



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

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

May 11, 2010

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 05000266/2010002 AND 05000301/2010002**

Dear Mr. Meyer:

On March 31, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed a baseline inspection at your Point Beach Nuclear Plant, Units 1 and 2. The enclosed report documents the inspection results, which were discussed on April 1, 2010, 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 your personnel.

Based on the results of this inspection, six NRC-identified findings of very low safety significance were identified. Of these findings, five involved violations of NRC requirements. However, because of their very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the issues as non-cited violations (NCVs) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of these NCVs, you should provide a response within 30 day 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 characterization of 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. The information that you provide will be considered in accordance with Inspection Manual Chapter 0305.

L. Meyer

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Sincerely,

/RA/

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

Docket Nos. 50-266; 50-301; 72-005
License Nos. DPR-24; DPR-27

Enclosure: Inspection Report 05000266/2010002; 05000301/2010002
w/Attachment: Supplemental Information

cc w/encl: Distribution via List Serve

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000266/2010002; 05000301/2010002

Licensee: FPL Energy Point Beach, LLC

Facility: Point Beach Nuclear Plant, Units 1 and 2

Location: Two Rivers, WI

Dates: January 1, 2010, through March 31, 2010

Inspectors: S. Burton, Senior Resident Inspector
R. Ruiz, Resident Inspector
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Approved by: Michael Kunowski, Chief
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Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000266/2010002, 05000301/2010002; 01/01/2010 – 03/31/2010; Point Beach Nuclear Plant, Units 1 & 2; Flooding; Maintenance Risk Assessments and Emergent Work Control; Plant Modifications; Occupational As-Low-As-Is-Reasonably-Achievable (ALARA) Planning and Controls; and Identification and Resolution of Problems.

This report covers a three-month period of inspection by resident inspectors and announced baseline inspections by regional inspectors. Six Green findings were identified by the inspectors. Five of the findings were considered Non-Cited Violations 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. A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for the licensee's failure to implement timely corrective actions to address the longstanding issue of submerged, medium voltage, underground cables at Point Beach. Specifically, this issue was first identified in 1997, with numerous condition reports written since that time, and in January 2008, it was associated with a significant condition adverse to quality. The licensee entered this issue into its corrective action program. Corrective actions completed include increased monitoring and pumping of manholes; proposed actions include design changes to support automatic monitoring and/or water removal from the manholes.

The finding was more than minor because it was associated with the Initiating Events Cornerstone attribute of protection against external factors and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenged critical safety functions during shutdown as well as power operations. Specifically, the failure to correct the submerged cable issue in a timely manner; if left uncorrected, would lead to other cable failures as a result of the continued cable degradation. The finding screened as having very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. The finding had a cross-cutting aspect in the area of human performance, resources, because the licensee did not appropriately maintain long-term plant safety by maintenance of design margins, minimization of longstanding equipment issues, minimizing preventive maintenance deferrals, and ensuring maintenance and engineering backlogs were managed low enough to support safety (H.2(a)). (Section 1R06)

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance and associated Non-Cited Violation of 10 CFR 50.65(a)(4) was identified by the inspectors for the failure to properly assess risk

that resulted from risk-significant maintenance being performed on the residual heat removal, safety injection, and containment spray systems. Specifically, the licensee inappropriately applied criteria for the use of a dedicated operator to meet availability requirements. As part of its corrective actions, the licensee stopped work that required the use of a dedicated operator pending further evaluation.

The issue was more than minor because the licensee's risk assessment for January 12, 2010, failed to consider multiple systems unavailable during maintenance. Specifically, the failure to account for the unavailability of the residual heat removal, safety injection, and containment spray systems, resulted in an inadequate daily risk assessment and could affect the unavailability time of this system in related performance and maintenance rule indicators. The inspectors evaluated the finding using the Significance Determination Process in accordance with IMC 0609, "Significance Determination Process," Attachment K, Maintenance Risk Assessment and Risk Management Significance Determination Process, dated May 19, 2005, and determined the issue screened as having very low safety significance, because the incremental conditional core damage probability was less than 1E-6 due to the test condition lasting only four hours. This finding had a cross-cutting aspect in human performance, decision-making, because the licensee did not have a process or use a systematic approach regarding facets of a dedicated operator (H.1(a)). (Section 1R13)

- Green. A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to follow the temporary modifications procedure FP-E-MOD-03, Revision 6. Specifically, the Applicability section of this procedure was not properly applied to the temporary condensate storage tank (CST) modification such that the system was not appropriately characterized as a temporary modification. As a result, the licensee failed to adequately document an evaluation of the potential impacts to operating equipment. As of the conclusion of the inspection, the licensee had entered this issue into its corrective action program.

The finding was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee inappropriately applied the exemption criteria of the temporary modification procedure to the fill point connected to the newly classified "vent" of the permanent CST and failed to assess the impact of the temporary CST system on plant design. The finding screened as having very low safety significance (Green) because the finding was not a design or qualification deficiency resulting in a loss of functionality, did not represent a loss of system safety function or loss of a single train for greater than its allowed technical specification time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events. This finding had a cross-cutting aspect in the area of human performance, decision-making, because the licensee did not appropriately use conservative assumptions in decision-making and verify the validity of underlying assumptions for the temporary CST modification (H.1(b)). (Section 1R18)

- Green. A finding of very low safety significance and associated Non-Cited Violation of Technical Specification 5.4.1.h for Units 1 and 2 was identified by the inspectors for the licensee's failure to establish appropriate fire watches required as compensatory

measures to address identified fire protection impairments. Specifically, on three occasions, the licensee failed to issue, and properly implement, fire watch surveillances as required by procedure OM 3.27. The licensee had entered all instances into its corrective action program.

The finding was more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of protection against external factors (fire) and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to implement fire watches required as compensatory measures degraded the defense-in-depth elements of the fire protection program that is necessary to ensure safe shutdown in the event of a fire. The issue was of very low safety significance based on the low degradation rating for the finding. The finding had a cross-cutting aspect in the area of human performance, resources, because the licensee's preliminary apparent cause evaluation attributed the underlying cause of these events to less than adequate procedures, or procedures that did not adequately link to each other, and pre-job briefing materials that did not address fire protection considerations (H.2(c)). (Section 40A2)

Cornerstone: Barrier Integrity

- Green. A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified by the inspectors for the licensee's failure to evaluate seismic piping interactions. Specifically, for a plant configuration where the stem of a spent fuel pool cooling system valve contacted an adjacent service water pipe, the licensee's evaluation to demonstrate that the existing spent fuel pool cooling system piping and valves met the design basis acceptance criteria of United States of America Standard (USAS) B31.1-1967 used a method of analysis that did not evaluate the dynamic effect of impact forces as specified by the design basis piping code. The licensee entered this issue into its corrective action program.

The finding was determined to be more than minor because it was associated with the Barrier Integrity Cornerstone attribute of design control and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, compliance with the seismic Category I design basis requirements of USAS B31.1-1967 was to ensure valve SF-2, the valve connection between two sections of spent fuel pool cooling system piping, would function as required during a seismic Category I design basis event. The finding screened as having very low safety significance (Green) because it was a design deficiency of the structural integrity of the spent fuel pool cooling piping system that: did not result in loss of cooling to the spent fuel pool; did not result from fuel handling errors that caused damage to fuel clad integrity or a dropped assembly; and did not result in loss of spent fuel pool inventory greater than 10 percent of spent fuel pool volume. The finding had no cross-cutting aspect because it was a legacy design issue, not reflective of current performance. (Section 40A2)

Cornerstone: Occupational Radiation Safety

- Green. The inspectors identified a finding of very low safety significance for inadequate ALARA job planning and ineffective implementation of radiological work controls. This issue adversely impacted the licensee's ability to minimize dose for the containment

sump fibrous insulation removal project during the Unit 2 refueling outage (U2R30). Specifically, radiological controls were not effectively implemented to reduce ambient radiation levels and minimize in-field work hours for craft personnel. This resulted in an actual dose outcome that was not consistent with the planned, intended dose for work associated with the fibrous insulation removal project. Corrective actions were implemented to address the organizational communication deficiencies that led to the incomplete ALARA job planning and ineffective implementation of radiological work controls for the project.

The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the attribute of program and process for ALARA planning, in that, incomplete ALARA job planning and radiological work control deficiencies contributed to an actual increase in worker doses in excess of 5 person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent. The finding did not involve: an overexposure; a substantial potential for an overexposure; or an impaired ability to assess dose. While the finding involved ALARA planning and controls, the 3-year rolling average dose for the Point Beach Nuclear Plant was less than the significance determination process threshold of 135-person-rem for pressurized water reactors at the time the performance deficiency occurred. Therefore, the inspectors determined that this is a finding of very low safety significance. The finding had a cross-cutting aspect in the area of human performance in decision-making, in that, the licensee did not communicate decisions and the basis for decisions to personnel who have a need to know the information in order to perform work safely in a timely manner (H.1(c)). (Section 2RS2)

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at 100 percent power with the exceptions of small power reductions during routine surveillance testing, and a 10 percent, short duration, power reduction on February 26, 2010, due to a problem with power range nuclear instrument N42. On March 1, 2010, the unit shut down to commence refueling outage U1R32.

