-11A	---
1385133	TUBE VIBRATION DAMAGE IN RHR HX-11A	---
1394174	RHR HX Shell Side Flow Induced Tube Vibration	---
1808911	1MS-2016 ASD LEAKING BY	October 2, 2012
1394552	NO DOCUMENTATION OF MISSION TIME EVAL FOR U1 OR U2 RHR HXS	---
1950401	CHANGE IN 1P-10A RHR PUMP VIBRATION	March 19, 2014
1948109	Internal Flooding Hazards in PAB not fully Evaluated	March 13, 2014

CORRECTIVE ACTION DOCUMENTS REVIEWED DURING THE INSPECTION

Number	Description or Title	Date
NCR N-90-092	Power and Control and Instrument Tray Overloading	April 6, 1990
CR 01223215	Cables Have Calculated Ampacity Less Than Operating Current	December 11, 1991
CR 01226467	Non-Compliance with FSAR for Cable Overload Protection	January 22, 2003
CR 01230890	Electrical Calculation Action Items Closed to LER Action ITE	July 7, 2003
CR 01286578	Mis-Coordination with 1(2)B-30 and Q-List Discrepancy	December 19, 2005
CR 01286584	Mis-Coordination of 2B-39 and 2B-49	December 19, 2005
CR 01331133	Missed 50.59 when Circuit and Raceway Program Revised	October 30, 2007
RWT 01333560	Mis-Coordination of MCC 1B49 and 2B39 Circuit Breakers	December 10, 2007
CR 01346071	Repeated Problems Found with PI-653 Gauges	June 28, 2006
CR 01346391	PBNP Not Following NP Procedural Requirements	July 2, 2008
CR 01373101	Cable ZGD03016A Not Protected Against Overload per NEC	September 30, 2009
RWT 01384138	Resolve Quarantined Ampacity Calculation Issue	March 6, 2010
CR 01612246	Inadequate Justification for 2008 NCV CR Closure	January 25, 2011
CR 01833706	Questionable 1P-15A HHSI Pump Test Results	December 18, 2012
CR 01932579	Pressure Test Gage did not Rezero after it was Depressurized	January 13, 2014
LIC 02021694	Correct FSAR 8.0-8.1 Description	January 29, 2015
CR 02024305	No Isolation Between Components Classified as SR and QR	February 10, 2015

DRAWINGS

Number	Description or Title	Revision
PB-31-E-DCK-002	Single Line Diagram 125 Volt D.C. System	21
PB-31-E-DCK- 001	Single Line Diagram 125 Volt D.C. System	64
PB-31-E-DCK- 004	Single Line Diagram 125 Volt D.C. DIST. System	04

DRAWINGS

Number	Description or Title	Revision
PB-01-ECCS-165-002	Elementary Wiring Diagram 1HX-011A Reactor Heat Removal Shell Side Inlet	05
PB-02-ECCS-165-005	Elementary Wiring Diagram 2HX-011A Reactor Heat Removal Shell Side Inlet	05
110E018	P&ID Auxiliary Coolant System, Sheet 1	70
110E018	P&ID Auxiliary Coolant System, Sheet 3	43
110E017	P&ID Safety Injection System, Sheet 2	65
83309	Detail 10”-150# Cast Steel Gate Valve (CC-738)	5
D-364951	Series D Valve Assembly with 1000-160 DA Actuator (1SI 897A/B, SI minimum flow valves)	01
D-364950	Actuator Assembly (1SI-897A/B, SI minimum flow valves)	02
110E018 Sht 1	Auxiliary Coolant system P&ID	70
110E018 Sht 2	Auxiliary Coolant system P&ID	43
110E017 Sht 1	Sa fety Injection System P&ID	59
110E017 Sht 2	Safety Injection System P&ID	62
541F091 Sht 1	Reactor coolant System P&ID	54
6118 M-201 Sht 1	Main & Reheat Steam System P&ID	62
6118 M-217, Sht. 1	Auxiliary Feedwater System P&ID	100
6118 M-217, Sht. 2	Auxiliary Feedwater System P&ID	31
6118 M-217, Sht. 3	Auxiliary Feedwater System P&ID	05
6118 M-207, Sht. 1	Service Water System P&ID	86
6118 M-207, Sht. 1a	Service Water System P&ID	40
6118 M-208, Sht. 1	Fire Water System P&ID	44
6118 M-208, Sht. 2	Fire Water System P&ID	35
499B466 Sh. 222A	Elementary Wiring Diagram Safety Injection Pump 1P-015A	02
499B466 Sh. 321A	Elementary Wiring Diagram 1P-10A RHR Pump	01

