



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

April 29, 2011

Mr. Larry Meyer
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 05000266/2011002;
05000301/2011002

Dear Mr. Meyer:

On March 31, 2011, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated 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 5, 2011, with you and members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, three findings of very low safety significance were identified by the NRC. The findings involved violations of NRC requirements. However, because of their very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings 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 these NCVs, 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.

L. Meyer

-2-

In accordance with 10 CFR 2.390 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 Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Michael A. Kunowski, Chief
Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000266/2011002; 05000301/2011002
w/Attachment: Supplemental Information

cc w/encl: Distribution via ListServ

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000266/2011002; 05000301/202011002

Licensee: NextEra Energy Point Beach, LLC

Facility: Point Beach Nuclear Plant, Units 1 and 2

Location: Two Rivers, WI

Dates: January 1, 2011, through March 31, 2011

Inspectors: S. Burton, Senior Resident Inspector
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Enclosure

TABLE OF CONTENTS

SUMMARY OF FINDINGS	1
REPORT DETAILS	4
Summary of Plant Status.....	4
1. REACTOR SAFETY	4
1R01 Adverse Weather Protection (71111.01).....	4
1R04 Equipment Alignment (71111.04).....	5
1R05 Fire Protection (71111.05)	6
1R06 Flood Protection Measures (71111.06).....	7
1R07 Heat Sink Performance (71111.07).....	10
1R08 Inservice Inspection (ISI) Activities (71111.08P).....	10
1R11 Licensed Operator Requalification Program (71111.11).....	15
1R12 Maintenance Effectiveness (71111.12).....	16
1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)	16
1R15 Operability Evaluations (71111.15).....	18
1R18 Plant Modifications (71111.18).....	20
1R19 Post-Maintenance Testing (71111.19).....	21
1R20 Refueling and Other Outage Activities (71111.20).....	22
1R22 Surveillance Testing (71111.22)	23
1EP6 Drill Evaluation (71114.06).....	24
2. RADIATION SAFETY	25
2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)	25
2RS2 Occupational As-Low-As-Is-Reasonably-Achievable (ALARA) Planning and Controls (71124.02)	30
4. OTHER ACTIVITIES.....	31
4OA1 Performance Indicator Verification (71151).....	31
4OA2 Identification and Resolution of Problems (71152)	32
4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)	34
4OA5 Other Activities	35
4OA6 Management Meetings.....	36
SUPPLEMENTAL INFORMATION	1
Key Points of Contact.....	1
List of Items Opened, Closed and Discussed.....	2
List of Documents Reviewed	3
List of Acronyms Used	14

SUMMARY OF FINDINGS

IR 05000266/2011002, 05000301/2011002; 1/01/2011 – 3/31/2011; Point Beach Nuclear Plant, Units 1 & 2; Inservice Inspection Activities; Internal Flooding; and Operability Evaluations.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Three Green findings were identified by the inspectors. The findings were considered non-cited violations (NCVs) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Initiating Events

- Green. On March 3, 2010, the inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for a vendor examiner's failure to follow procedure instructions and perform required circumferential ultrasonic scans of two elbow-to-pipe containment spray line welds. The licensee subsequently performed the scans with no relevant indications detected and documented the failure to perform the scans in the corrective action system.

The finding was determined to be more than minor because, if left uncorrected, the failure to perform the weld examinations could become a more significant safety concern. Absent NRC identification, the licensee would not have performed the full required exam of the weld for an indefinite period of service which would have placed the reactor coolant pressure boundary at increased risk for undetected cracking, leakage, or component failure. This finding was of very low safety significance based on the inspectors answering "No" to the Phase 1 screening question identified in the Containment Barrier column of Table 4a in Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," dated January 10, 2008, of Inspection Manual Chapter 0609, "Significance Determination Process." This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to effectively communicate expectations regarding procedural compliance. Specifically, the failure to perform required circumferential examinations occurred because the licensee's management staff did not adequately stress or enforce procedure adherence for this activity. In particular, procedure NDE-173 was issued as an "Informational Use" type procedure that allowed licensee staff to rely on memory to perform the procedural steps, H.4(b). (Section 1R08.1)

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure of the licensee from 1995 through January 20, 2011, to correctly translate the applicable regulatory requirements and the design basis into

specifications, procedures, and instructions. Specifically, the licensee modified the control cabinets of emergency diesel generators G-01 and G-02 in 1995 without the appropriate internal flood protection design features. The licensee initiated condition report AR01610979, took immediate corrective actions to correct the deficient conditions, and performed an apparent cause evaluation. At the end of the inspection period, the licensee continued to implement planned corrective actions that included establishment of preventive maintenance activities to perform flooding seal inspections and extent of condition evaluations to ensure all potential design and licensing basis flooding issues were identified and resolved.

The finding was determined to be more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee failed to ensure that internal flood protection features used to mitigate a design basis accident were maintained. The inspectors determined the finding was of very low safety significance because it was a design or qualification deficiency confirmed not to result in a loss of operability or functionality. The inspectors determined that this finding did not reflect current performance since the error was introduced in a design change that was greater than three years old; therefore, there was no cross-cutting aspect associated with this finding. (Section 1R06.1)

Cornerstone: Barrier Integrity

- **Green:** A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the licensee's unacceptable preconditioning of a technical specification required surveillance test on September 14, 2010, and January 18, 2011. Specifically, by performing procedure PC 97, Part 7, service water flushes of the Unit 2 containment fan cooler (CFC) units prior to the performance of the fan cooler units' monthly surveillance tests, the licensee failed to ensure that work activities were sequenced in a manner that preserved the as-found conditions of the structure, system, and component (SSC), which constituted unacceptable preconditioning. Upon notification from the inspectors of this issue, the licensee initiated a condition report and subsequently performed a condition evaluation that proposed permanent corrective actions such as procedure changes to explicitly prohibit such sequencing of activities. Additionally, in the interim, the licensee immediately communicated to its operators the need to sequence the activities appropriately.

The finding was determined to be more because it was associated with the Barrier Integrity Cornerstone attribute of SSC and Barrier Performance and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (containment, in this case) protect the public from radionuclide releases caused by accidents or events. Specifically, because the preconditioning altered the as-found condition of the CFCs, the data collected through the performance of the procedure TS 34 surveillance tests were not fully indicative of the true equipment performance trends of the CFCs. Therefore, this performance deficiency had a direct effect on the licensee's ability to fully assess the past operability of the system, as well as the ability to trend as-found data to assess the reliability of the CFCs. The inspectors determined that the finding has a cross-cutting aspect in the area of human performance, work control, because the licensee did not appropriately coordinate work activities by failing to

incorporate actions to address the impact of work on different job activities, H.3(b).
(Section 1R15)

B. Licensee-Identified Violations

No violations were identified.

REPORT DETAILS

Summary of Plant Status

Unit 1 was at 100 percent power throughout the entire inspection period with the exception of a planned reduction in power during routine auxiliary feedwater (AFW) testing and an unplanned down-power to approximately 90 percent on February 25, 2011, due to the unexpected trip of a heater drain tank pump.

Unit 2 was at 100 percent power throughout the entire inspection period with the exception of planned reductions in power during routine AFW testing and a planned shutdown to commence a refueling outage (U2R31) on March 1, 2011. Unit 2 remained in a refueling outage for the remainder of the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the Final Safety Analysis Report (FSAR) for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed a walkdown of the protected area to identify any modification to the site which would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also walked down underground bunkers/manholes subject to flooding that contained multiple train or multiple function risk-significant cables. The inspectors also reviewed the abnormal operating procedure (AOP) for mitigating the design basis flood to ensure it could be implemented as written. A detailed review of the circulating water pump house was performed during this inspection. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one external flooding sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

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

- Unit 2 safety injection (SI) train B while train A was out-of-service for testing;
- Unit 2 temporary vessel level instrumentation;
- service water (SW) with pumps B and E out-of-service for maintenance;
- Unit 2 125-Volt (V) direct current (DC) system; and
- control room emergency filtration system (CREFS) while in mode 4 of operation.

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, FSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports (CRs), 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 corrective action program (CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These activities constituted five partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete system alignment inspection of the following systems to verify the functional capability of the systems. These systems were selected because they were considered both safety-significant and risk-significant in the licensee's probabilistic risk assessment. The inspectors walked down each system to review mechanical and electrical equipment line-ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not

interfere with equipment operation. Reviews of samples of past and outstanding WOs were performed to determine whether any deficiencies significantly affected the systems' functions. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

- Unit 1 AFW; and
- emergency diesel generator (EDG) G-04 with EDG G-02 out-of-service for maintenance.

These activities constituted two complete system walkdown samples as defined in IP 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

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 245, Unit 1 electric equipment room;
- fire zone 306, D-06 battery room;
- fire zone 307, D-05 battery room;
- fire zone 775, EDG G-04; and
- fire zone 304N, AFW room north.