Unit 2 operated at 100 percent power throughout the entire inspection period with the exception of small power reductions during routine surveillance testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

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 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. 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 of significance were identified.

.2 Readiness for Impending Adverse Weather Condition – Extreme Cold Conditions

a. Inspection Scope

The inspectors reviewed the licensee's overall preparations/protection for the extreme cold conditions forecast in the vicinity of the facility for January 4, 2010. Due to frazil icing concerns and extreme low temperatures, the inspectors walked down the intake structure, forebay, traveling screens, and circulating water systems. The inspectors

observed insulation, heat trace circuits, space heater operation, and weatherized enclosures to ensure operability of affected systems. Also, the inspectors reviewed the licensee's procedures for managing frazil ice conditions and observed the implementation of the related procedures and discussed compensatory measures with control room personnel. The inspectors focused on plant management's actions for implementing the station's procedures for ensuring adequate personnel for safe plant operation and emergency response. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one readiness for impending adverse weather condition sample as defined in IP 71111.01-05.

b. Findings

No findings of significance 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:

- component cooling water (CCW) system, "B" train (Unit 1);
- residual heat removal (RHR) system after maintenance (Unit 1); and
- emergency diesel generator G-01 after return to service from maintenance and testing.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, FSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers, and entered them into the corrective action program (CAP) with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings of significance were identified.

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

On January 11, 2010, the inspectors performed a complete system alignment inspection of the Unit 2 auxiliary feedwater system to verify the functional capability of the system. This system was selected because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors walked down the 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. A sample of past and outstanding WOs was reviewed to determine whether any deficiencies significantly affected the system function. 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.

These activities constituted one complete system walkdown sample as defined in IP 71111.04-05.

b. Findings

No findings of significance 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 104, Unit 1 RHR pump room;
- fire zone 105, Unit 1 RHR pump room;
- fire zone 137, Unit 2 valve gallery;
- fire zone 151, safety injection (SI) pump room;
- fire zone 301, Unit 1 turbine building 8-foot elevation;
- fire zone 308, emergency diesel generator room, G-01;
- fire zone 304N north auxiliary feedwater pump room; and
- fire zone 304S, south auxiliary feedwater pump room.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained

passive fire protection features in good material condition; and implemented adequate compensatory measures for out-of-service, degraded, or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to risk, and their potential to impact equipment which could initiate or mitigate a plant transient. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; fire detectors and sprinklers were unobstructed; 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 eight quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R06 Flooding (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, engineering calculations, and AOPs, to identify licensee commitments. 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 documents with respect to past flood-related items identified in the CAP to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant areas to assess the adequacy of watertight doors, to verify drains and sumps were clear of debris and operable, and to determine if the licensee complied with its commitments:

- turbine building sump failure contribution to internal flooding risk; and
- temporary condensate storage tank contribution to internal flooding risk.

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

b. Findings

No findings of significance were identified.

.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 if the cables were submerged, splices were intact, and appropriate cable support structures were in place. In those areas where dewatering devices, such as a sump pump, were used, the inspectors determined if 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 corrective action documents with respect to past submerged cable issues identified in the CAP to verify the adequacy of the corrective actions. Documents reviewed are listed in the Attachment to this report. The inspectors performed a walkdown of the following underground bunkers/manholes subject to flooding:

- annual review of cables located in underground manholes, including manhole #10 (Z-065K), manhole #14 (Z-065P), manhole #19 (Z-065U), and manhole #20 (Z-065V).

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

b. Findings

Untimely Corrective Actions to Address Longstanding Issue of Submerged Cables

Introduction: A finding of very low safety significance and associated Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for the licensee's failure to implement timely corrective actions to address the longstanding issue of submerged cables at Point Beach. This issue was first identified in 1997, with numerous condition reports written since that time. Additionally, in January 2008, this issue was associated with a significant condition adverse to quality.

Description: During the week of January 25, 2010, the inspectors noted that the concern of water-induced cable degradation was first documented in May 5, 1997. It was also noted that in December 2002, the NRC issued a finding (FIN) for the licensee's failure to establish timely and adequate corrective actions to address the flooding of manholes that contain safety and nonsafety-related structures, systems, and components (SSCs) (FIN 50-266/301/2002013-03). The failure to implement timely corrective actions to address site-wide submerged cables led to a Notification of Unusual Event declaration on January 15, 2008, caused by the failure of the 1X-04 transformer cables due to prolonged cable exposure to water. Following that event, the NRC conducted a special inspection in which an NCV was identified for the licensee's failure to comply with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to develop effective corrective actions to maintain the design environment for the underground cables at Point Beach.

In 2008, the licensee completed a root cause evaluation of the loss of the 1X-04 transformer, which was classified as a significant condition adverse to quality. The evaluation identified that one of the two direct causes of the event was a failed 4.16-kilovolt (kV) cable connecting transformer 1X-04 and bus 1A-03. The cause was attributed to "water treeing" within the cable insulation resulting in the lockout of transformer 1X-04. The licensee's CAP and 10 CFR 50, Appendix B, Criterion XVI, require that when a significant condition adverse to quality is identified, a corrective action to prevent reoccurrence is required. As a corrective action to prevent reoccurrence for this event, the licensee stated that a permanent modification would be installed which would address all environmental concerns. The modification was canceled on September 3, 2008, and changed to a long-term corrective action with a due date of December 1, 2009, which was later extended to April 1, 2012.

Since the completion of the root cause evaluation, there have been approximately 65 corrective action documents written to address continuing occurrences of submerged cables or water in manholes. These documents have been closed to work-completed, i.e., the pumping of the manholes, and/or the long-term corrective action that has a due date of April 1, 2012. Additionally, some of the corrective actions associated with the causal factors assessed from the root cause evaluation were closed with no actions taken. Specifically, the corrective action to revise the cable management program was closed with the note, "PNPB does not have procedures regarding cable management program . . . therefore, revision is not required."

During the documentation review, the inspectors also identified that the licensee did not have a cable condition monitoring plan or procedures. Currently, periodic checks of the manholes were done through the WO process. The manholes were under either a 7-day, monthly, or semiannual frequency. The licensee stated that if more than 6-inches of water was found during the inspections it would be pumped out. Another expectation was that if cables were found submerged, the frequency of inspection would be increased. The WO periodic check sheet documents how much water was found in each manhole, whether the cables were submerged, and whether the water was pumped out of the manhole. The inspectors noted the periodic check sheet was not clear with respect to when a condition report should be initiated, the expectation on when to increase frequency was not documented, and the assessment of the amount of water in each manhole was made through visual estimation. Finally, the inspectors identified that the licensee did not have a clear understanding of what equipment is supplied by some of the cables subjected to submergence.

Of the four manholes reviewed by the inspectors, two had cables submerged and one had cables observed to have water just below the cable height. It was also noted that one of the manholes had ice build-up on the outlet of the cable conduit, a condition which was not addressed in the current periodic inspections. Data from previous licensee inspections reviewed by the inspectors revealed that three manholes that held critical medium voltage cables had a history of being submerged.

In summary, since 1997 approximately 400 corrective action documents were generated to address concerns at Point Beach associated with cable submergence and water ingress through underground cableways and manholes. However, timely and adequate corrective actions were not taken and cables continue to be subjected to submergence. Additionally, the licensee did not currently have a clear understanding of what equipment

is potentially affected within each manhole nor have cable monitoring plan/procedures that provided guidance, criteria, and expectations on the handling of submerged cables.

Analysis: The inspectors determined that the failure by the licensee to implement timely corrective actions to address the longstanding issue of submerged cables was a performance deficiency warranting further review. The finding was determined to be more than minor in accordance with Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009, because it affected the Initiating Event Cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Specifically, the failure to correct the submerged cable issue in a timely manner, if left uncorrected, could lead to other cable failures as a result of continued cable degradation.

The inspectors determined the finding could be evaluated in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, dated January 10, 2008, for the Initiating Events Cornerstone for transient initiators. The inspectors determined that this issue did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Therefore, the finding screened as having very low safety significance (Green).

The inspectors determined that the finding had a cross-cutting aspect in human performance, resources, because the licensee did not appropriately maintain long-term plant safety by maintenance of design margins, minimization of longstanding equipment issues, minimizing preventive maintenance deferrals, and ensuring maintenance and engineering backlogs were managed low enough to support safety (H.2(a)). Specifically, the licensee had previously identified electrical cable submergence to have led to a significant condition adverse to quality and assigned a corrective action to prevent recurrence. Additionally, cables continue to be found submerged during routine inspections. Because the associated condition reports were reviewed by all levels of management for approval of corrective actions, yet these condition reports were closed to actions taken, and the permanent resolution for the long-term corrective action was extended with a due date in April 2012, the inspectors concluded that management, as a whole, had the knowledge and opportunity to dedicate the necessary resources to address this issue in a timely manner.

Enforcement: In accordance with the licensee's root cause evaluation, these cables are classified as augmented quality. In accordance with "Point Beach Quality Assurance Program Nuclear Policy," NP-811, the requirements of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," is applicable to augmented quality components. Criterion XVI requires, in part, that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and non-conformances are promptly identified and corrected.