DRAWINGS

Number	Description or Title	Revision
499B466 Sh. 398	Elementary Wiring Diagram 1P-10A/B RHR Pump Alternate Supply	04
499B466 Sh. 805A	Elementary Wiring Diagram SW-2870	04
499B466 Sh. 805B	Elementary Wiring Diagram SW-2869	04
499B466 Sh. 823	Elementary Wiring Diagram Main Steam Isolation	14
541F153 Sh. 1	480 V One Line Diagram	30
541F153 Sh. 2	480 V One Line Diagram	30
6118 E-1	Single Line Diagram Station Connections	29
6118 E-5 Sh. 2A	One Line Diagram MCC 1B32	22
6118 E-9 Sh. 2	Schematic Meter & Relay Diagram 13.8KV System	19
6118 E-11 Sh. 1	4160V Auxiliary Meter and Relay Diagram	11
6118 E-11 Sh. 2	Schematic Meter & Relay Diagram 4160 V Auxiliary System	12
6118 E-11 Sh. 3	Schematic Meter & Relay Diagram 4160 V Auxiliary System	08
6118 E-61 Sh. 1	Schematic Diagram Turbine Generator Control	43
6118 E-2061 Sh. 1	Schematic Diagram Turbine-Generator Control	36
883D195 Sh. 4	Logic Diagram 4160V Bus Schemes	22
883D195 Sh. 7	Logic Diagrams Safeguards Actuation Signals	25
883D195 Sh. 8	Logic Diagram Safeguard Sequence	19
883D195 Sh. 24	Containment Pressure Condensate Isolation	01

MISCELLANEOUS

Number	Description or Title	Date or Revision
PBF-2031	Aux Building Log	106
OM 4.3.8	Control of Time Critical Operator Actions	06
STPT 25.1	Emergency Operating Procedure Setpoints	10
UFSAR Section 14.1.10	Loss of Normal Feedwater	2010

MISCELLANEOUS

Number	Description or Title	Date or Revision
DD-EOP-0.1	Reactor Trip Response	27
JPM P000.043.A OT	Perform Manual Hand Pump Operation of the Containment Sump B Isolation Valves	08
DBD-02	Component Cooling Water System	14
	C&D Technologies. INC Cover Crack Project-Summary Report	August 2008
VTM 00277	Standby Battery Vented Cell Vendor Manual	05
---	125 VDC System Health Report	January 2015
---	Seismic Review LCR-21 Lid Cracks	March 11, 2015
---	Wyle Test Report 43450-1 C & D Battery Seismic Test Report	November 16, 1976
VTM 00628	Main Battery Charger	05
TB-143001-01	PCP Edge Card Connector and Terminals	01
---	Component Cooling System Health Report	Q4-2014
---	Safety Injection System Health Report	Q4-2014
---	Main Steam System Health Report	Q4-2014
SQ-000074	Screening Evaluation Worksheet for 1P-15A	June 27, 1995
SQ-000441	Screening Evaluation Worksheet for 1CC-738A (SQUG)	June 19, 1995
SQ-001952	Screening Evaluation Worksheet for 1SI-897A (SQUG)	01
CMP 2.2.8.10	MOV Design Basis Review for Valve Family 10	03
DBD-02	Component Cooling Water Design Basis Document	14
DBD-07	Main Steam and Steam Dump,	08
DBD-11	Safety Injection and Containment Spray System	22
DBD-12	Service Water System, Section 3.10	22
TIA-95-0264	NRC Memorandum (ADAMS Accession No. 9603210255)	March 19, 1996
PRA 5.8	SI/RHR System Notebook	01
	PBNP Inservice Testing Program, 5th Interval	06
PBTP 257	1P-29 Turbine Driven Auxiliary Feed Pump Site Acceptance Test	0
LER 266/2015-001-00	Inadequately Sealed Pipe Penetrations Result in an Unanalyzed Condition for Internal Flooding	January 19, 2015
WTSACARS - !&2	Exchanger Data Sheet, Residual Heat Exchanger, Joseph Oates & Sons	0
Spec 5.7.3	900# & 600# Cast Steel Valves 2 ½" & Larger	04
137.116	Velan 2" Bonnetless Globe Valve, Motor Operated (Vendor Dwg,)	06
PB-137742	16" 900# Tilting Disc WE Check Valve	02
CVCM	Check Valve Condition Monitoring Program Document	01