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 (IPEEE) 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 five quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the FSAR, license basis documentation, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action (CA) documents with respect to past flood-related items identified in the CA program to verify the adequacy of the CAs. The inspectors performed a walkdown of the following plant area(s) to assess the adequacy of flood protection features, such as watertight doors, and to verify drains and sumps were clear of debris and were operable and that the licensee complied with its commitments:

- EDG room G-01; and
- EDG room G-02.

This inspection constituted two internal flooding samples as defined in IP 71111.06-05.

b. Findings

Failure to Maintain Internal Flood Protection Features on G-01 and G-02 EDG Control Cabinets

Introduction: A finding of very low safety significance and associated non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the failure to correctly translate the applicable regulatory requirements and the design basis into specifications, procedures, and instructions. Specifically, the licensee modified the control cabinets of the G-01 and G-02 EDGs in 1995 without the appropriate internal flood protection design features.

Description: The inspectors reviewed the design and licensing basis associated with internal flood protection features of the rooms for the G-01 and G-02 EDGs, the train A onsite emergency power sources for both units. The inspectors reviewed the September 16, 1986, NRC correspondence to the licensee titled, "Safety Evaluation by the Office of Nuclear Reactor Regulation Seismic Qualification of the Auxiliary Feedwater System for the Point Beach Nuclear Plant Units 1 and 2." The inspectors

noted that the section titled, "Water Sources," stated, in part, that the NRC staff had concerns with the air exhausts to the EDG building. Specifically, the NRC staff was concerned that failure of the condensate storage tanks (CSTs) via an earthquake or tornado missile, with subsequent flow of water from the tanks into the EDG exhaust air duct, could direct the flow of water over the control panels of the EDGs. At that time, the licensee agreed to initiate modifications to the control cabinets for both EDGs to prevent the water from entering the top of the control cabinets and to report completion to the NRC.

On October 31, 1986, the licensee sent a letter to the NRC entitled, "Generic Letter 81-14, Seismic Qualification of Auxiliary Feedwater System, Point Beach Nuclear Plant, Units 1 and 2." The letter stated, in part, that the licensee had completed modifications to the EDG G-01 and G-02 control cabinets to prevent water from either the CSTs or the fire protection system from entering the cabinets. Specifically, the modifications to prevent water from entering the cabinets included covering the ventilation openings on the top of the cabinet with a hood, placement of cable tray covers over conduit penetrations on cabinet C34, sealing all conduit-to-cabinet interfaces with caulk, and sealing conduits on cabinet C35 with foam. On January 21, 1987, the NRC responded by a letter to the licensee stating that the modifications delineated in the licensee's October 31, 1986, letter adequately addressed the NRC staff's concern.

The inspectors walked down the associated EDG control cabinets C34 and C35 to verify the licensee's internal flood mitigation features remained in place. The inspectors identified that not all the conduits appeared to have conduit-to-cabinet interfaces sealed with caulk, some conduits in cabinet C35 did not appear to have foam, and the general condition of existing caulk appeared degraded. The inspectors communicated these observations to operations staff, who validated the inspectors concerns and entered these into the CAP as AR01610979, calling the equipment as operable but nonconforming. Within a week of initiation of the CR, the licensee corrected the deficient conditions.

The licensee performed an apparent cause evaluation and determined that the seals were likely disrupted or not installed during a design change to the EDGs around 1995 during the installation of modification 91-116. The apparent causes were determined to be an incomplete current licensing basis search and a lack of a periodic check to ensure the flooding barriers remained intact. Additionally, a contributing cause was that the FSAR was not updated in a timely manner, a previously known condition originally identified in 2005 and evaluated under root cause evaluation (RCE) RCE 300. At the time of this inspection, the corrective actions for RCE 300 still had not been fully implemented.

Analysis: The inspectors determined that the failure to correctly translate the applicable regulatory requirements and the design basis into specifications, procedures, and instructions was contrary to 10 CFR Part 50, Appendix B, Criterion III, "Design Control," and was a performance deficiency warranting further review.

The finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it was associated with the Mitigating Systems Cornerstone attribute of design control and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to

prevent undesirable consequences. Specifically, the licensee failed to ensure that internal flood protection features used to mitigate a design basis accident were maintained.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," Tables 3b and 4a for the Mitigating Systems Cornerstone, dated January 10, 2008. The inspectors answered "Yes" to the Mitigating Systems question that the finding was a design or qualification deficiency confirmed not to result in a loss of operability or functionality and screened the finding as having very low safety significance (Green).

The inspectors determined that this finding did not reflect current performance since the error was introduced in a design change that was greater than three years old; therefore, there was no cross-cutting aspect associated with this finding.

Enforcement: 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, procedures, and instructions.

Contrary to this, from 1995 through January 20, 2011, the licensee failed to establish measures to assure that applicable regulatory requirements and the design basis were correctly translated into specifications, procedures, and instructions associated with internal flood protection features for the EDG G-01 and G-02 control cabinets, C-34 and C-35, respectively. Specifically, in 1995 under modification 91-16, the licensee modified the EDG control cabinets and failed to ensure that the internal flood protection features on the top of the control cabinets were maintained. Because this violation was of very low safety significance and was entered into the licensee's CAP, as AR01610979, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000266/2011002-01; 05000305/2011002-01; Failure to Maintain Internal Flood Protection Features on Emergency Diesel Generators G-01 and G-02 Control Cabinets).

The licensee took immediate corrective actions to correct the deficient conditions and performed an apparent cause evaluation. At the end of the inspection period, the licensee continued to implement planned corrective actions that included establishment of preventive maintenance activities to perform flooding seal inspections and extent of condition evaluations to ensure all potential design and licensing basis flooding issues were identified and resolved.

.2 Underground Vaults

a. Inspection Scope

The inspectors selected underground bunkers/manholes subject to flooding that contained cables whose failure could disable risk-significant equipment. The inspectors determined that the cables were not submerged, that splices were intact, and that appropriate cable support structures were in place. In those areas where dewatering devices were used, such as a sump pump, the device was operable and level alarm circuits were set appropriately to ensure that the cables would not be submerged. In those areas without dewatering devices, the inspectors verified that drainage of the

area was available, or that the cables were qualified for submergence conditions. The inspectors also reviewed the licensee's CA documents with respect to past submerged cable issues identified in the CAP to verify the adequacy of the CAs. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- annual review of cables located in underground manholes, including manholes 1 and 67D.

This inspection constituted one underground vaults sample as defined in IP 71111.06-05.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

.1 Annual Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee's testing of the Unit 2 Component Fan Cooler (CFCs) units heat exchangers to verify that potential deficiencies did not mask the licensee's ability to detect degraded performance, to identify any common cause issues that had the potential to increase risk, and to ensure that the licensee was adequately addressing problems that could result in initiating events that would cause an increase in risk. The inspectors reviewed the licensee's observations as compared against acceptance criteria, the correlation of scheduled testing and the frequency of testing, and the impact of instrument inaccuracies on test results. The inspectors also verified that test acceptance criteria considered differences between test conditions, design conditions, and testing conditions. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings were identified.

1R08 Inservice Inspection (ISI) Activities (71111.08P)

From February 28 through March 11, 2011, the inspectors conducted a review of the implementation of the licensee's ISI program for monitoring degradation of the reactor coolant system (RCS), steam generator tubes, auxiliary feedwater system, risk-significant piping and components, and containment systems.

The inspections described in Sections 1R08.1, 1R08.2, 1R08.3, 1R08.4, and 1R08.5 below constituted one inservice inspection sample as defined in IP 71111.08-05.

.1 Piping Systems Inservice Inspection

a. Inspection Scope

The inspectors observed and reviewed records of the following non-destructive examinations mandated by the American Society of Mechanical Engineers (ASME) Section XI Code to evaluate compliance with the ASME Code Section XI and Section V requirements, and if any indications and defects were detected, to determine if these were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement.

- Ultrasonic Testing (UT) examination of a risk informed (R-A), 6" Elbow-to-Pipe Weld, SIS-06-SI-2003-06, Containment Spray (CS) line;
- UT of a risk-informed (R-A), 6" Elbow-to-Pipe Weld, SIS-06-SI-2004-11, CS line;
- Dye Penetrant Testing (PT) examination of a risk informed (R-A), 6" Elbow-to-Pipe Weld, SIS-06-SI-2003-06, CS line;
- PT of a risk-informed (R-A), 6" Elbow-to-Pipe Weld, SIS-06-SI-2004-11, CS line;
- Visual Examination (VT-3) of a Class 2 Spring Hanger, EB-9-2H19;
- VT-3 of Class 2 Rigid Support (Loop A Main Steam), EB-1-2H70;
- VT-3 (FA/F1.20B) of Class 2 Rigid Support for CS Pump P-14A and P-15A test line; and
- VT-3 (FA/F1.40A) of Class 2 Rigid Support for CS Pump P-14A and P-15A test line.

The inspectors reviewed the following examinations completed during the previous outage with relevant/recordable conditions/indications accepted for continued service to determine if acceptance was in accordance with the ASME Code Section XI or an NRC-approved alternative.