Contrary to this, from March 3, 2008, to March 8, 2010, the licensee failed to establish timely and adequate corrective actions to address the flooding of manholes containing SSCs under the purview of 10 CFR 50, Appendix B. Specifically, the licensee failed to implement timely and adequate corrective actions to establish a method to prevent the long-term submergence of medium-voltage, underground electrical cables. The licensee has entered this issue into its corrective action program as AR 01170612. Corrective

actions completed include increased monitoring and pumping of manholes; proposed corrective actions include design changes to support automatic monitoring and/or water removal from these critical areas.

Because of the very low safety significance of this finding and because the finding was entered into the licensee's CAP, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000266/2010002-01; 05000301/2010002-01, Untimely Corrective Actions to Address Longstanding Issue of Submerged Cables).

1R07 Annual Heat Sink Performance (71111.07)

.1 Heat Sink Performance

a. Inspection Scope

The inspectors reviewed the licensee's testing of primary auxiliary building battery and inverter room 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. 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 of significance were identified.

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

From March 1-19, 2010, 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 (SG) tubes, emergency feedwater systems, risk-significant piping and components and containment systems.

The inspections described in Sections 1R08.1, 1R08.2, R08.3, IR08.4, and 1R08.5 below constituted one inservice inspection sample as defined in IP 71111.08-05.

.1 Piping Systems ISI

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 examination (UT) of Class 2, SI Pumps P-15A and P-15B Discharge Elbow-to-Pipe weld, Weld SIS-04-SI-1006-02;
- UT of Class 2, SI Pumps P-15A and P-15B Discharge Elbow-to-Pipe weld, Weld SIS-04-SI-1006-05;
- dye penetrant examination (PT) of Class 2, 2" Check Valve, SI-00891B, P-15B SI Pump Discharge Recirc to SI, Welds 4 and 5;
- visual examination level 3 (VT-3) of a Class 3 Rigid Support, HB-19-H128; and
- VT-3 of Class 3 Support (Service Water Supply Header to Aux Building), HB-19-H89.

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 PT Assessment of Welded Attachment, RHR-B-LEG-IWA; and
- indication PT Assessment of Tee to Pipe, CVC-02-PSI-1001-48.

The inspectors reviewed the following pressure boundary weld repairs 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 procedures were qualified in accordance with the requirements of Construction Code and the ASME Code Section IX.

- 1F-39B Reactor Coolant Pump (RCP) Seal Injection Filter Inlet Valve and Piping, CV-00303B, Welds FW1-8, Code Class 2.

b. Findings

No findings of significance were identified.

.2 Reactor Pressure Vessel Upper Head Penetration Inspection Activities

a. Inspection Scope

An information-only visual examination was performed by the licensee this outage on the accessible areas of the reactor pressure vessel upper head using a camera and crawler, but no examinations were required. Therefore, no NRC review was completed for this inspection procedure attribute.

b. Findings

No findings of significance were identified.

.3 Boric Acid Corrosion Control

a. Inspection Scope

On March 1, 2010, the inspectors observed the licensee staff performing visual examinations of the reactor coolant system within containment to determine if these visual examinations focused on locations where boric acid leaks can cause degradation of safety-significant components.

The inspectors reviewed the following licensee evaluations of reactor coolant system components with boric acid deposits to determine if degraded components were documented in the corrective action program. The inspectors also evaluated corrective actions for any degraded reactor coolant system components to determine if they met the component Construction Code, ASME Section XI Code, and/or NRC-approved alternative.

- BAE373987 10-010; 1P-1A RCP Seal Water Injection Flow Element; January 30, 2010;
- BAE373987 10-012; Charging Line Flow Control; February 1, 2010;
- BAE375180 10-131; 2P-1A/B RCP Seal Water Injection Vent; February 25, 2010.

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

- AR 01138457; VT-3 on Removed Bolting Missed on WO 3151186 (ISC-959); and
- AR 01137817; NRC Request For Information Regarding Corrective Action/Work Order Closure Without Completion.

b. Findings

No findings of significance were identified.

.4 Steam Generator Tube Inspection Activities

a. Inspection Scope

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

b. Findings

No findings of significance 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;
- performed a root cause (if applicable) and taken appropriate corrective actions; and
- 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. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On January 28, 2010, 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. Documents reviewed are listed in the Attachment to this report.

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

b. Findings

No findings of significance 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:

- chemical and volume control system maintenance rule status due to large number of corrective actions for charging pumps;
- 125-volt distribution system; and
- source range instruments.

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 related to the following:

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

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

This inspection constituted three quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings of significance 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 emergent issues, including emergency diesel generator G-01 voltage regulator failure and reactor coolant sample valve bonnet leak (Unit 1);
- risk management during extreme cold weather;
- risk management during performance of emergency core cooling system venting activities and the use of dedicated operators for availability;
- risk management during unscheduled outage on “B” CCW pump (Unit 1);
- risk management during safeguards timing relays calibration – train “A” (Unit 1); and
- risk management during 1A06, 1B04, and 1B42 bus down-powers during outage (Unit 1).

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.

This inspection constituted six maintenance risk assessments and emergent work control samples as defined in IP 71111.13-05.

b. Findings

Inappropriate Application of a Dedicated Operator During a System Venting Surveillance

Introduction: A finding of very low safety significance (Green) and associated NCV of 10 CFR 50.65(a)(4) was identified by the inspectors for the failure to properly assess risk that resulted from risk-significant maintenance being performed on the containment spray, RHR, and the SI systems. This occurred when the licensee inappropriately applied criteria for the use of a dedicated operator to meet availability requirements while performing the safeguards system venting procedure.

Description: While assessing daily risk and maintenance activities for January 12, 2010, the inspectors noted that procedure 1-TS-ECCS-002, “Safeguards System Venting (monthly) Unit 1,” Revision 10, was performed, yet did not contribute to the daily risk. The inspectors reviewed the basis for not including the test in the daily risk and found that the procedure credited the use of dedicated operators that were stationed to accomplish tasks necessary to assure availability of the system.

The inspectors reviewed procedure 1-TS-ECCS-002 to assess the controls that allowed the system to be considered available for risk management purposes. Procedure 1-TS-ECCS-002 indicated that 1) the local operator performing valve manipulations for closure of the related valves was the dedicated operator to close the

valves in the event of a demand, and 2) the control room operator performing the surveillance test was the dedicated operator to restore the associated pump to operation in the event of a demand.

Procedure 1-TS-ECCS-002 indicated that system restoration would be necessary in the event of a Unit 1 safeguards actuation. The inspectors concluded that the dedicated control room operator would be aware of indication of a safeguards actuation; however, the dedicated in-plant operator would need to be informed of the conditions requiring system restoration. Additionally, control room restoration contingencies were dependent on both operator actions in the field, the closure of valves, and upon completion of the safeguards sequence.

The inspectors reviewed the guidance contained in NRC-endorsed industry guidance Nuclear Management and Resources Council (NUMARC) 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the definition of "Unavailability, SSC." This definition states that "SSCs out-of-service for testing are considered unavailable, unless the test configuration is automatically overridden by a valid starting signal, or the function can be promptly restored either by an operator in the control room or by a dedicated operator stationed locally for that purpose. Restoration actions must be contained in a written procedure, must be uncomplicated (a single action or a few simple actions), and must not require diagnosis or repair. Credit for a dedicated local operator can be taken only if (s)he is positioned at the proper location throughout the duration of the test for the purpose of restoration for the train should a valid demand occur. The intent of this paragraph is to allow licensees to take credit for restoration actions that are virtually certain to be successful (i.e., probability nearly equal to 1) during accident conditions."

The inspectors concluded that the criteria requiring that the system be promptly restored either by an operator in the control room or by a dedicated operator stationed locally for that purpose was not met because the procedure used three individuals to complete the restoration: the control room operator to communicate the order to the local dedicated operator as well as restore equipment in coordination with the local operator, the local dedicated operator to restore equipment in the plant, and -not documented in the procedure- the Unit Supervisor, a non-dedicated operator, who would be implementing any related emergency operating procedures. The inspectors also concluded that the criterion requiring that "restoration actions . . . must not require diagnosis or repair," was also not met because the procedure required system restoration upon completion of the safeguards sequence and that no single alarm or indication would verify the sequence was complete; rather, it required that the dedicated control room operator recognize from memory the order of specific equipment sequenced on by the safeguards timer; including assessment of any anomalies that may have occurred.

Regarding the single operator requirement, the inspectors concluded that, if a remote operator were utilized to recognize and communicate restoration criteria for an operator stationed at the restoration site locally in the field, the remote operator must be equally as dedicated. That is to say, the remote operator should be dedicated and have procedural guidance defining restoration criteria; that the procedurally defined criteria do not require diagnosis or repair, that guidance existed (training, procedural, pre-job brief, etc.) which defined the elements necessary for communications activities, and that reliable and redundant communications methods had been verified to be functional (either by routine surveillance or through a pre-job test), all prior to the performance of

the task. The inspectors noted that the procedure did not establish or verify communications between the control room and in-plant operators prior to the commencement of the test. The inspectors also reviewed procedure OM 3.26, "Use of Dedicated Operators," and found that the procedure did require the dedicated operator to be able to communicate with the control room, but did not allow the use of a remote dedicated operator as the local operator's eyes and ears for identifying conditions requiring restoration.