MISCELLANEOUS

Number	Description or Title	Date or Revision
CVCM CMP-1AF-2	SSGP/AFWP Disch Check Valves to S/G 1HX-1 A/B CM Plan (Unit 1)	0
FPLE26-PB1-01	Final Eddy Current Inspection Report of the RHR HX-11A & 1-HX-11B	March 2010
Spec 676370	Auxiliary Pumps	0
VTM 00501	Vendor Manual, PACO RHR Pump	21
Spec PB-736	Steam Turbine for Turbine Driven Auxiliary Feedwater Pumps 1P-29 and 2P-29	01
VTM 00004	Vendor Manual, Terry Turbine	38
VTM 00265	Vendor Manual, Auxiliary Feedwater Pump Turbine	29
---	Letter from C. W. Fay, Wisconsin Electric Power Company, to H. R. Denton, NRC, "Electric Power Distribution System" (ADAMS Accession No. 8303220137)	March 14, 1983
---	NRC Safety Evaluation Report for Point Beach Nuclear Plant, "Preferred Power Systems Conformance to General Design Criterion 17" (ADAMS Accession No. 8305020128)	April 25, 1983
---	Letter from C. W. Fay, Wisconsin Electric Power Company, to H. R. Denton, NRC, "Electric Power Distribution System" (ADAMS Accession No. 8307070113)	June 30, 1983
---	Letter from James R. Miller, NRC, to C. W. Fay, Wisconsin Electric Power Company, Includes Safety Evaluation Report for Point Beach Nuclear Plant, "Adequacy of Station Electric Distribution System Voltages" (ADAMS Accession No. 8309120557)	August 29, 1983
---	Letter from Gary M. Holahan, NRC, to C. W. Fay, Wisconsin Electric Power Company, "Electrical Distribution System Functional Inspection" (ADAMS Accession No. 9006060187)	June 1, 1990
---	Letter from J. W. Boston, Wisconsin Electric Power Company, to NRC, "Response to Inspection Reports 50-266/90-201 and 50-301/90-201 Electrical Distribution System Functional Inspection" (ADAMS Accession No. 9008070009)	August 3, 1990
---	Letter from A. Bert Davis, NRC, to C. W. Fay, Wisconsin Electric Power Company, "Inspection Report for Routine Safety Inspection Conducted August 20-24, 1990" (ADAMS Accession No. 9010030147)	September 27, 1990
---	Letter from H. J. Miller, NRC, to C. W. Fay, Wisconsin Electric Power Company, "Notice of Violation" (ADAMS Accession No. 9012110254)	November 30, 1990

MISCELLANEOUS

Number	Description or Title	Date or Revision
---	NMC to NRC Letter NRC 2002-0085, "Clarification of Safety Evaluation, License Amendments 204 and 209" (ADAMS Accession No. ML022810334)	September 30, 2002
---	Letter from Dennis L. Koehl, Nuclear Management Company, to NRC, "License Amendment Request 245: Technical Specification 3.3.4. Loss of Power Diesel Generator Start Instrumentation" (ADAMS Accession No. ML060900452)	March 23, 2006
---	Letter from Edward J. Weinkam, Nuclear Management Company, to NRC, "Response to Generic Letter 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power'" (ADAMS Accession No. ML062050349)	July 21, 2006
---	Letter from Dennis L. Koehl, Nuclear Management Company, to NRC, "License Amendment Request 245, Response to Request for Additional Information; Technical Specification 3.3.4, Loss of Power Diesel Generator Start and Load Sequence Instrumentation" (ADAMS Accession No. ML063530446)	December 19, 2006
---	Letter from Dennis L. Koehl, Nuclear Management Company, to NRC, "Response to Request for Additional Information Regarding Resolution of Generic Letter 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power'" (ADAMS Accession No. ML070310576)	January 31, 2007
---	Letter from Patrick D. Milano, NRC, to Dennis L. Koehl, Nuclear Management Company, "Issuance of Amendments Re: Loss of Power Diesel Generator Start Instrumentation" (ADAMS Accession No. ML070600608)	January 21, 2007
---	Letter from Peter S. Tam, NRC, to Edward J. Weinkam, Nuclear Management Company, "Response to GL 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power'" (ADAMS Accession No. ML071070027)	April 24, 2007
---	Letter from James H. McCarthy, FPL Energy Point Beach, to NRC, "Clarification of Response to Request for Information Regarding Generic Letter 2006-02, 'Grid Reliability and the Impact on Plant Risk and the Operability of Offsite Power'" (ADAMS Accession No. ML073370907)	November 30, 2007
---	Letter from Larry Meyer, FPL Energy Point Beach, to NRC, "License Amendment Request 261, Extended Power Uprate" (ADAMS Accession No. ML091250564)	April 7, 2009