- Indication (UT) Disposition of Elbow-to-Nozzle DM Weld, RC-32-MRCL-BIII-03;
- Indication (UT) Disposition of SI Nozzle-to-Shell Weld at 108.5o, RPV-687-01-B;
- Indication (UT) Disposition of Elbow-to-Inlet Nozzle Weld at 148.5o, RC-32-MRCL-BIII-03; and
- Indication (UT) Disposition of Inlet Nozzle-to-Shell Weld, RPV-2-686-D.

The inspectors reviewed the following pressure boundary welds completed for risk-significant systems since the beginning of the last refuelling outage to determine if the licensee applied the pre-service non-destructive examinations and acceptance criteria required by the Construction Code and ASME Code, Section XI. Additionally, the inspectors reviewed the welding procedure specification and supporting weld procedure qualification records to determine if the weld procedure was qualified in accordance with the requirements of the Construction Code and the ASME Code Section IX.

- 2P-1B RCP No. 1 Seal Water Ret Bypass Vent, Valve CV00206B; Welds FW-1, SW1-2; Code Class 1; and
- 2SI-0853B, Low Head SI Core Deluge Check; Seal Weld, Code Class 1.

b. Findings

Failure to Perform Required Ultrasonic Exam in Accordance with Procedures

Introduction: The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for a licensee's vendor examiner's failure to follow procedure NDE-173, "PDI Generic Procedure for the Ultrasonic Examination of Austenitic Piping Welds," and perform specific circumferential ultrasonic scans of two elbow-to-pipe CS line welds as required by the safety-related risk-informed (RI) ISI Program.

Description: On March 3, 2011, the inspectors identified through direct observation that a vendor non-destructive examination (NDE) examiner failed to perform required circumferential UT examinations on two CS welds as required by procedure. Specifically, the required UT examinations of the two welds (SIS-06-SI-2003-06 and SIS-06-SI-2004-11) should have included additional circumferential scans. The latest revision of the weld procedure required that when the weld crown was ground flush to allow scanning on the weld, as they had been for these two welds, additional scans were to be performed with the sound beam directed essentially parallel to the weld axis in two opposing directions to permit enhanced interrogation of the weld. The required examinations were subsequently performed as a part of the licensee's corrective actions with no relevant indications identified. The licensee documented this concern in condition report AR01626344.

Analysis: The inspectors determined that the failure to perform the required UT examinations of the two CS austenitic welds was a performance deficiency warranting further review.

The inspectors compared this finding to the findings identified in Appendix E, "Examples of Minor Issues," dated August 11, 2009, "Power Reactor Inspection Reports," to determine whether the finding was minor and concluded that none of the examples listed in Appendix E accurately represented this example. As a result, the inspectors compared this performance deficiency to the minor questions of IMC 0612, Appendix B, "Issue Screening," dated December 24, 2009, and the inspectors determined that this finding was more than minor because, if left uncorrected, the failure to perform the weld examinations would have the potential to become a more significant safety concern. Absent NRC intervention, the licensee would not have performed the required examination of welds SIS-06-SI-2003-06 and SIS-06-SI-2004-11 for an indefinite period of service, which would have placed the piping at increased risk for undetected cracking, leakage, or component failure and it would become a more significant safety concern.

This finding was of very low safety significance (Green) based on the inspectors answering "No" to the Phase 1 screening question identified in the Containment Barrier column of Table 4a in Attachment 0609.04 "Phase 1 - Initial Screening and Characterization of Findings," dated January 10, 2008, of IMC 0609, "Significance Determination Process." The licensee promptly corrected this issue by re-performing the examinations in accordance with the procedure with no relevant indications being identified.

This finding has a cross-cutting aspect in the area of human performance, work practices, because the licensee failed to effectively communicate expectations regarding

procedural compliance. Specifically, through interviews and document review, the inspectors determined that the failure to perform required circumferential examinations occurred because the licensee's management staff did not adequately stress or enforce procedure adherence for this activity. The inspectors also noted that procedure NDE-173 was issued as an "Informational Use" type procedure that allowed licensee staff to rely on memory to perform the procedural steps (H.4(b)).

Enforcement: On March 3, 2011, the inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion V, for a licensee's vendor examiner's failure to follow a procedure to perform circumferential ultrasonic scans of two elbow-to-pipe containment line welds required by the safety-related, risk-informed ISI program.

Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," which states, in part, that "Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, and shall be accomplished in accordance with these instructions, procedures, or drawings."

Point Beach Non-Destructive Examination Procedure NDE-173, "PDI Generic Procedure for the Ultrasonic Examination of Austenitic Piping Welds," Revision 12, Step 5.14.3 states that, "When the weld crown is either ground flush or flat topped sufficiently to allow scanning on the weld, additional scans with the sound beam directed essentially parallel to the weld axis in two opposing directions shall be performed."

Contrary to this, the inspectors identified that, on March 3, 2011, while performing UT examinations using procedure NDE-173 on CS welds SIS-06-SI-2003-06 and SIS-06-SI-2004-11, the examiner failed to perform the requisite circumferential UT examinations. The licensee subsequently performed the examinations with no relevant indications detected and documented the failure to perform the examinations in the CAP as AR01626344.

Because of the very low safety significance of this finding and because the issue was entered into the licensee's CAP, it is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000266/2011002-02; 05000301/2011002-02, Failure to Perform Required Ultrasonic Exam in Accordance with Procedures).

.2 Reactor Pressure Vessel Upper Head (RPVUH) Penetration Inspection Activities

a. Inspection Scope

No exams were required this outage. An information-only visual examination was performed on the accessible areas of the RPVUH using a camera mounted on a "crawler." Therefore, no NRC review was completed for this inspection procedure attribute.

b. Findings

No findings were identified.

.3 Boric Acid Corrosion Control (BACC)

a. Inspection Scope

On March 1, 2010, the inspectors observed the licensee staff performing UT examinations of the RCS within containment to determine if these examinations focused on locations where boric acid (BA) leaks can cause degradation of safety-significant components.

The inspectors reviewed the following licensee evaluations of RCS components with BA deposits to determine if degraded components were documented in the CAP. The inspectors also evaluated CAs for any degraded RCS components to determine if they met the component Construction Code, ASME Section XI Code, and/or NRC-approved alternative.

- Boric Acid Evaluation (BAE) 09-256; 2SI-860B, P-14B CS Pump Discharge Redundant Isol; October 15, 2009;
- BAE 09-133; 2SI-00853B, Low Head SI Core Deluge Check; February 18, 2009; and
- BAE 10-218; 1RH-715A, HX-11A RHR HX Inlet; March 28, 2010.

The inspectors reviewed the following CAs related to evidence of BA leakage to determine if the CAs completed were consistent with the requirements of the ASME Code Section XI and 10 CFR Part 50, Appendix B, Criterion XVI.

- AR01398178; BA on B/B Flange for 2SI-826A;
- AR01397086; BA Accumulation on Swagelock Fitting for 2FT-134; and
- AR01398088; BA Build-Up on 2SI-V-28 Vent Line.

b. Findings

No findings were identified.

.4 Steam Generator (SG) Tube Inspection Activities

a. Inspection Scope

No examination was required pursuant to the TSs and none was conducted during the current refueling outage (RFO). Therefore, no NRC review was completed for this inspection procedure attribute.

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors performed a review of ISI-related problems entered into the licensee's CAP and conducted interviews with licensee staff to determine if:

- the licensee had established an appropriate threshold for identifying ISI-related problems;
- the licensee had performed a root cause evaluation (if applicable) and taken appropriate corrective actions; and
- the licensee had evaluated operating experience and industry generic issues related to ISI and pressure boundary integrity.

The inspectors performed these reviews to evaluate compliance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The CA documents reviewed by the inspectors are listed in the Attachment to this report.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On January 20, 2011, the inspectors observed a crew of licensed operators in the plant's simulator during licensed operator requalification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. 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.

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

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

- an issue-oriented sample of the 120-V alternating current distribution system; and
- an issue-oriented sample of 125-V alternating current system due to temperature problems.

The inspectors reviewed events, such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems, and 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 SSCs/functions classified as (a)(2), or appropriate and adequate goals and CAs 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 two quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings were identified.

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 and emergent work 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:

- risk management during week of January 11, 2011, with emergent failure of transformer 1XY-114;
- risk management during week of February 18, 2011, with equipment heavy lifts being performed on Unit 2;
- risk management during week of March 14, 2011, with EDG 601;
- risk management during bus 2B04 out-of-service; and
- risk management during mode change from defueled to mode 6, refueling with associate schedule changes.

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.

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

b. Findings

Introduction: An unresolved item (URI) was identified to determine whether a performance deficiency existed regarding the licensee's ability to provide a means to promptly classify various radiological emergency initiating conditions and emergency action levels (EALs), and the licensee's compensatory measures to ensure the prompt implementation of the Point Beach Emergency Plan (EP) while the radiation monitors utilized by the operators were out-of-service due to failure of instrument bus 1XY-114.