The inspectors asked the licensee to provide the risk information necessary to understand the significance of the activity if a dedicated operator were not credited for immediate restoration. Using the approved risk model in effect during the performance of the surveillance the licensee indicated that the risk, which was modeled as green at $4.98E-5$, would have been yellow at $8.83E-5$.

Analysis: The inspectors concluded that the incorrect application of guidance for the use of a dedicated operator to credit availability was a performance deficiency warranting further review. The issue was more than minor in accordance with IMC 0612, Appendix B, "Issue Screening," dated December 24, 2009, because the licensee's risk assessment for January 12, 2010, failed to consider the systems unavailable during maintenance. Specifically, the failure to account for the unavailability of the safety injection, RHR, and containment spray systems resulted in an inadequate daily risk assessment and could affect unavailability time of this system in related performance and maintenance rule indicators.

The inspectors evaluated the finding in accordance with IMC 0609, "Significance Determination Process," Attachment K, Maintenance Risk Assessment and Risk Management Significance Determination Process, dated May 19, 2005. The issue screened as having very low safety significance (Green), because the incremental conditional core damage probability was less than $1E-6$ due to the test condition lasting only four hours.

The inspectors determined that the finding had a cross-cutting aspect in human performance, decision-making, because the licensee did not have a process or utilize a systematic approach, to clearly define and understand the performance elements and standards required of a dedicated operator; nor did a requirement exist that ensured that documents incorporating the use of a dedicated operator were evaluated against any such standard or checklist (H.1(a)).

Enforcement: Title 10 CFR 50.65(a)(4) states, in part, that before performing maintenance activities the licensee shall assess and manage the increase in risk that may result from the proposed maintenance activity. Contrary to this requirement, on January 12, 2010, the licensee failed to properly assess and manage risk when availability credit was taken for a dedicated operator who did not meet the allowance criteria for being considered dedicated. This resulted in the licensee not accounting for risk-significant maintenance being performed on the multiple systems that were out-of-service, but not considered unavailable in the daily risk management profile.

The licensee entered this issue into its corrective action program as AR 01164834, AR 01171403, and AR 01171427. The licensee immediately issued a shift order to curtail the use of dedicated operators until an evaluation of their use was completed. Corrective actions planned include a review of all procedures crediting the use of a

dedicated operator against the endorsed NUMARC guidance and development of standards for the use of a dedicated operator, and a review of guidance relative to establishing interim corrective actions. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000266/2010002-02; 05000301/2010002-02, Inappropriate Application of A Dedicated Operator During A System Venting Surveillance).

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following issues:

- AR 01158549 – U2R30 Mode 3 UT Results – GL 08-01;
- operability of containment sump isolation valve with low oil level;
- foreign material found in auxiliary feedwater pump start relay;
- SI pump, 2P-15B, relay tolerance contrary to calculation;
- low-low SG level mis-labeled logic relays (Unit 1);
- blown fuse in bus 1B03 supply breaker; and
- spurious operations of component cooling supply to let down gas stripper GS-GW-5B.

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

Also, additional activities were performed during the evaluation of AR 01158549 that were associated with Temporary Inspection (TI) 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems."

This inspection constituted seven operability inspection samples as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.

.2 Operability Evaluations Associated with TI 2515/177, “Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems”

a. Inspection Scope

The inspectors reviewed the following issue associated with the scope of Generic Letter 2008-01, “Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems”:

- AR 01158549 – U2R30 Mode 3 UT Results – Generic Letter 2008-01; and
- AR 01136774 – Void discovered by UT in 10"-AC-601R-2.

The inspectors verified that the licensee had acceptably identified the gas intrusion mechanisms that applied to the licensee’s plant. If the licensee’s evaluation was incomplete, the inspectors verified that corrective actions were placed into the CAP (TI 2515/177, Section 04.02.e).

In addition, the inspectors verified that, where applicable, the licensee’s void acceptance criteria were consistent with the Office of Nuclear Reactor Regulation’s void acceptance criteria and addressed potential effects of injecting gas into the reactor coolant system and water-hammer. Also, the inspectors confirmed that: (1) the licensee addressed the effect of pressure changes during system startup and operation since such changes could significantly affect the void fraction from the initial value; and (2) the range of flow conditions evaluated by the licensee was consistent with the full range of design basis and expected flow rates for various break sizes and locations (TI 2515/177, Section 04.02.f).

Documents reviewed are listed in the Attachment to this report.

This inspection effort counts towards the completion of TI 2515/177, which will be closed in a later inspection report.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification:

- temporary condensate storage system installed to an active condensate storage tank (CST) to support maintenance on out-of-service CST.

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the FSAR, and the TSs, as applicable, to verify that the modification did not affect the operability or availability of the affected systems. The inspectors also compared the licensee’s information to operating experience information to ensure that lessons learned from

other utilities had been incorporated into the licensee's decision to implement the temporary modification. The inspectors, as applicable, performed field verifications to ensure that the modification was installed as directed; the modification operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modification did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one temporary modification samples as defined in IP 71111.18-05.

b. Findings

(1) Failure to Follow Temporary Modification Procedure

Introduction: The inspectors identified a finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow the temporary modifications procedure FP-E-MOD-03, Revision 6. Specifically, the Applicability section of this procedure was not properly applied to the temporary CST modification such that the system was not appropriately characterized as a temporary modification. As a result, the licensee failed to adequately document an evaluation of the potential impacts to operating equipment.

Description: On January 19, 2010, while the temporary CST modification was installed and interfacing with the operational CST, the inspectors requested the design documentation associated with the temporary CST modification. In response, the licensee provided Engineering Change [EC] 13400, Rev. 0, "U2R30 replacement MDAFW Mechanical Tie-ins," and WO Package 370132, Task 10, "Condensate Storage Tank." The documented purpose of Task 10 was to provide an "alternate water supply needed while T-024B [the "B" CST] is down for maintenance," and to "set up [a] portable tank and pump."

The inspectors subsequently requested the supporting temporary modification documents for the temporary CST modification. None existed; however, the licensee instead provided Engineering Change Notice [ECN] 14945, which reclassified the permanent CSTs "Roof Spare" nozzles as "Roof Spare/Vent" nozzles. The nozzle reclassification was included in the 10 CFR 50.59 screening, SCR 2009-0114-02, for parent EC 13400. The ECN described the licensee's basis for why the newly established vents were acceptable for use as the fill points from the temporary CST tank, and further explained the basis for why the fill point was believed to be exempt from the temporary modifications procedure per section 2.1.4(b) of FP-E-MOD-03.

Section 2.1.4(b) stated that the temporary modifications procedure did not apply to "hoses which connect to existing system vent or drain connections (i.e., the hose is an extension of the existing vent/drain)." The inspectors determined that the licensee inappropriately applied the exemption of section 2.1.4(b) to the temporary CST fill point because the fill point was not "an extension of the existing vent." The fill point was a

water input into the CST and in no way functioned as a vent to the tank. Therefore, the inspectors concluded that the licensee failed to properly characterize the connection of the temporary CST to the TS operable CST as a temporary modification and to evaluate the potential system interactions in accordance with plant procedures.

Furthermore, Step 2.1.4(a), that preceded Step 2.1.4(b), stated that the temporary modification procedure is not applicable "to interim maintenance configurations installed on equipment that is out-of-service or isolated." By definition the temporary CST modification did not meet the exemption, as it was connected to the operational CST that was not isolated. Therefore, the inspectors concluded that the temporary CST modification would have required an evaluation as a temporary modification.

Additionally, the inspectors reviewed industry accepted standards such as Nuclear Energy Institute (NEI) 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," and NUMARC 93-01, Revision 2, "Industry Guidelines for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," which defined a change as "a modification or addition to, or removal from, the facility or procedures" and further defined a temporary change to the facility or procedures as "jumpering terminals, lifting leads, placing temporary lead shielding on pipes and equipment, removal of barriers and use of temporary blocks, bypasses, scaffolding and supports." Based on these industry definitions of temporary change or alteration, the inspectors concluded that the temporary CST modification met this definition because it involved the use of temporary supports for the hose, and removal of barriers such as the blind flange on the CST spare nozzle. Additionally, the inspectors determined that the system met the definition of a change or addition to the facility because the temporary CST modification was connected to the permanent plant CST.

The inspectors further reviewed the licensee's temporary modification procedure, FP-E-MOD-03, and found that the procedure defined a temporary modification as a "generally non-recurring approved physical changes to operational plant systems, components or equipment that is allowed to exist for a limited duration." The inspectors determined that the temporary CST modification met the procedure's definition of a temporary modification because the temporary CST modification was connected to the operational CST system, therefore making it an extension of the operating system that had the potential to impact the operational system. Additionally, the temporary CST modification was a change that had the potential to impact nearby safety-related SSCs, such as the CST level transmitters or the emergency diesel generator room exhaust vents.

Section 2 of FP-E-MOD-03 described the applicability of the temporary modification process. Section 2.1.3 stated that typical applications of the procedure were "temporary power supplies" and "temporary pipe supports." The inspectors concluded that the temporary CST system met the above examples requiring a temporary modification for the following reasons: First, the temporary portable pump with a 480-volt generator was available for use to supply water from the temporary CST system to the permanent CST, constituting a temporary power supply in accordance with Step 2.1.3(i). The licensee indicated that the term "temporary power supply" only applied to temporary tie-ins to plant power and was not applicable in this case. Secondly, the licensee installed temporary hose restraints for the connection hose, meeting the criteria for temporary pipe supports as discussed in section 2.1.3(g). The licensee stated that no temporary supports were attached to the condensate piping system and that the rope attached to

secure the commercial grade hose did not meet the definition of a pipe support. The licensee indicated that this statement generally applies to supports added to a piping system that could adversely affect the qualification of the system.