MISCELLANEOUS

Number	Description or Title	Date or Revision
---	Nuclear Plant Interface Coordination Agreement Between Nuclear Plant Generator Operator and Transmission Entity	August 23, 2013
---	Maintenance Rule (a)(1) Action Plan 345 KV	January 8, 2014
---	Maintenance Rule (a)(1) Status Evaluation 13.8KV	June 4, 2014
---	Maintenance Rule (a)(1) Action Plan 13.8KV	December 16, 2014
---	4160V System Health Report	4Q 2014
ASME NQA-1	Quality Assurance Requirements for Nuclear Facility Applications	1994
CMP 2.2.8.25	Component Maintenance Program MOV Design Basis Review for Valve Family 25	03
DBD-07	Main Steam and Steam Dump Design Basis Document	08
DBD-10	Residual Heat Removal System Design Basis Document	10
DBD-11	Safety Injection and Containment Spray System Design Basis Document	22
DBD-12	Service Water System Design Basis Document	22
DBD-16	Emergency Diesel Generator System Design Basis Document	18
DBD-18	13.8 KVAC System Design Basis Document	09
DBD-20	345 KVAC System Design Basis Document	09
DBD-21	480 VAC System Design Basis Document	06
DBD-22	4160 VAC System Design Basis Document	07
DBD-P-50	Electrical and Mechanical Separation Design Basis Document	01
DBD-P-51	Design Basis Events Combinations Design Basis Position Paper	01
DBD-T-36	Overcurrent Coordination and Protection Design Basis Document	02
DG-E07	Separation of Electrical Circuits	02
FPL-1	Quality Assurance Topical Report	16
RCE 1845965	Root Cause Evaluation Unusual Event Declared Due to Loss of Offsite Power, February 6, 2013	0
STPT 21.1	Protective Relay Setpoints Main Generator	16

MODIFICATIONS

Number	Description or Title	Date or Revision
9949341	Replacement of LT-618 T-12 CC Surge Tank Level Transmitter	November 26, 2001
94-091*B	Aux Bldg Design Enhancements	March 30, 2001
EC 278265	Unit 1 & 2 P-15A, B SI Pump anchor Bolt Drawing Discrepancies	0
EC 13407	Transition to New Motor-Driven AFW Pump Trains for Units 1 & 2	0

MODIFICATIONS

Number	Description or Title	Date or Revision
EC 272527	Auxiliary Feedwater Pump Turbine Replacement	02
ECR 94-653	Raised Covers for Overfilled Cable Trays	02

OPERABILITY EVALUATIONS

Number	Description or Title	Date
01950740	DC Calculation Issues Found	April 4, 2014
01952174	Battery Testing Non- Conforming to CLB Requirements	April 9, 2014
AR 2024305	No Isolation Between Components Classified as SR and QR	February 17, 2015