Description: On January 18, 2011, instrument bus 1XY-114 failed, causing a loss of multiple radiation monitors used in the EP and specifically identified in Appendix M, "Matrix for Emergency Preparedness Equipment" of the EP. Additionally, some of these monitors were used in identifying entry into EALs. The inspectors were concerned that this loss of radiation monitoring instrumentation might impact the effectiveness of the EP. Additionally, the inspectors were concerned regarding the contingency actions and compensatory measures that were taken in response to the instrument bus failure and the impact of this on the licensee's ability perform EAL classification in a timely and accurate manner. The licensee entered this issue into the CAP as AR01614417. At the end of the inspection period, the inspectors were waiting for additional information from the licensee on the impact of this instrument bus loss on the EP.

This URI will remain open, pending a review of the licensee's additional information in response to the inspectors' concerns (URI 05000266/2011002-03; 05000301/2011002-03, Out-of-Service Radiation Monitors Potentially Impact Emergency Classification Ability).

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- error identified in calculations for EDG and 480-V distribution;
- SW temperature limit not specified for 2 HX-15C1-C8-D1-08;
- void found in low head SI monitoring point;
- past operability of voids in high head SI;
- CFC operability considering tube fouling and plugging; and
- a pipe hanger support rod HS-601R-S30 for valve 2CV-270A not plumb.

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 CA 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 six samples as defined in IP 71111.15-05.

b. Findings

Unacceptable Preconditioning of Technical Specification Required Surveillance Testing

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," was identified by the inspectors for the licensee's unacceptable preconditioning of a TS required surveillance test. Specifically, by performing PC 97 Part 7 SW flushes of the Unit 2 CFCs prior to the performance of procedure TS 34, CFC monthly surveillance test, the licensee failed to ensure that work activities were sequenced in a manner that preserved the as-found conditions of the SSC, which constituted unacceptable preconditioning.

Description: While reviewing prompt operability determination CR1608247, "Service Water Temperature Limit Not Specified for 2HX-15C1-C8 (D1-D8)," the inspectors took note of a statement in which the licensee reported that the latest TS 34 was performed after a flush. The inspectors questioned the licensee regarding the sequencing of these activities and the potential for preconditioning of the system. The licensee documented the concern in AR01613274, "PC 97 Flushes Could Precondition CFCs," and concluded that the sequencing of the flushes could precondition the CFCs.

Through a detailed review of operating logs and electronic work management system records for recently performed procedures TS 34 and PC 97 Part 7 surveillances, the inspectors identified that on two separate occasions, the TS-required TS 34 test was performed after the system was flushed. On September 14, 2010, at 10:30 a.m., a PC 97 Part 7 flush was conducted on the Unit 2 CFCs and subsequently at 12:42 p.m., a TS 34 test was conducted. On January 15, 2011, at 1:55 p.m., a PC 97 Part 7 flush was conducted and subsequently on January 18, 2011, TS 34 was performed at 5:16 a.m. In these two instances, the proximity of the performance of the two activities was such that the flushes unacceptably preconditioned the CFC system prior to the credited TS 34 surveillance test by affecting the as-found condition.

The inspectors further noted that for the September 14, 2010, preconditioning instance, the licensee had just completed a chemical treatment of the safety-related SW system for control of organisms, such as zebra mussels and algae, within the system. Historically, when this treatment occurred, a significant amount of debris from the detached organism washed out through the system and often clogged strainers and heat exchanger tubes, such as in the CFCs. Therefore, the inspectors determined that the September 14, preconditioning instance had a much higher likelihood of altering the as-found conditions of the CFCs in a manner that likely resulted in the passing of the TS 34 test. In this instance, due to the timing of the chemical treatment, without a flushing of the SW system through the CFCs, the past operability of the CFCs could not have been determined with any level of acceptable certainty.

Upon notification from inspectors of this issue, the licensee initiated a CR and subsequently performed a causal evaluation that proposed permanent CAs such as procedure changes to explicitly prohibit sequencing of similar activities. Additionally, in the interim, the licensee immediately communicated to the operations department the requirement to sequence the activities appropriately to preclude preconditioning.

Analysis: The inspectors determined that the unacceptable preconditioning of the Unit 2 CFCs prior to a TS-required surveillance test was contrary to 10 CFR 50, Appendix B, Criterion XI, "Test Control," and was a performance deficiency warranting further review.

The finding was determined to be more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because the finding was associated with the Barrier Integrity Cornerstone attribute of SSC and Barrier Performance and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers, specifically the containment, would be able to protect the public from radionuclide releases caused by accidents or events. Specifically, because the preconditioning altered the as-found condition of the CFCs, the data collected through the performance of the TS 34 surveillance tests were not fully indicative of the true equipment performance trends of the CFCs. Therefore, this performance deficiency had a direct effect on the licensee's ability to fully assess the past operability of the system, as well as the ability to trend as-found data for the purposes of assessing the reliability of the CFCs. The CFCs are designed to mitigate the increased pressure and temperature effects inside containment following an accident.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity

Cornerstone, dated January 10, 2008. Since the CFCs provided a post-accident heat removal function inside containment, the Barrier Integrity Cornerstone section of the SDP was the appropriate area to evaluate this violation. Since all questions in the Containment Barrier column of Table 4a were answered “No,” the finding screened as very low safety significance (Green).

This finding has a cross-cutting aspect in the area of human performance, work control, because the licensee did not appropriately coordinate work activities by failing to incorporate actions to address the impact of work on different job activities. Specifically, the impact of flushing the CFCs before the surveillance test was not appropriately considered for the potential of unacceptably preconditioning the surveillance tests, H.3(b).

Enforcement: 10 CFR Part 50, Appendix B, Criterion XI, “Test Control,” requires, in part, that a test program 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 acceptable limits contained in applicable design documents.

Contrary to this, on September 14, 2010, and January 18, 2011, the licensee failed to assure that all testing required to demonstrate that SSCs will perform satisfactorily in service was identified and performed in a manner that ensured the test data was valid. Specifically, testing of the Unit 2 CFCs prior to their TS required surveillance test was contrary to the Test Control regulations, and constituted unacceptable preconditioning. Because this violation was of very low safety significance and it was entered into the licensee’s CAP, as AR01613274, this violation is being treated as an NCV, consistent with Section 2.3.2 of the NRC Enforcement Policy (NCV 05000266/2011002-04; 05000301/2011002-04, Unacceptable Preconditioning of Technical Specification Required Surveillance Test).

1R18 Plant Modifications (71111.18)

.1 Plant Modifications

a. Inspection Scope

The inspectors reviewed the following modification(s):

- instrument air compressor K2B temporary power (temporary);
- temporary power for battery charger D-08 (temporary);
- removal of EDG G-01/G-02 day tank vent line flame arrestors (permanent); and
- new 125-V batteries and the interface with the related battery chargers (permanent).

The inspectors reviewed the configuration changes and associated 10 CFR 50.59 safety evaluation screening against the design basis, the updated FSAR, and the TSs, as applicable, to verify that the modification did not affect the operability or availability of the affected systems. 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 four samples, consisting of two temporary modification samples and two permanent plant modification samples as defined in IP 71111.18-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- SI pump 1P-15B motor relay after test and calibration, Unit 1;
- SI pump 1P-15B ampmeter after calibration, Unit 1;
- white instrument bus after safeguards sensor test, Unit 2;
- red instrument bus after safeguards sensor test, Unit 1;
- SI pump 1P15B after oil change, Unit 1; and
- emergency core cooling system (ECCS) pump runs after venting and maintenance, Unit 2.

These activities were selected based upon the SSC'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 verify that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed CA documents associated with PM 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 six post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

.1 Refueling Outage Activities

a. Inspection Scope

The inspectors reviewed the Outage Safety Plan (OSP) and contingency plans for the Unit 2 refueling outage (RFO), which commenced February 28 and continued through the inspection period, to confirm that the licensee had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense-in-depth. Documents reviewed are listed in the Attachment to this report. During the RFO, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below:

- licensee configuration management, including maintenance of defense-in-depth commensurate with the OSP for key safety functions and compliance with the applicable TS when taking equipment out-of-service;
- implementation of clearance activities and confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing;
- installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error;
- controls over the status and configuration of electrical systems to ensure that TS and OSP requirements were met, and controls over switchyard activities;
- monitoring of decay heat removal processes, systems, and components;
- controls to ensure that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system;
- reactor water inventory controls including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss;
- controls over activities that could affect reactivity;
- maintenance of secondary containment as required by TSs;
- refueling activities, including fuel handling and sipping to detect fuel assembly leakage; and
- licensee identification and resolution of problems related to RFO activities.