In response to the licensee's interpretation of the procedure, the inspectors asked for the procedural guidance containing these clarifying definitions and/or training related to this interpretation. The licensee stated there was no procedure containing this information and that the training assumes use of the procedure is predicated on modifications having an impact on SSCs. The inspectors concluded that the examples provided were vague and could be interpreted differently, and that with no additional guidance or training, the procedure was inadequate in this respect. Additionally, the inspectors noted that the procedure indicated that these examples were only "typical applications" and it was not an all-inclusive list. The inspectors further concluded that the overall definition of a temporary modification could apply to cases outside of the examples listed.

In response to the inspectors' questions, the licensee provided an additional four-page synopsis. The inspectors reviewed this document which contained clarifying information regarding the intent of the licensee's temporary modification procedure. Further, this document provided bounding statements regarding the internal flooding impact of only the temporary CST modification that was not contained in design modification paperwork, an after-the-fact evaluation necessary to support the temporary modification. However, this did not fully evaluate the effects of the temporary CST modification impacts on the design basis. For example, this response did not address the seismic issues, additional internal flooding concerns, or fire loading considerations of the temporary CST modification.

Analysis: The inspectors determined that the licensee failure to follow the temporary modifications procedure and evaluate the temporary CST system as a temporary modification was a performance deficiency. 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 affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the licensee inappropriately applied the exemption criteria of the temporary modification procedure to the fill point connected to the newly classified "vent" of the permanent CST and failed to assess the impact of the temporary CST system on plant design.

In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green) because the finding was not a design or qualification deficiency resulting in a loss of functionality, did not represent a loss of system safety function or loss of a single train for greater than its allowed TS time, and did not screen as potentially risk significant due to seismic, flooding, or severe weather initiating events.

The inspectors determined that the finding had a cross-cutting aspect in human performance, decision-making, because the licensee did not appropriately use conservative assumptions in decision-making and verify the validity of underlying assumptions for the temporary CST modification (H.1(b)). Specifically, the inspectors noted that in order to utilize the spare nozzle as a vent, a blind flange had to be removed

and a vent stack would need to be installed. Throughout this evolution, this vent stack was never installed and the “vent” was never utilized as a vent. Moreover, at the completion of the evolution, the licensee reinstalled the blind flange and was currently not using this as a vent. Therefore, the ability to re-designate the spare nozzle as a vent demonstrated an inadvertent loophole in the temporary modification procedure which amplified these non-conservative assumptions.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires, in part, that activities affecting quality be accomplished in accordance with documented instructions, procedures, or drawings. Contrary to this, the licensee failed to follow Procedure FP-E-MOD-03, “Temporary Modifications,” to evaluate the temporary CST system as a temporary modification, an activity affecting quality, and to adequately analyze, document, or translate the effects of the temporary CST modification’s impact on plant design. The temporary CST modification included pumps, generators, storage volume, and temporary piping from the temporary portable tank to the permanent CST.

At the completion of the inspection period, the licensee indicated agreement with the principle of this issue and has entered this issue in the corrective action program (AR 1168914 and 1170612). Additionally, no interim corrective actions have been proposed at this time because the temporary CST system was removed prior to the inspectors completing their review of this issue. The proposed near-term corrective action was to conduct an apparent cause evaluation on the failure to correctly characterize the temporary CST modification as a temporary modification. Because this violation was of very low safety significance and it was entered into the licensee’s CAP, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000266/2010002-03; 05000301/2010002-03, Failure to Follow Temporary Modification Procedure).

(2) Unresolved Item Potential Failure To Adequately Assess Risk During CST Modifications

Introduction: The inspectors identified an Unresolved Item (URI) regarding the risk-management aspects of the use of the temporary CST system while the permanent CST was out-of-service for various activities.

Description: As described in the previous section, in January 2010, the licensee used a temporary CST system that was installed as an alternate water supply for the permanent CSTs to accommodate several plant modifications for several issues including coating refurbishment, license renewal inspection, and installation of new motor-driven auxiliary feedwater system mechanical piping connections. During this evolution, the licensee credited the out-of-service CST as available from a risk perspective through the use of the temporary CST modification.

The inspectors reviewed the risk management aspects of this issue and found that for the maintenance activities on the permanent CST, procedures did not exist to support this risk mitigation activity. Additionally, the design of the system did not appear to meet the established guidance for risk mitigation. Therefore, the risk mitigation management aspects are considered unresolved pending future evaluation of these activities (URI 05000266/2010002-04; 05000301/2010002-04; Potential Failure to Adequately Assess Risk During CST Modifications).

.2 Permanent Plant Modifications

a. Inspection Scope

The following engineering design package was reviewed and selected aspects were discussed with engineering personnel:

- CCW "B" pump motor replacement (Unit 1).

This document and related documentation were reviewed for adequacy of the associated 10 CFR 50.59 safety evaluation screening, consideration of design parameters, implementation of the modification, post-modification testing, and proper update of relevant procedures, design, and licensing documents. The inspectors observed ongoing and completed work activities to verify that installation was consistent with the design control documents. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one permanent plant modification sample as defined in IP 71111.18-05.

1R19 Post-Maintenance Testing (71111.19)

.1 Post-Maintenance Testing

a. Inspection Scope

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

- testing of emergency diesel generator G-01 after voltage regulatory clean and inspect (Unit 1);
- post-maintenance testing of service water pump P-32C after motor replacement (Unit 2);
CSTs – post-maintenance testing after coating of tanks (Unit 2);
- polar crane (Z-13) post-maintenance testing (Unit 1);
- service water pump "C" loose bolt post-maintenance testing (Unit 2);
- RHR pump "1A" after gasket replacement (Unit 1); and
- CCW "B" pump post-maintenance testing following overhaul (Unit 1).

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion); and test documentation was properly evaluated. The inspectors evaluated the activities against TSSs, the FSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to determine that the test results indicated that the

equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

This inspection constituted seven post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings of significance were identified.

1R20 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 1 refueling outage (RFO), which started on March 1, 2010, and continued through the end of 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. During the RFO, the inspectors observed portions of the shutdown and cooldown processes and monitored licensee controls over the outage activities listed below. Documents reviewed during the inspection are listed in the Attachment to this report.

- 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, 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; and
- refueling activities, including fuel handling and sipping to detect fuel assembly leakage.

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 of significance 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:

- emergency diesel generator G-01 endurance and margin testing (Unit 1);
- safeguards system venting - (Unit 1);
- rod exercise test (Unit 1);
- low head SI pump and valve test (inservice testing);
- SI valve surveillance testing - Unit 2 (containment isolation valve); and
- leak rate assessment and surveillance after step change in reactor coolant leakage – Units 1 and 2 (reactor coolant system leakage).

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 were 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 three routine surveillance testing samples, one inservice testing sample, one reactor coolant system leak detection inspection sample, and one containment isolation valve sample as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance 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 28, 2010, 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 corrective action program. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the Attachment to this report.

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

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2RS1 Radiological Hazard Assessment and Exposure Controls (71124.01)

This inspection constitutes a partial sample as defined in IP 71124.01-5.

.1 Inspection Planning (02.01)

a. Inspection Scope

The inspectors reviewed licensee PIs for the Occupational Exposure Cornerstone for follow-up. The inspectors reviewed the results of radiation protection program audits (e.g., licensee's quality assurance audits or other independent audits). The inspectors reviewed 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 of significance were identified.

.2 Risk-Significant High Radiation Area (HRA) and Very High Radiation Area (VHRA) Controls (02.06)

a. Inspection Scope

The inspectors discussed with the Radiation Protection Manager the controls and procedures for high-risk HRAs and VHRAs. The inspectors assessed whether any changes to licensee procedures substantially reduced the effectiveness and level of worker protection.

The inspectors reviewed special areas that have the potential to become VHRAs during certain plant operations (e.g., pressurized-water reactor (PWR) thimble withdrawal into the reactor cavity sump, spent fuel pool, cavity, pit diving, etc.) The inspectors discussed these areas with first-line health physics supervisors to assess if the communication beforehand with the health physics group would allow for corresponding timely actions to properly post, control, and monitor the radiation hazards including re-access authorization. The inspectors evaluated licensee controls for VHRAs, and areas with the potential to become a VHRA, to ensure that an individual was not able to gain unauthorized access to the VHRA.

b. Findings

No findings of significance were identified.

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

This inspection constitutes a partial sample as defined in IP 71124.02-5.

.1 Inspection Planning (02.01)

a. Inspection Scope

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

The inspectors determine the site-specific trends in collective exposures (using NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities," and plant historical data) and source term (average contact dose rate with reactor coolant piping) measurements and plant historical data.

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

b. Findings

No findings of significance were identified.