PROCEDURES

Number	Description or Title	Revision
OP-AA-100-1000	Conduct of Operations	14
PC 6 Part 1	Monthly Operations Inventory Report	63
IT 45 Train A	Safety Injection Valves Train A Unit 2	02
EOP 1.3 Unit 1	Transfer to Containment Sump Recirculation – Low Head Injection	51
EOP 0.1 Unit 1	Reactor Trip Response	40
ARP 1C03 1D 3-6	1T-12 CC Surge Tank Level High or Low Unit 1	04
AOP-9B Unit1	Component Cooling System Malfunction	23
RMP 9393	Mixing and Installation of Silicon Foam for Fire Barriers	08
ARP 1C 1D 3-6	IT-12 CC Surge Tank Level High or Low	04
ARP 1C03 1D 3-6	1T-12, CC Surge Tank Level High or Low	04
1-SOP-CC-002	Component Cooling System Drain and Refill	19
EOP-1.3	Transfer to Containment Sump Recirculation – Low Head Injection	52
NP 7.7.2	Seismic Qualification of Equipment	07
OP-7A	Major, Placing Residual Heat Removal System in Operation	24
ORT #8	Major, Visual Check of Residual Heat Removal System	06
ORT #2	Unit 1, Major, Flow Test of RHR Pumps	09
EOP-1.3	Unit 1, Transfer to Containment Sump Recirculation – Low Head Injection	52
EOP-1.4	Unit 1, Transfer to Containment Sump Recirculation – High Head Injection	30
1-SOP-RH-002	Residual Heat Removal System Operation	09
OI 62B	Turbine Driven Auxiliary Feedwater System (P-29)	32
1RMP 9329-1	1P-15A Safety Injection Pump Motor Relay Testing and Calibration	09

PROCEDURES

Number	Description or Title	Revision
1-SOP-19KV-001	Transformers 1X-01/1X-02 Outages and Electrical Operations	15
1-SOP-4KV-A05	Unit 1 Vital Train A 4160V Bus	06
EN-AA-100-1004	Calculations	02
EN-AA-203-1001	Operability Determinations / Functionality Assessments	19
FP-E-SE-03	10 CFR 50.59 and 72.48 Processes	06
IM-AA-101	Software Quality Assurance Program	07
NP 2.1.5	Electrical Communications, Switchyard Access and Work, Planning	24
NP 7.1.4	Special Use Instruments	17
NP 8.7.1	Measurement and Test Equipment	27
OP 2B	345 KV Transmission System Impacts Upon PBNP Station Operations	9
PDM 3.0	Infrared Thermography Program	5
RMP 9369-1	Westector/Amptector Overload Setpoint Check on Low Voltage Breakers	27
RMP 9370	Bus Inspection and Cleaning	12
TS 83	Emergency Diesel Generator G-03 Monthly	31

SURVEILLANCES (COMPLETED)

Number	Description or Title	Date
40297543	D-105, Quarterly Station Battery Inspection	December 22, 2014
40298331	D-105, ANNUAL Station Battery Inspection	December 10, 2014
40302870	D-105 / D-107, Battery Surveillance Test	August 16, 2014
403065258	125 V, Station Tech Spec Batteries Weekly Inspection	February 2, 2015
1-TS-ECCS-001	Safeguard Systems Valve and Lock Checklist (Monthly)	February 28, 2015
1-TS-ECCS-002 Train A	Safeguards System Venting (Monthly)	March 16, 2015
ORT 3A	Safety Injection Actuation with Loss of Engineered Safeguards AC (Train A) Unit 1	October 24, 2014
IT 280A	Main Steam Valves Stroke Test (Cold Shutdown) Unit 1	October 26, 2014
IT 39 Train A	1MS-2018, Main Steam Isolation Valve Operability Trip Test Unit 1	October 30, 2014
IT 39 Train B	1MS-2018, Main Steam Isolation Valve Operability Trip Test Unit 1	October 31, 2014
IT 08A	Cold Start of Turbine-Driven Auxiliary Feed Pump and Valve Test (Quarterly (Unit 1)	January 21, 2015
IT 90 Train A	Atmospheric Steam Dump Valve, Train A, Unit 1	November 22, 2014
IT 310	Main Steam Line Isolation Valves (Cold shutdown)Unit 1	October 4, 2014

SURVEILLANCES (COMPLETED)

Number	Description or Title	Date
IT 03 Train A	Low Head Safety Injection Pumps and Valves, Train A Unit 1	December 17, 2014
IT 03A	RHR Pump and Valve Tests in DHR Mode (Cold Shutdown) Unit 1	October 17, 2014