This inspection constituted one partial RFO sample as defined in IP 71111.20-05 and will be completed upon completion of inspection activities during the unit restart.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

.1 Surveillance Testing

a. Inspection Scope

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:

- Unit 1 power range operational test (routine);
- Unit 1 4160-V undervoltage relay test (routine);
- bus A-06 degraded and loss of voltage test (routine);
- bus A-02 loss of voltage test (routine);
- O-SOP-IC-001 (yellow) "Routine Maintenance Procedure for Removal of Safeguards or Protective Sensor From Service" (routine);
- portable diesel-driven fire water pump Z935 (routine);
- safe shutdown fire doors (routine);
- Unit 2 IT-02 Train A high head SI pumps and valves (Inservice Testing (IST)); and
- residual heat removal (RHR), Train A, valve seat leakage test, Unit 2 (Containment Isolation Valve (CIV)).

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

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and 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, ASME 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 nine surveillance samples, consisting of seven routine surveillance testing samples, one inservice testing sample, and one containment isolation valve sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Observation

a. Inspection Scope

The inspector observed a simulator training evolution for licensed operators on January 20, 2011, 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.

This inspection of the licensee's training evolution with emergency preparedness drill aspects constituted one sample as defined in IP 71114.06-05.

b. Findings

No findings were identified.

2. RADIATION SAFETY

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection constituted one complete sample as defined in IP 71124.01-05.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed all licensee PIs for the occupational exposure cornerstone for follow-up. The inspectors reviewed the results of radiation protection (RP) program audits (e.g., licensee's quality assurance (QA) audits or other independent audits). The inspectors reviewed any reports of operational occurrences related to occupational radiation safety since the last inspection. The inspectors reviewed the results of the audit and operational report reviews to gain insights into overall licensee performance.

b. Findings

No findings were identified.

.2 Radiological Hazard Assessment (02.02)

a. Inspection Scope

The inspectors determined if there have been changes to plant operations since the last inspection that may result in a significant new radiological hazard for onsite workers or members of the public. The inspectors evaluated whether the licensee assessed the potential impact of these changes and has implemented periodic monitoring, as appropriate, to detect and quantify the radiological hazard.

The inspectors reviewed the last two radiological surveys from selected plant areas and evaluated whether the thoroughness and frequency of the surveys were appropriate for the given radiological hazard.

The inspectors conducted walkdowns of the facility, including radioactive waste processing, storage, and handling areas to evaluate material conditions and performed independent radiation measurements to verify conditions.

The inspectors selected the following radiologically risk-significant work activities that involved exposure to radiation:

- Tri-Nuke filter transfer (spent fuel pool to high integrity liner);
- Unit 2 steam generator B secondary side moisture separator replacement; and
- RP upper containment radiological controls implementation.

For these work activities, the inspectors assessed whether the pre-work surveys performed were appropriate to identify and quantify the radiological hazard and to establish adequate protective measures. The inspectors evaluated the radiological survey program to determine if hazards were properly identified, including the following:

- identification of hot particles;
- the presence of alpha emitters;
- the potential for airborne radioactive materials, including the potential presence of transuranics and/or other hard-to-detect radioactive materials;
- the hazards associated with work activities that could suddenly and severely increase radiological conditions and that the licensee has established a means to inform workers of changes that could significantly impact their occupational dose; and
- severe radiation field dose gradients that can result in non-uniform exposures of the body.

The inspectors observed work in potential airborne areas and evaluated whether the air samples were representative of the breathing air zone. The inspectors evaluated whether continuous air monitors were located in areas with low background to minimize false alarms and were representative of actual work areas. The inspectors evaluated the licensee's program for monitoring levels of loose surface contamination in areas of the plant with the potential for the contamination to become airborne.

b. Findings

No findings were identified.

.3 Instructions to Workers (02.03)

a. Inspection Scope

The inspectors selected various containers holding non-exempt licensed radioactive materials that may cause unplanned or inadvertent exposure of workers, and assessed whether the containers were labeled and controlled in accordance with 10 CFR 20.1904, "Labeling Containers," or met the requirements of 10 CFR 20.1905(g), "Exemptions To Labeling Requirements."

The inspectors reviewed the following radiation work permits (RWPs) used to access high radiation areas and evaluated the specified work control instructions or control barriers:

- RWP 11-2012, Cavity Activities, Revision 00;
- RWP 11-2013, Remove/Reinstall RV [Reactor Vessel] Head, Revision 02;
- RWP 11-2016, Fuel Motion, Revision 01; and
- RWP 11-2043, RHR Hx Eddy Current, Revision 00.

For these radiation work permits, the inspectors assessed whether allowable stay times or permissible dose (including from the intake of radioactive material) for radiologically significant work under each radiation work permit were clearly identified. The inspectors evaluated whether electronic personal dosimeter alarm setpoints were in conformance with survey indications and plant policy.

The inspectors reviewed selected occurrences where a worker's electronic personal dosimeter noticeably malfunctioned or alarmed. The inspectors evaluated whether workers responded appropriately to the off-normal condition. The inspectors assessed whether the issue was included in the CAP and dose evaluations were conducted as appropriate.

For work activities that could suddenly and severely increase radiological conditions, the inspectors assessed the licensee's means to inform workers of changes that could significantly impact their occupational dose.

b. Findings

No findings were identified.

.4 Contamination and Radioactive Material Control (02.04)

a. Inspection Scope

The inspectors observed locations where the licensee monitors potentially contaminated material leaving the radiological control area and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use and evaluated whether the work was performed in accordance with plant procedures and whether the procedures were sufficient to control the spread of contamination and prevent unintended release of radioactive materials from the site. The inspectors assessed whether the radiation monitoring instrumentation had appropriate sensitivity for the type(s) of radiation present.

The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material. The inspectors evaluated whether there was guidance on how to respond to an alarm that indicates the presence of licensed radioactive material.

The inspectors reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters. The inspectors assessed whether or not the licensee has established a de facto "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

The inspectors selected several sealed sources from the licensee's inventory records and assessed whether the sources were accounted for and verified to be intact.

The inspectors evaluated whether any transactions, since the last inspection, involving nationally tracked sources were reported in accordance with 10 CFR 20.2207.

b. Findings

No findings were identified.

.5 Radiological Hazards Control and Work Coverage (02.05)

a. Inspection Scope

The inspectors evaluated ambient radiological conditions (e.g., radiation levels or potential radiation levels) during tours of the facility. The inspectors assessed whether the conditions were consistent with applicable posted surveys, radiation work permits, and worker briefings.

The inspectors evaluated the adequacy of radiological controls, such as required surveys, RP job coverage (including audio and visual surveillance for remote job coverage), and contamination controls. The inspectors evaluated the licensee's use of electronic personal dosimeters in high noise areas as high radiation area monitoring devices.

The inspectors assessed whether radiation monitoring devices were placed on the individual's body consistent with licensee procedures. The inspectors assessed whether the dosimeter was placed in the location of highest expected dose or that the licensee properly employed an NRC-approved method of determining effective dose equivalent.

The inspectors reviewed the application of dosimetry to effectively monitor exposure to personnel in high radiation work areas with significant dose rate gradients.

The inspectors reviewed the following radiation work permits for work within airborne radioactivity areas with the potential for individual worker internal exposures:

- RWP 11-2012, Cavity Activities, Revision 00;
- RWP 11-2013, Remove/Reinstall RV [Reactor Vessel] Head, Revision 02;
- RWP 11-2016, Fuel Motion, Revision 01; and
- RWP 11-2043, RHR Hx Eddy Current, Revision 00.

For these radiation work permits, the inspectors evaluated airborne radioactive controls and monitoring, including potential for significant airborne levels (e.g., grinding, grit blasting, system breaches, and entry into tanks, cubicles, and reactor cavities). The inspectors assessed barrier (e.g., tent or glove box) integrity and temporary high-efficiency particulate air ventilation system operation.

The inspectors examined the licensee's physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools. The inspectors assessed whether appropriate controls (i.e., administrative and physical controls) were in place to preclude inadvertent removal of these materials from the pool.

The inspectors examined the posting and physical controls for selected high radiation areas and very high radiation areas to verify conformance with the occupational PI.

b. Findings

No findings were identified.

.6 Risk-Significant High Radiation Area and Very High Radiation Area Controls (02.06)

a. Inspection Scope

The inspectors discussed with the RP manager the controls and procedures for high-risk high radiation areas and very high radiation areas. The inspectors discussed methods employed by the licensee to provide stricter control of very high radiation area access as specified in 10 CFR 20.1602, "Control of Access to Very High Radiation Areas," and Regulatory Guide 8.38, "Control of Access to High and Very High Radiation Areas of Nuclear Plants." The inspectors assessed whether any changes to licensee procedures substantially reduced the effectiveness and level of worker protection.

The inspectors discussed the controls in place for special areas that have the potential to become very high radiation areas during certain plant operations with first-line health physics supervisors (or equivalent positions having backshift health physics oversight authority). The inspectors assessed whether these plant operations require communication beforehand with the health physics group, so as to allow corresponding timely actions to properly post, control, and monitor the radiation hazards including re-access authorization.

The inspectors evaluated licensee controls for very high radiation areas and areas with the potential to become very high radiation areas to ensure that an individual was not able to gain unauthorized access to the very high radiation area.

b. Findings

No findings were identified.