.2 Radiological Work Planning (02.02)

a. Inspection Scope

The inspectors obtained from the licensee a list of work activities ranked by actual and estimated exposure that were in progress and that had been completed during the last outage, and selected three work activities of the highest exposure significance, including those activities projected to result in a dose of 5-person-rem or greater.

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

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

The inspectors compared the results achieved (dose rate reductions, person-rem used) with the intended dose established in the licensee's ALARA planning for these work activities. The inspectors compared the person-hour estimates provided by

maintenance planning and other groups to the radiation protection group with the actual work activity time requirements, and evaluated the accuracy of these time estimates. The inspectors determined the reasons (e.g., failure to adequately plan the activity, failure to provide sufficient work controls) for any inconsistencies between intended and actual work activity doses, and focused on those work activities with planned or accrued exposure greater than 5 person-rem.

The inspectors determined if post-job (work activity) reviews were conducted and if identified problems were entered into the licensee's corrective action program.

b. Findings

(1) Inadequate Communications, Incomplete ALARA Job Planning, And Ineffective Implementation Of Radiological Work Controls

Introduction: The inspectors identified one finding of very low-safety-significance (Green) for an inadequate ALARA job planning and ineffective implementation of radiological work controls. Specifically, radiological controls were not effectively implemented to reduce ambient radiation levels, and minimize in-field work hours for craft personnel. These issues impacted the licensee's ability to minimize dose for the Unit 2 containment sump fiber removal/insulation replacement project in support of generic safety issue (GSI) 191 "Assessment of Debris Accumulation on PWR Sump Performance" during the Unit 2 refueling outage (U2R30).

Description: The station was initially planning to perform a plant modification to install debris interceptors in support of GSI-191 regarding the potential to plug containment sumps with foreign material/debris. The licensee's initial plan was to install suction strainers and debris interceptors on the containment sump inlet. Issues with the original modification's strainer testing protocol were identified. In May 2009, a final determination was made by the licensee to update its response to GSI-191 to include a combination fiber removal and debris interceptor strategy to minimize containment sump plugging potential. This change in the licensee's GSI-191 response strategy and the associated impact on the plant's upcoming outage scope was not effectively communicated to the station radiation protection staff in a timely manner.

The ALARA Review Board (ARB) dose estimates for insulation replacement in the Unit-2 containment in support of the GSI-191 project was 9.5 person-rem. The ARB approval of the dose estimate and ALARA Work Plan occurred on October 15, 2009, the same day as the outage began. Original work scope as approved by the ARB, included insulation replacement on the "A" and "B" SG channel heads, and sides, 44 feet up from the reactor coolant system (RCS) cold leg nozzle centerline. Additionally, both the "A" and "B" RCPs were to have their insulation replaced, as was the "A" and "B" RCS loops, (which included hot, intermediate, and cold leg piping).

The actual dose incurred for the insulation removal project was 21.144 person-rem for a significantly reduced work scope. Specifically, the actual work completed was limited to the "A" and "B" SG channel heads, and the "A" and "B" RCS loops (hot, intermediate, and cold leg piping). Insulation replacement on the sides of the SG and on the RCPs was eliminated for this outage. As documented in the station's post-job ALARA review and as determined through interviews with licensee staff, one of the primary reasons for some of the unintended dose on this project was unused scaffolds that were built in the

field for work activities that were later deleted from the outage. Specifically, one SG had two levels of unnecessary scaffold built for the feedwater nozzles and the other SG had two and a half levels of unnecessary scaffold built for the feedwater nozzles. Additionally, licensee records documented multiple modifications made to prefabricate insulation panels that also contributed to the overall dose of the project.

The inspectors determined that the reason for the less than adequate ALARA performance was that the station entered the outage with insufficient detailed planning. The lack of planning was primarily attributable to inadequate communication early in the project between the project management and radiation protection departments regarding outage work scope. Additionally, the inspectors determined that the station developed limited contingency plans, limited compensatory actions, and had no clearly defined abort criteria, should the station be unable to complete the insulation replacement modifications as planned and scheduled. During the outage, the station reactively established radiological controls for field activities in parallel with work and scope control. These activities adversely impacted the licensee's ALARA planning, as work crews performed field activities and erected scaffolds that were unused, and later disassembled, and will need to be rebuilt in future outages.

Elevated effective exposure rates, due to a less than optimal reactor water clean-up from an induced crud burst at plant shut down, was discounted by the inspectors during inspection activities. However, the inspectors concluded that there was some adverse impact on ambient radiation fields that resulted from the delay in installing radiological shielding. Shielding packages were being engineered and installed in parallel with in-plant work activities. Job site shielding was being moved and relocated near live-time, and specialty shielding was purchased for installation during the outage. The inspectors concluded that this represented a missed opportunity for effective radiation exposure management, in that had the work planning been timely and of sufficient scope and detail, necessary shielding supplies and engineering packages could have been readily available, optimally sequenced, and put in place at the beginning of the outage. Additionally, according to licensee documentation, repeated poor person-hour projections during the ALARA in-progress reviews contributed to the need to re-evaluate the project as work progressed. The inspectors concluded that the repeated poor person-hour projections may have limited the licensee's radiation protection staff's ability to understand the job in detail and entirety, thereby limiting the effective implementation of comprehensive dose reduction strategies (i.e., timely mock-ups, just-in-time training, work sequencing, etc.).

Impacted WOs included:

- WO 371055; Unit-2 Insulation Removal Support Activities;
- WO 371056; Unit-2 Insulation Replacement Loop A, EC 13601; and
- WO 371057; Unit-2 Insulation Replacement Loop B, EC 13601.

Analysis: The inspectors concluded that the lack of adequate ALARA planning and ineffective implementation of radiological work controls was a performance deficiency as defined in IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated December 24, 2009. This conclusion was based on the fact that the licensee's radiological control program requires effective ALARA planning and this issue was within the licensee's ability to foresee and should have been prevented. The inspectors determined that inter-departmental communication issues impaired the

licensee's ability to minimize dose for the Unit 2 containment sump fiber removal/insulation replacement project in support of GSI 191 during U2R30.

The finding was not subject to traditional enforcement since the incident did not have a significant nor potentially significant safety consequence; did not impact the NRC's ability to perform its regulatory function; and was not willful. The finding was more than minor because it impacted the Occupational Radiation Safety Cornerstone objective for ensuring adequate protection of worker health and safety from exposure to radiation in the program and process attribute for ALARA planning. Specifically, ineffective work control and ALARA planning deficiencies contributed to an actual increase in worker doses in excess of 5 person-rem and exceeded the licensee's initial intended dose estimates by more than 50 percent.

Since this finding involved radiological controls and ALARA planning, the inspectors utilized IMC 0609, Appendix C, "Occupational Radiation Safety SDP," dated August 19, 2008, to assess its significance. The inspectors concluded that the finding did not result in an occupational overexposure, a substantial potential for an overexposure, or a compromised ability to assess dose. The inspectors determined that the finding involved ALARA planning and work controls. At the time the performance deficiency occurred the licensee's current 3-year rolling collective dose average was less than 135 person-rem per unit (used for PWRs to identify program challenges), the inspectors concluded that the SDP assessment for this finding was of very low safety significance (Green). The finding was determined to have a cross-cutting aspect in the area of human performance, decision-making (H.1.(c)), because the licensee did not communicate decisions and the basis for decisions to personnel who had a need to know the information in order to perform work safely, in a timely manner.

Enforcement: There is no enforcement action as the performance deficiency does not involve a violation of regulatory requirements. The issue was entered into the licensee's corrective action program under AR 1160468 and AR 1166122 (FIN 05000266/2010002-05; 05000301/2010002-05, Inadequate Communications, Incomplete ALARA Job Planning, and Ineffective Implementation of Radiological Work Controls).

.3 Verification of Dose Estimates and Exposure Tracking Systems (02.03)

a. Inspection Scope

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

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

The inspectors evaluated the licensee's method of adjusting exposure estimates, or re-planning work, when unexpected changes in scope or emergent work were

encountered. The inspectors determined whether adjustments to exposure estimates (intended dose) were based on sound radiation protection and ALARA principles or if they were just adjusted to account for failures to control the work. The inspectors determined the frequency of these adjustments to assess the adequacy of the original ALARA planning process.

b. Findings

No findings of significance were identified.

.4 Problem Identification and Resolution (02.06)

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 corrective action program. The inspectors assessed the appropriateness of the corrective actions 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 of significance were identified.

2RS4 Occupational Dose Assessment (71124.04)

This inspection constitutes a partial sample as defined in IP 71124.04-5.

.1 Special Dosimetric Situations (02.04)

a. Inspection Scope

The inspectors verified that the licensee's program for declared pregnant workers appropriately informs the workers of the risks of radiation exposure to the embryo/fetus, the regulatory aspects of declaring a pregnancy, and the specific process to be used for (voluntarily) declaring a pregnancy.

The licensee has had no workers declare a pregnancy since prior to January 2009. However, the inspectors concluded that the declared pregnant workers program as defined by the licensee is technically adequate to assess the dose to the embryo/fetus and the monitoring controls employed by the licensee comply with the requirements of 10 CFR Part 20.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

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 Performance Indicator (PI) for Unit 1 and Unit 2 for January 1 through December 31, 2009. To determine the accuracy of the PI data, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC inspection reports 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. 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 of significance 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, 2009. To determine the accuracy of the PI data, PI definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, were used. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator. 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 of significance 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 CAP

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 corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent-of-condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue. Corrective action program documents written by the licensee as a result of the inspectors' observations are listed 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 of significance were identified.