WORK DOCUMENTS

Number	Description or Title	Date/Rev
337392-04	1SI-00850A-S, Replace Solenoid Valve per EC10030	November 5, 2007
00515287	MOV Non-EQ Limitorque PM for MOV 1-2301-14	October 17, 2005
40155934	D-105, Inspect and Repair Cracked Lids and Fill Tubes	0
IT 12 Train A	1P-11A, Component Cooling Water Pump and Valves	November 18, 2014
279439-01	1CC-738A-O MOV Actuator Check-out	May 1, 2007
376717-01	1T-012/ NDE Perform UT Thickness Measurements of Surge Tank	April 14, 2010
315673-01	1T-012 Pressure Vessel State Certification Inspection	October 27, 2008
387906-01	Pressure Vessel State Certification Inspection	August 8, 2011
40300102-01	Pressure Vessel State Certification Inspection	August 25, 2014
IT 210	In-service Tests, SI Valves (Cold Shutdown) Unit 1	October 19, 2014
IT 510B	In-service Tests, Leakage Reduction and Preventive Maintenance Program Test of Safety Injection Test Line (Refueling) Unit 1	October 21, 2014
40253547-01	1AI-897A-S Replace Solenoid Valve	October 11, 2014
IT 01Train A	High Head Safety Injection Pumps and Valves Train A Unit 1	December 15, 2014 September 22, 2014
40098756-45	1P-029-T Replace Turbines, Governors, and Correct Issues	November 6, 2014
40140467-01	1AF-00106 Check Valve Closure Verification	March 11, 2013
366843-01	Open and Inspect Check Valve	November 14, 2011
40085324-01	1P-10A Sample and Change Oil as Required	September 21, 2011
PM 00388164(01)	1RX004, 1X-04 Ground Resistor Maintenance	December 11, 2011

LIST OF ACRONYMS USED

ADAMS	Agencywide Document Access and Management System
AC	Alternating Current
AFW	Auxiliary Feedwater
AOV	Air Operated Valve
CARDS	Cable and Raceway Data System
CCW	Component Cooling Water
CDBI	Component Design Bases Inspection
CFR	*Code of Federal Regulations*
CR	Condition Report
EC	Engineering Change
EDSFI	Electrical Distribution System Functional Inspection
FSAR	Final Safety Analysis Report
GL	Generic Letter
IEEE	Institute of Electrical and Electronic Engineers
IMC	Inspection Manual Chapter
IN	Information Notice
IST	Inservice Testing
LERF	Large Early Release Frequency
LOCA	Loss of Coolant Accident
MOV	Motor-Operated Valve
MSIV	Main Steam Isolation Valve
NCR	Nonconformance Report
NCV	Non-Cited Violation
NPSH	Net Positive Suction Head
NRC	U.S. Nuclear Regulatory Commission
PARS	Publicly Available Records System
PBNP	Point Beach Nuclear Plant
PRA	Probabilistic Risk Assessment
RHR	Residual Heat Removal
TS	Technical Specification
Vdc	Volts Direct Current

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 http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Christine A. Lipa, Chief
Engineering Branch 2
Division of Reactor Safety

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

Enclosure:
Inspection Report 05000266/2015008; 05000301/2015008
w/Attachment: Supplemental Information

cc w/encl: Distribution via LISTSERV®
DISTRIBUTION:
Kimyata MorganButler
RidsNrrDorlLpl3-2 Resource
RidsNrrPMDavisBesse Resource
RidsNrrDirsIrib Resource
Cynthia Pederson
Darrell Roberts
Richard Skokowski
Allan Barker
Carole Ariano
Linda Linn
DRPIII
DRSIII
Jim Clay
Carmen Olteanu
ROPreports.Resource@nrc.gov

ADAMS Accession Number ML15126A155
☒ Publicly Available ☐ Non-Publicly Available ☐ Sensitive ☒ Non-Sensitive
To receive a copy of this document, indicate in the concurrence box "C" = Copy without attach/encl "E" = Copy with attach/encl "N" = No copy

OFFICE	RIII		RIII		RIII		RIII	
NAME	BJose:cl		CLipa					
DATE	04/30/15		05/05/15					

OFFICIAL RECORD COPY