.7 Radiation Worker Performance (02.07)

a. Inspection Scope

The inspectors observed radiation worker performance with respect to stated RP work requirements. The inspectors assessed whether workers were aware of the radiological conditions in their workplace and the radiation work permit controls/limits in place, and whether their performance reflected the level of radiological hazards present.

The inspectors reviewed radiological problem reports since the last inspection that found the cause of the event to be human performance errors. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the CA approach taken by the licensee to resolve the reported problems. The inspectors discussed with the RP manager any problems with the CAs planned or taken.

b. Findings

No findings were identified.

.8 Radiation Protection Technician Proficiency (02.08)

a. Inspection Scope

The inspectors observed the performance of the RP technicians with respect to all RP work requirements. The inspectors evaluated whether technicians were aware of the radiological conditions in their workplace and the radiation work permit controls/limits, and whether their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities.

The inspectors reviewed radiological problem reports since the last inspection that found the cause of the event to be RP technician error. The inspectors evaluated whether there was an observable pattern traceable to a similar cause. The inspectors assessed whether this perspective matched the CA approach taken by the licensee to resolve the reported problems.

b. Findings

No findings were identified.

.9 Problem Identification and Resolution (02.09)

a. Inspection Scope

The inspectors evaluated whether problems associated with radiation monitoring and exposure control were being identified by the licensee at an appropriate threshold and were properly addressed for resolution in the licensee's CAP. The inspectors assessed the appropriateness of the CAs for a selected sample of problems documented by the licensee that involve radiation monitoring and exposure controls. The inspectors assessed the licensee's process for applying operating experience to the plant.

b. Findings

No findings were identified.

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

The inspection activities supplement those documented in Inspection Report 05000266/2010004; 05000301/2010004.

.1 Radiation Worker Performance (02.05)

a. Inspection Scope

The inspectors observed radiation worker and RP technician performance during work activities being performed in radiation areas, airborne radioactivity areas, or high radiation areas. The inspectors evaluated whether workers demonstrated the ALARA philosophy in practice (e.g., workers are familiar with the work activity scope and tools to be used, workers used ALARA low-dose waiting areas) and whether there were any procedure compliance issues (e.g., workers are not complying with work activity controls). The inspectors observed radiation worker performance to assess whether the training and skill level was sufficient with respect to the radiological hazards and the work involved.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Scrams per 7000 Critical Hours PI for Unit 1 and Unit 2 for January 1 through December 31, 2010. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC Inspection Reports from January 1 through December 31, 2010, 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 no previous problems had been identified. This inspection identified one issue that was entered into the licensee's CAP. The critical hours reported to NRC for Unit 1 March 2010 was incorrect. However, the error did not cause an indicator to change an indicator threshold. 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

No findings were identified.

.2 Unplanned Transients per 7000 Critical Hours

a. Inspection Scope

The inspectors sampled licensee submittals for the Unplanned Transients per 7000 Critical Hours PI for Unit 1 and Unit 2 for January 1 through December 31, 2010. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, dated October 2009, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC Inspection Reports from January 1 through December 31, 2010, 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 no previous problems had been identified. This inspection identified one issue that was entered into the licensee's CAP. A Unit 2 shutdown was not counted in NRC PI as an unplanned power reduction. However, the error did not cause an indicator to change an indicator threshold. 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

No findings were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

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

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's CAP at an appropriate threshold, that adequate attention was being given to timely CAs, 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 CAs 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. Inspection Scope

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

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

No findings were identified.

.3 Selected Issue Follow-Up Inspection: (Closed) Unresolved Item (URI)
05000266/2010003-05; 05000301/2010003-05: "Unit 2 Battery Inverter Transfers to
Nonsafety-Related Power During Unit 1 Testing"

a. Inspection Scope

The NRC documented a URI during the second quarter of 2010 (ADAMS Accession Number ML102180241) related to a potentially adverse trend associated with testing on one Unit's equipment inadvertently causing the inoperability of equipment on the opposite Unit. Specifically, during the spring of 2010 Unit 1 RFO, while operators were performing load shedding of 4160-V safety-related bus 1A-05 and 480-V safety-related bus 1B03 per step 5.8.3.c., of procedure Unit 1, ORT 3A, Unit 2's white instrument inverter 2DY-03 transferred from its safety-related power source to its nonsafety-related alternate power source, rendering the inverter inoperable. The inspectors also noted this inadvertent transferring of white channel instrument inverters had occurred previously during the performance of ORT 3A for Unit 1 and Unit 2. In all instances, the transfer occurred during the performance of steps 5.8.3.c and 5.5.6.c for Unit 1 and Unit 2 respectively, the cause of the transferring was not determined. The inspectors were concerned that the interaction between the Units induced during the performance of ORT 3A could also occur during various accident/transient scenarios. The licensee issued CA01175187 to determine if there was a common cause for the transfers and to determine if an inverter transfer could affect both units. The inspectors identified this issue as a URI pending the licensee's evaluation of the related design basis aspect.

During this inspection, the inspectors reviewed associated procedures, design and licensing basis documents, and CAP documents and their associated evaluations. The licensing basis for the instrument bus inverters indicated that the system was designed such that the worst case single failure in conjunction with a loss of offsite power and a loss-of-coolant accident (LOCA) in one Unit would not result in the failure of more than one instrument bus per Unit. Such failure could not result in a spurious starting of all emergency loads in both Units. The inspectors reviewed step 5.8.3.c of Unit 1 ORT 3A, and step 5.5.6.c. of Unit 2 ORT 3A, which directed the operator to trip EDG G02 to Bus 1/2A05 breaker and immediately reclose the breaker or place in Auto. The purpose of these steps was to test the circuit logic associated with operation of the EDG's auto load shedding and restoration of vital loads in response to a manual trip of the EDG output breaker. The scenario described in these steps had EDG G02 loading onto a dead 4160-V vital bus where offsite power was not available to the bus. However, during the performance of these steps, offsite power was available to supply alternate power to the inverters via Motor Control Center B09 which was supplied by the 13.8-kiloV main switchyard bus H01. This alternate power source to the inverters would not be available during an actual loss of offsite power event. The inspectors' reviewed the inverter operating technical manual (OTM 01476) which stated that if the bypass source was not available, the static switch would be prevented from transferring to the bypass power source. Based on the above information, the inspectors concluded that in the events where offsite power was not available and the diesel generator was required to provide power to the safety-related buses, the static switch would prevent the inverters from transferring to the alternate source and would continue to supply the

required power to the instrument bus. The inspectors could not identify a scenario that could occur during a licensing basis event that would duplicate the events that occurred during testing assuming only one single active failure. In addition, the licensee initiated work orders to troubleshoot the cause of the white channel inverter(s) during the next performance of ORT 3A scheduled for the ongoing Unit 2 RFO (U2R31).

Based on the above assessment, the inspectors determined that no performance deficiencies or violations of regulatory requirements of safety significance existed. The inspectors had no further concerns in this area. Documents reviewed are listed in the Attachment to this report. This unresolved item is closed.

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

.4 Selected Issue Follow-Up Inspection: Scaffolding Interactions With Plant Equipment

a. Inspection Scope

The inspectors performed an inspection of outage preparations and activities, such as scaffolding and transient combustibles, in response to previous issues and findings in these areas. The inspector performed walkdowns of scaffolds in the auxiliary building located in areas of safety-related equipment and also performed inspections for transient combustibles. No issues were found with respect to transient combustibles. Several concerns were identified on inspected scaffolding related to proximity to safety-related equipment and the absence of requisite engineering evaluations. The licensee documented and evaluated all the conditions (CR AR01626133) and they were found acceptable.

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

b. Findings

No findings were identified.

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

.1 Response to Unplanned or Non-Routine Events

a. Inspection Scope

The inspectors reviewed the plant's response to the following non-routine events:

- Unit 2 SI pump oiler found out-of-service (empty) during opposite train surveillance test resulting in an unplanned TS 3.0.3 entry.

Documents reviewed are listed in the Attachment to this report.

This event follow-up review constituted two samples as defined in IP 71153-05.

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report (LER) 05000266/2010-003-00: Potential For Residual Heat Removal Trains To Be Inoperable During Mode Change

a. Inspection Scope

On June 25, 2010, the inspectors completed the onsite portion of Temporary Instruction (TI) 2515/177, "Management of gas accumulation in emergency core cooling, decay heat removal, and containment spray systems." During that inspection, the inspectors identified a finding of very low safety significance associated with the potential flash evaporation of the RHR system water during a shutdown LOCA in Mode 4 of reactor operations. Specifically, the RHR system could experience flash evaporation during a LOCA in this Mode resulting in steam binding of the system pumps and/or an adverse waterhammer. This finding was documented in inspection report 05000266/2010004; 05000301/2010004. As a result, the licensee completed a technical assessment for reportability on September 13, 2010, which concluded that, given the procedural guidance in place, this condition would have prevented the RHR system from performing its safety function. Consequently, the licensee submitted this LER. The inspectors reviewed the licensee's CA documents and the implementation of CAs needed to address the LER condition. This inspection was completed through an in-office review of documents and discussions with engineering personnel. This LER is closed.