.2 Daily CAP 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 condition report 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 of significance were identified.

.3 Selected Issue Follow-Up Inspection: Failure to Establish Required Fire Watches

a. Inspection Scope

During a review of items entered in the licensee's CAP, the inspectors found recent corrective action items documenting repetitive occurrences associated with fire protection compensatory measures. The inspectors reviewed the adequacy of the corrective actions.

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

b. Findings

(1) Failure to Establish Required Fire Watches

Introduction: A finding of very low safety-significance and associated NCV of TS 5.4.1.h for Units 1 and 2 was identified by the inspectors for the licensee's failure to implement a requirement of the fire protection program. Specifically, on three occasions, the licensee failed to perform or establish fire watches as compensatory measures for fire protection impairments as required by procedure OM 3.27, "Control of Fire Protection & Appendix R Safe Shutdown Equipment," Revision 37.

Description: During the inspectors' review of corrective actions associated with fire protection program, the following issues related to inadequate compensatory measures were identified by the inspectors:

- On November 21, 2009, upon start of shift walkdown, the licensee found that fire barrier penetration seals were not in place at M-0-41-F223 and M-0-41-F224. Temporary fire seal had been removed and were lying next to penetrations. No fire watch was present or established. As immediate action, the licensee installed and verified that penetrations were sealed.
- On February 01, 2008, during the process of evaluating an operating experience document, the licensee identified a non-compliance with 10 CFR 50, Appendix R. Specifically, a fire-induced hot short on control cables for the reactor head vent or pressurizer vent valves could potentially opened the subject valves. As a compensatory measure, fire watches, twice per shift, were established in fire zone 137, pipeway #3, per corrective action AR 01121010. On December 15, 2009, due to radiological concerns, the licensee suspended the fire watch because the area was contaminated from demolition work in the general area.
- On December 15, 2009, during a plant walk-down, the licensee identified a several cables coiled up and laying on the floor of the cable spreading room, fire zone 318. The cables were located in a combustible exclusion zone for modification usage. This issue was documented in AR 01163220. The licensee's fire protection engineer recommended hourly fire watches be initiated in this zone until transient combustibles were removed; however, fire watches were not established. The condition report indicated that the modification package did not identify the need for combustible material storage, and the transient combustible permit also did not identify the area as a combustible exclusion zone.

- On December 16, 2009, the inspectors questioned licensee conclusions and actions for not establishing fire watches in cable spreading room, zone 318, and suspending the fire watches in zone 137. The NRC concerns were documented in AR 01163300. Subsequently, licensee established fire watches in zone 137 and removed the combustibles/cables from zone 318.

Procedure OM 3.27, provided guidance, requirements, and administrative controls for maintaining the integrity of the fire protection systems, including implementing fire watches as compensatory measures. Section 4.2.1 "Fire Protection System Compensatory Measures," required the licensee to establish a fire watch within one hour of determining that a fire protection system in Section 5.1 was inoperable. Section 5.1.4 defined the operability requirement for fire barrier component. Section 4.4 "Control of Appendix R Safe Shutdown Equipment," defined the requirement for compensatory actions to address the impaired post safe shutdown function.

Additionally, Procedure NP 1.9.9, "Transient Combustible Control," provided guidelines for the appropriate handling and use of transient combustible material at Point Beach. Section 2.7, "Appendix R Exemption Request Intervening Combustibles Exclusion Areas," listed cable spreading room (fire zone 318), between Units 1 and 2 480-V buses, as a sensitive area which shall remain free of intervening combustibles. This section also indicated that if intervening combustibles were found in this area, the combustibles were to be removed or rerouted. If the items must remain, a fire watch or other compensatory measure may be required until the items were removed or analyzed by the fire protection engineer.

The inspectors reviewed the above corrective actions and determined that in all instances, the licensee initially failed to perform or implement compensatory measures as required per its fire protection program. However, appropriate corrective actions were then taken when conditions were discovered or raised.

Analysis: The inspectors determined that the licensee's failure to perform and establish fire watches as compensatory measures for identified impairments was contrary to the Technical Specification 5.4.1.h and was a performance deficiency. Specifically, on three occasions, the licensee failed to follow the requirement established in procedures OM 3.27 and NP 1.9.9 to ensure compensatory measures, i.e., fire watches, were established and implemented. These compensatory measures were required to fulfill the fire protection program's concept of defense-in-depth for plant areas important to safety by rapidly detecting, controlling, and extinguishing fires that could occur.

The finding was determined to be more than minor because in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, Issue Screening," dated December 24, 2009, because it was associated with the Mitigating System Cornerstone attribute of protection against external factors (fire) and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to establish or perform compensatory measures (fire watches), could have potentially compromised the ability to safely shutdown the plant in the event of a fire in any of the fire zones where the fire watches were required.

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 3b, dated January 10, 2008. The inspectors determined the finding degraded the fire protection defense-in-depth strategies. Therefore, screening under IMC 0609, Appendix F, “Fire Protection Significance Determination Process,” dated February 28, 2005, was required. Because the fire watches were required as compensatory measures for fire protection impairments and were not required for hot work in the areas; only one defense-in-depth element was affected by the impairments for which the fire watches had been established; and due to the relatively short duration for not establishing fire watches, the inspectors determined that a low degradation rating for the finding was appropriate. Therefore, the issue was of very low safety significance (Green).

The inspectors also determined that the finding has a cross-cutting aspect in the area of human performance, resources, because the licensee’s preliminary apparent cause evaluation (AR 1165036) attributed the underlying cause of these events to less than adequate procedures or procedures that did not adequately link to each other, and pre-job briefing materials that did not address fire protection considerations (H.2(c)).

Enforcement: Technical Specification 5.4.1.h, for Units 1 and 2, required, in part, that written procedures be established, implemented, and maintained covering fire protection program implementation. As part of its fire protection implementation, Point Beach has procedures addressing compensatory measures for fire protection impairments.

Point Beach Procedure OM 3.27, “Control of Fire Protection and Appendix R Safe Shutdown Equipment,” Revision 37, Section 4.2.1, required licensee to establish an hourly fire watch inspection within one hour of determining a fire protection system in Section 5.1 was inoperable. Section 5.1.3, “Fire Barriers,” also required an hourly fire watch inspection be performed on each side of the fire barrier within an hour of determining that the fire barrier, penetration seal, or other barrier component was inoperable. A Note immediately preceding Section 4.4, “Control of Appendix R Safe Shutdown Equipment,” required that the need to establish compensatory measures for equipment/systems that were degraded from its Appendix R functionality should be evaluated.

Contrary to the above, on November 21 and December 15, 2009, the licensee failed to implement the fire protection program which required establishing fire watches as compensatory measures for fire protection impairments. Specifically,

- a. On November 21, the licensee failed to establish hourly fire watches when fire barrier penetration seals were left open;
- b. On December 15, the licensee suspended hourly fire watches in zone 137, pipeway #3, due to radiological concerns. The fire watch was required for non-compliance with Appendix R requirements; and
- c. On December 15, the licensee failed to establish fire watches in zone 318 after transient combustibles (cables) were found in the combustible exclusion zone. The fire watch was required for an inoperable fire barrier that failed to meet the Appendix R requirement, for separation of cables and equipment of redundant trains by horizontal distance of more than 20 feet with no intervening combustible or fire hazards.

Because this violation was of a very low safety significance and because it was entered into the licensee's corrective action program, this violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000266/2010002-06; 05000301/2010002-06, Failure to Establish Required Fire Watches).

4. Selected Issue Follow-Up Inspection: Failure to Evaluate Seismic Piping Interactions

a. Inspection Scope

During the fourth quarter, 2009, while performing a system alignment on the spent fuel pool cooling system the inspectors identified that the spent fuel pool cooling pump manual discharge isolation valves' valve stem was in contact with adjacent service water piping. The licensee entered this issue into their corrective action program for review.

As a result of a review of items entered in the licensee's CAP for inspector-identified issues, the inspectors selected this issue to assess the licensee's corrective actions.

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

b. Findings

Introduction: The inspectors identified a Non-Cited Violation of 10 CFR part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green). Specifically, the licensee's evaluation to demonstrate that the existing SFP cooling system piping and valves met the design basis acceptance criteria of United States of America Standard (USAS) B31.1-1967 used a method of analysis that did not evaluate the dynamic effect of impact forces as specified by B31.1-1967.

Description: On October, 27, 2009, the inspectors identified that the stem on SFP cooling valve, SF-2, was in direct contact with an adjacent abandoned-in-place service water pipe. Valve SF-2 is the manual discharge isolation valve for spent fuel pump P-12B, and is connected to and part of the SFP cooling system piping. Final Safety Analysis Report Section 9.9 states, "The spent fuel pool cooling system piping and the service water piping supplying the spent fuel pool heat exchangers are classified safety-related, Seismic Class I. Although the branch lines serving the spent fuel pool heat exchangers were extensively modified using primarily ASME Section III Class 3 requirements, system code requirements are established by the original design basis and code of construction (USAS B31.1.0-1967)."