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

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Flow Accelerated Corrosion (FAC) Inspection in Support of Extended Power Uprate (EPU)(71004)

a. Inspection Scope

The objectives of this inspection were to determine whether licensee programs and procedures relative to flow accelerated corrosion (FAC) monitoring and maintenance were adequately addressing recent modifications to support an EPU. Specifically, the inspectors reviewed the FAC program to determine whether the licensee had taken required action to detect adverse effects (wall thinning) on systems and components as a result of increased flow in primary and secondary systems, including interfacing systems. As part of their review, the inspectors referenced 10 CFR 50.65, the Maintenance Rule and licensee commitments to implement Generic Letter 89-08, "Erosion/Corrosion Induced Pipe Wall Thinning."

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 5, 2011, the inspectors presented the inspection results to Mr. L. Meyer 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

Interim exits were conducted for:

- the results of the inservice inspection with Mr. L. Meyer on March 11, 2011;
- the results of the radiation safety inspection conducted March 14-18, 2011, with Site Vice-President, Mr. L. Meyer, on March 18, 2011.

The inspectors confirmed that none of the potential report input discussed was considered proprietary. Proprietary material received during the inspection was returned to the licensee.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

L. Meyer, Site Vice-President
C. Trezise, Engineering Director
J. Costedio, Licensing Manager
F. Flentje, Licensing Supervisor
R. Harrsch, Operations Director
P. Wild, Design Engineering Manager
D. Lauterbur, Training Manager
D. Craine, RP Manager

Nuclear Regulatory Commission

M. Kunowski, Chief, Reactor Projects Branch 5

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000266/2011002-01; 05000305/2011002-01	NCV	Failure to Maintain Internal Flood Protection Features on Emergency Diesel Generators G-01 and G-02 Control Cabinets (1R06)
05000266/2011002-02; 05000301/2011002-02	NCV	Failure to Perform Required Ultrasonic Exam in Accordance with Procedures (1R08)
05000266/2011002-03; 05000301/2011002-03	URI	Out-of-Service Radiation Monitors Potentially Impact Emergency Classification Ability (1R13)
05000266/2011002-04; 05000301/2011002-04	NCV	Unacceptable Preconditioning of Technical Specification Required Surveillance Test (1R15)

Closed

05000266/2011002-01; 05000305/2011002-01	NCV	Failure to Maintain Internal Flood Protection Features on Emergency Diesel Generators G-01 and G-02 Control Cabinets (1R06)
05000266/2011002-02; 05000301/2011002-02	NCV	Failure to Perform Required Ultrasonic Exam in Accordance with Procedures (1R08)
05000266/2011002-04; 05000301/2011002-04	NCV	Unacceptable Preconditioning of Technical Specification Required Surveillance Test (1R15)
05000266/2010003-05; 05000301/2010003-05	URI	Unit 2 Battery Inverter Transfers to Nonsafety-Related Power During Unit 1 Testing (4OA2.3)
05000266/2010-003-00	LER	Potential for Residual Heat Removal Trains To Be Inoperable During Mode Change (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.

1R01 Adverse Weather Protection

- AOP 13A; Circulating Water System Malfunction; Revision 17
- BG AOP 13A; Circulating Water System Malfunction; Revision 14
- DBD-T-41; Hazards - Internal And External Flooding; Revision 8
- FSAR 2.5; Hydrology; UFSAR 2010
- NP 8.4.17; PBNP Flooding Barrier Control; Revision 13

1R04 Equipment Alignment

- 0-SOP-DC-002; 125 VDC System, US D-02 & Components; Revision 16
- 3.7 Plant Systems; SW System 3.7.8; Unit 1 – Amendment No. 205; Unit 2 – Amendment No. 210
- AR01633163; Check List 11A G-04 And G-03 Has Errors; March 24, 2011
- AT-01.01 AR Report; From January 7, 2009 To January 7, 2011
- BECH 6118 E-6 Sh. 1&2; Single Line Diagram, 125V DC Dist. System; Revision 37
- CL 11A G-04; G-04 Diesel Generator Checklist; Revision 9
- CL 13E Part 1; Auxiliary Feedwater Valve Lineup Turbine-Driven; Revision 40
- CL 13E Part 2; Auxiliary Feedwater Valve Lineup Motor Driven; Revision 45
- DBD-01, Figure 1-1; AFW System – Major Flow Paths; Revision 18
- DBD-01; Auxiliary Feedwater System; Revision 18
- DBD-16; Emergency Diesel Generator System; Revision 14
- Drawing 018995; P&ID Service Water; Revision 76
- Drawing 019016; P&ID Auxiliary Feedwater System Unit 1 And 2; Revision 87
- Drawing 275460; P&ID Auxiliary Feedwater System Unit 1 And 2; Revision 22
- Drawing 302280; P&ID Clycol Cooling System Diesel Generator Building; Revision 10
- Drawing 302281; P&ID Clycol Cooling System Diesel Generator Building; Revision 09
- O-SOP-VNCR-002; Control And Computer Room Ventilation System Normal Operation; Revision 5; October 28, 2010
- P&ID 541F445 Sh. 2; Reactor Coolant System; Revision 32
- PBF-7029; VNCR Maintenance Rule Performance Criteria; Revision 3; October 13, 2004
- TS-9; Control Room Heating And Ventilation System Monthly Checks; Revision 36; November 29, 2010
- VPMPD-91-289; NRC-91-086; Correspondence, C.W. Fay, Wisconsin Electric, to NRC; Subject: Generic Letter 88-17 Supplemental Response Reactor Vessel Level Instrumentation; August 26, 1991

1R05 Fire Protection

- AT-01.01 AR Report; From October 1, 2010, To January 7, 2011
- FHAR FZ 245; Fire Area A01-E; Fire Zone Data For Electrical Equipment Room – Unit 1; June 2009
- FHAR FZ 306; Fire Area A25; Fire Zone Data For Battery Room D06; June 2009
- FHAR FZ 307; Fire Area A26; Fire Zone Data For Battery Room D05; June 2009
- FHAR FZ 775; Fire Area A71; Fire Zone Data For G-04 Diesel Room; June 2009

1R06 Flood Protection Measures

- 10 CFR 50.59 Evaluation 2009-003; USAR 01141895 Changes To FSAR A.7, “Plant Internal Flooding”; May 14, 2009
- AR01330374; Lack Of Progress On Cable Submergence Issue
- AR01379630; Manholes Under Water
- DBD-T41 Module A; Hazards – Internal And External Flooding; Revision 8
- DBD-T-41; Hazards - Internal And External Flooding; Revision 8
- FSAR Appendix A.7; List Of Design Features Credited For Mitigating Plant Internal Flood; UFSAR 2009
- Manhole Status Update; March 5, 2010 To March 6, 2011
- NP 8.4.17; PBNP Flooding Barrier Control; Revision 13
- NP 8.4.17; PBNP Flooding Barrier Control; Revision 13

1R07 Heat Sink Performance

- AR016033589; 2HX-15D1-8 CONT Fan Cooler Flow near Low Spec
- North Header (Unit 2) Strainer DP; January 21, 2011 – January 28, 2011
- Service Water System Health Report; 4th Quarter 2010
- Unit 2 Containment Fan Cooling Air Temp and SW Flow; January 20, 2011 – January 28, 2011

1R08 Inservice Inspection Activities

- 2-PT-CV-1; Chemical And Volume Control System Pressure Test-Inside/Outside Containment Unit 2; Revision 3
- AR01169880; Main Steam Elbow To HP Turbine Less Than Nominal
- AR01170192; Main Steam Piping Thickness Reading Had Inaccurate Data
- AR01375775; Weld Visual Exam Failure
- AR01375944; ISI Exam Moved To U2R31
- AR01376629; Corrosion Of Support HB-19-SA5
- AR01376875; Pre-Job Brief Concerns For NDE
- AR01377472; 2-PT-SI-2 Performed Without Temporary Change
- AR01377620; Aux FW Weld Installed In Inaccessible Location
- AR01378532; Repair/Replacement Work Performed With No ANII Notification
- AR01385780; Incorrect Examination Performed On 1XH-11A RHR HX Bolting
- AR01386365; Evaluation Of Radiography To Meet PBNP Procedures
- AR01391483; Missed Section XI RR Required Exams
- AR01391495; Missing NDE Preservice Exam Record From AFW Mod Work
- AR01391525; Inadequate Documentation Of Limited Exam
- AR01394094; Late Identified Section XI RR
- AR01397086; Boric Acid Accumulation On Swagelock Fitting
- AR01625482; NRC Observations Regarding Visual Examinations

- AR01625685; NRC Observation During Visual (VT-3) Examinations
- AR01626344; NRC Observation During Ultrasonic (UT) Examination
- AR01627441; NRC Comment To Boric Acid Indication Evaluation Procedure
- BALCM Appendix A Boric Acid Indication Evaluation; Revision 7
- BALCM Appendix C Boric Acid Indication Evaluation; Revision 7
- BALCM Program Boric Acid Leakage And Corrosion Monitoring Program; Revision 5
- IDR 2009-008; 07-0467/020001, ISwT Indication Resolution Record Of RC-32-MRCL-BIII-03; October 30, 2009
- IDR 2009-009; 07-0467/020002, ISwT Indication Resolution Record Of RPV-2-686-D; October 30, 2009
- IDR 2009-010; 07-0467/020003, ISwT Indication Resolution Record Of RPV-687-01-B; November 2, 2009
- N-533-1; Alternative Requirements For VT-2 Visual Examination Of Class 1,2, And 3 Insulated Pressure-Retaining Bolted Connections Section XI, Division 1; February 26, 1999
- N-566-2; Corrective Action For Leakage Identified At Bolted Connections Section XI, Division 1; March 28, 2001
- NDE-173; PDI Generic Procedure For The Ultrasonic Examination Of Austenitic Piping Welds; Revision 12
- NDE-451; Visible Dye Penetrant Examination Temperature Applications 45F To 125F; Revision 26
- NDE-753; Visual Examination (VT-2) Leakage Detection Of Nuclear Power Plant Components; Revision 15
- NDE-754; Visual Examination (VT-3) Of Nuclear Power Plant Components; Revision 17
- NDE-754; Visual Examination (VT-3) Of Nuclear Power Plant Components; Revision 17
- PQR 91-P8P8F6F5-7; SS To SS; November 21, 1991
- PQR W-66; GTAW For P-8 To P-8; Revision 0
- WO352828; 2CV-00206B (Valve Leaks Through); September 10, 2009
- WO357449; IDR #2009-008, RC-32-MRCL-BIII-03, Elbow To Inlet Nozzle At 148.5°; October 29, 2009
- WO357449; IDR #2009-008, RC-32-MRCL-BIII-03, Elbow To Inlet Nozzle At 148.5°; October 29, 2009
- WO358994; T-1 PZR and R-1 RV Vent Line Low Point Drain Leak; October 15, 2009
- WO376109; Low Head SI Core Deluge Check; October 27, 2009
- WPS FP-PE-B31-P8P8-GTSM-037; GTAW P-8 to P-8 Material; Revision 4

1R12 Maintenance Rule Effectiveness

- 125 VDC System Health Report; March 2011
- 1-SOP-Y-Y104; 1Y-104, Yellow 120V Vital Instrument Panel; Revision 3; June 3, 2010
- ACE 01607464-02; Apparent Cause Evaluation: D-06 Inter Tier Connection Cable Resistance Were Found Above The Technical Specification (TS) LCO 3.8.4.5 Limits Specified RMP 9046-1; Revision 1
- AR00107464; D-06 Inter Tier Cable Connection Resistance Above TS Limit
- AR01363217; NRC PI&R issue – PMO team missed Capacitor Replacements
- AR01377231; DY-04 Inverter Shifts To Backup Power Supply
- AR01385166; RMS DAM-7 Did Not Switch To Backup Power When Breaker Opened
- AR01385335; Stripped Screw In Top Left Dead Front On 1Y-114
- AR01386117; 1DY-04 Causing Many Alarms, Important Instrument Bus Power
- AR01387499; Review Ventilation Requirements For 0-SOP-VNBI-003
- AR01394897; 2DY-04, Yellow AC Inverter Transferred To Backup Power Supply
- AR013974708; DY-0D Inverter Analog Logic Board PM Error Causes Delay

- AR01398227; Inverter Transfers Affect System MR Status
- MDB 3.2.11 1Y114; Master Data Book; Revision 5, February 4, 2000
- PBF-7029; Vital 120 VAC (Y) Maintenance Rule Performance Criteria; Revision 3; October 13, 2004
- Point Beach Technical Requirements Manual; Revision 2; March 26, 2008
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- Drawing 21077; Elementary Wiring Diagram – 4160V Switchgear 1A01 Cub-16, Bus Tie To 1A-04 At 1A52-55; Revision 16
- Drawing 21138; Elementary Wiring Diagram 1B-04 480V, Undervoltage Scheme, Unit 1 And 2; Revision 18
- Drawing 21139; Elementary Wiring Diagram 1B-04 480V, Undervoltage Scheme, Unit 1 And 2; Revision 15
- Drawing 294307; Schematic Diagram – Inputs – Reactor Protection System – Train A, Unit 1; Revision 04
- Drawing 294308; Schematic Diagram – Reactor Protection System – Train A, Unit 1; Revision 05
- Drawing 294309; Schematic Diagram – Inputs – Reactor Protection System – Train B, Unit 1; Revision 03
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- AR01398778; Material Release From The RCA
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- HPIP 3.52; Airborne Radioactivity Surveys; Revision 33
- HPIP 3.61; Routine Radiation And Contamination Survey Schedules; Revision 07
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- HPIP 8.3; Radioactive Source Keys And Key Control, Source Issuance And Release From The RCA; Revision 05
- NP 4.2.12; Requirements For Radiologically Controlled Area Entry; Revision 24
- NP 4.2.14; Administrative Dose Levels/Dose Level Extension Procedure; Revision 08
- NP 4.2.15; Fetal Protection Policy Implementation; Revision 07
- NP 4.2.16; Visitor Access To A Radiologically Controlled Area; Revision 16
- NP 4.2.19; Entry Requirements Into Various Radiologically Controlled Areas; Revision 17
- NP 4.2.25; Release Of Material, Equipment And Personal Items From Radiologically Controlled Areas; Revision 18
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- ORT 3A; Safety Injection Actuation With Loss Of Engineered Safeguards AC (Train A) Unit 1; Revision 43
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- 02-GB-7B; Isometric Drawing, Feedwater Piping Replacement Line 2-GB-7 2-P28B, Suction Point Beach N.P. Unit 2; Revision 0
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- 02-GB-4A3; Isometric Drawing, 3rd Pt Heater Condensate Outlet Replacement Line 14"-GB-4 2-HX-19A Nozzle N2 Crossover, Point Beach N.P. Unit 2; Revision 0

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
AFW	Auxiliary Feedwater
ALARA	As-Low-As-Is-Reasonably-Achievable
AOP	Abnormal Operating Procedure
ASME	American Society of Mechanical Engineers
BA	Boric Acid
BACC	Boric Acid Corrosion Control
BAE	Boric Acid Evaluation
CA	Corrective Action
CAP	Corrective Action Program
CFC	Containment Fan Cooler
CFCU	Containment Fan Cooling Unit
CFR	Code of Federal Regulations
CR	Condition Report
CREFS	Control Room Emergency Filtration System
CS	Containment Spray
CSCS	Core Standby Cooling System
CST	Condensate Storage Tank
DC	Direct Current
DG	Diesel Generator
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EFS	Emergency Feedwater System
EP	Emergency Plan
EPU	Extended Power Uprate
FAC	Flow Accelerated Corrosion
FSAR	Final Safety Analysis Report
FW	Feedwater
IMC	Inspection Manual Chapter
INPO	Institute of Nuclear Power Operations
IP	Inspection Procedure
IPEEE	Individual Plant Examination of External Events
IR	Inspection Report
ISI	Inservice Inspection
kV	Kilovolt
LER	Licensee Event Report
LLC	Limited Liability Corporation
LOCA	Loss-of-Coolant Accident
mrem	Millirem
msec	Millisecond
NCV	Non-Cited Violation
NDE	Non-Destructive Examinations
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OSP	Outage Safety Plan
OTM	Operating Technical Manual

OWA	Operator Workaround
PARS	Publicly Available Records System
PI	Performance Indicator
PI&R	Problem Identification and Resolution
PM	Post-Maintenance
psid	Pounds Per Square Inch Differential
psig	Pounds Per Square Inch Gauge
PT	Dye Penetrant Testing
QA	Quality Assurance
RCA	Radiologically Controlled Area
RCE	Root Cause Evaluation
RCS	Reactor Coolant System
RFO	Refueling Outage
RHR	Residual Heat Removal
RI	Risk-Informed
RP	Radiation Protection
RPVUH	Reactor Pressure Vessel Upper Head
RWP	Radiation Work Permit
SDP	Significance Determination Process
SG	Steam Generator
SI	Safety Injection
SSC	Structure, System, and Component
SW	Service Water
TS	Technical Specification
TI	Temporary Instruction
URI	Unresolved Item
UT	Ultrasonic
V	Volt
Vac	Volts Alternating Current
Vdc	Volts Direct Current
VT	Visual Examination
WO	Work Order

L. Meyer

-2-

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Sincerely,

/RA/

Michael A. Kunowski, Chief
Branch 5
Division of Reactor Projects

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

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SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2,
NRC INTEGRATED INSPECTION REPORT 05000266/2011002;
05000301/2011002

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Cynthia Pederson

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DRSIII

Patricia Buckley

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