The design function of valve SF-2, the valve connection between the spent fuel pool cooling system piping and SFP cooling system pump, was to hold and maintain pressure boundary integrity during a Seismic Category I design basis event. Section 101.5.1 of USAS B31.1-1967 requires "Impact forces caused by all external and internal conditions shall be considered in the piping design."

At the time of discovery by the inspector, Calculation No. 12703-AX-77A-1, "Pipe Stress Analysis for Spent Fuel Pool Cooling Water Piping", Revision 1, used a method of analysis that did not evaluate the dynamic effect of impact forces as specified by the

B31.1-1967 code due to the potential seismic interaction of SF-2 valve and the abandoned-in-place service water pipe.

The licensee agreed that the impact forces applied to SF-2 valve were not in accordance with the acceptance criteria as described in USAS B31.1-1967. This issue was entered in the licensee's corrective action program as AR 01159784.

Analysis: The inspectors determined that the failure to evaluate the dynamic effect of impact forces applied to the SF-2 valve as required by the USAS B31.1-1967 code was a performance deficiency.

The performance deficiency 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 Barrier Integrity Cornerstone attribute of design control and affected the cornerstone objective of providing reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Specifically, compliance with the seismic Category I design basis requirements of USAS B31.1-1967, was to ensure valve SF-2, the valve connection between two sections of SFP cooling system piping, would function as required during a seismic Category I design basis event.

The inspectors determined that 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 3b for the Barrier Integrity Cornerstone, dated January 10, 2008. The finding screened as having very low safety significance (Green) because it was a design deficiency of the structural integrity of the spent fuel pool cooling piping system that: did not result in loss of cooling to the SFP; did not result from fuel handling errors that caused damage to fuel clad integrity or a dropped assembly; and did not result in loss of SFP inventory greater than 10 percent SFP volume. At the time of discovery by the inspectors, the licensee took prompt corrective action by throttling the SF-2 valve to create a large enough gap between the valve and the service water pipe to eliminate the seismic interaction. The inspectors agreed with the licensee's position that the SF-2 valve was functional but non-conforming.

The inspectors determined there was no cross-cutting aspect associated with this finding because this was a legacy design issue; therefore, it was not reflective of current performance.

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that design control measures provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculational methods, or by the performance of a suitable testing program. Contrary to this, on October 27, 2009, the licensee failed to demonstrate design adequacy was consistent with seismic Category I requirements. Specifically, the performance of design reviews for the SF-2 valve were inadequate, in that they did not demonstrate compliance with the governing code, USAS B31.1-1967, Section 101.5.1. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program (as AR 01159784), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy

(NCV 05000266/2010002-07; 05000301/2010002-07, Failure to Evaluate Seismic Piping Interactions).

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:

- site response to medical emergencies on February 17 and February 18, 2010;
- unplanned loss of the plant process computer affecting thermal power calculations and an associated power reduction;
- unexpected loss of reactor coolant while draining the reactor cavity for reactor head removal (Unit 1); and
- reactor coolant pressure transient on March 7, 2010.

The inspectors reviewed control room logs and licensee procedures, and interviewed licensee personnel following these events.

This event follow-up review constituted four samples as defined in IP 71153-05. Documents reviewed are listed in the Attachment to this report.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 (Open) TI 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal and Containment Spray Systems (NRC Generic Letter 2008-01)"

As documented in Section 1R15, the inspectors confirmed the acceptability of the described licensee's actions. This inspection effort counts towards the completion of TI 2515/177, which will be closed in a later inspection report.

.2 (Closed) Unresolved Item (URI) 05000266/2009002-04: Detection of Large Gas Voids in Residual Heat Removal System Common Shutdown Cooling Suction Line

a. Inspection Scope

In Inspection Report 05000266/2009002, issued on May 01, 2009, the NRC opened an URI during the first quarter of 2009 (ML091210561) concerning the licensee's discovery of a gas void in the common shutdown cooling suction line of the RHR system. The licensee documented the discovery of this gas void in its CAP as AR 01136774. The inspectors identified this issue as a URI pending evaluation of the significance and circumstances surrounding the discovery of this large void.

During this inspection, the inspectors reviewed drawings, design basis documents, CAP documents, operability evaluations, and ultrasonic tests results associated with the gas voids identified in locations IC-1-RH-S01 and IC-1-RHS04.

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. Specifically, the inspectors verified that the licensee had acceptably identified the gas intrusion mechanism. In addition, the inspectors verified that the licensee's void acceptance criteria were consistent with the Office of Nuclear Reactor Regulation's void acceptance criteria and confirmed that the licensee acceptably addressed the effect of pressure changes during system startup and operation since such changes could significantly affect the void fraction from the initial value. The inspectors also verified that the licensee acceptably evaluated the potential for water-hammer and confirmed that minimal gas injection into the reactor coolant system would have been expected. In addition, the inspectors compared the operability and design criteria in the appropriate sections of the TSs and FSAR to the licensee's evaluations to determine whether the components or systems were operable.

These inspection activities were associated with TI 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." These activities are also described in Section 1R15.2.

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 operability inspection constituted one sample as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 1, 2010, 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 ISI with Mr. L. Meyer on March 19, 2010;
- the results of the occupational radiation safety inspection conducted March 15 through 19, 2010, with Mr. L. Meyer, on March 19, 2010; and

- URI 05000266/2009002-04, "Detection of Large Gas Voids in Residual Heat Removal System Common Shutdown Cooling Suction Line," with Ms. F. Flentje on March 29, 2010.

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
F. Flentje, Regulatory Affairs Supervisor

Nuclear Regulatory Commission

M. Kunowski, Chief, Division of Reactor Projects, Branch 5
J. Poole, Point Beach Project Manager, Office of Nuclear Reactor Regulations

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000266/2010002-01; 05000301/2010002-01	NCV	Untimely Corrective Actions to Address Longstanding Issue of Submerged Cables (Section 1R06)
05000266/2010002-02; 05000301/2010002-02	NCV	Inappropriate Application of A Dedicated Operator During A System Venting Surveillance (Section 1R13)
05000266/2010002-03; 05000301/2010002-03	NCV	Failure to Follow Temporary Modification Procedure (Section 1R18)
05000266/2010002-04; 05000301/2010002-04	URI	Potential Failure to Adequately Assess Risk During CST Modifications (Section 1R18)
05000266/2010002-05; 05000301/2010002-05	FIN	Inadequate Communications, Incomplete ALARA Job Planning and Ineffective Implementation of Radiological Work Controls (Section 2RS2)
05000266/2010002-06; 05000301/2010002-06	NCV	Failure to Establish Required Fire Watches (Section 4OA2)
05000266/2010002-07; 05000301/2010002-07	NCV	Failure to Evaluate Seismic Piping Interactions (Section 4OA2)

Closed

05000266/2010002-01; 05000301/2010002-01	NCV	Untimely Corrective Actions to Address Longstanding Issue of Submerged Cables (Section 1R06)
05000266/2010002-02; 05000301/2010002-02	NCV	Inappropriate Application of A Dedicated Operator During A System Venting Surveillance (Section 1R13)
05000266/2009002-04	URI	Detection of Large Gas Voids in Residual Heat Removal System Common Shutdown Cooling Suction Line (Section 1R15)
05000266/2010002-03; 05000301/2010002-03	NCV	Failure to Follow Temporary Modification Procedure (Section 1R18)
05000266/2010002-05; 05000301/2010002-05	FIN	Inadequate Communications, Incomplete ALARA Job Planning and Ineffective Implementation of Radiological Work Controls (Section 2RS2)

05000266/2010002-06; 05000301/2010002-06	NCV	Failure to Establish Required Fire Watches (Section 4OA2)
05000266/2010002-07; 05000301/2010002-07	NCV	Failure to Evaluate Seismic Piping Interactions (Section 4OA2)

Discussed

05000266/2006006-08; 05000301/2006006-08	URI	Safety-Related Equipment Not Protected From Tornado Missiles (Section 1R21)
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LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather, that selected sections 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; Circulation Water System Malfunction; Revision 17
- AR 00394377; Non-Robust Design Of Intake Crib Temperature RTDs
- AR 00418554; OE15585 – Cold Weather Effects On Plant Equipment
- AR 00418633; OE15613 – Cold Weather Effects On Plant Equipment
- AR 00511379; Intake Crib Move
- AR 00558606; Lake And Forebay Resistance Temperature Detectors Appear To Flat-Line Early
- AR 01118180; Circulating Water Pump House Temperature Issues
- AR 01142108; TE-3599-10 – Lake Temperature Resistance Temperature Detector Is Not Accurate Enough
- ARB C500 8-5; Ice Detector Alarm; Revision 1
- BG AOP 13A; Circulating Water System Malfunction; Revision 14
- AR 01164078; Façade Freeze Issues As Listed On Out-Of-Service List
- CMP 2.2.8.35; Motor-Operated Valve Design Basis Review For Valve Family 35; Revision 3
- CMP 2.2.8.36; Motor-Operated Valve Design Basis Review For Valve Family 36; Revision 3
- CMP 2.2.8.37; Motor-Operated Valve Design Basis Review For Valve Family 37; Revision 3
- ICI 32; Façade Freeze Control Panel Settings; Revision 1
- MI 32.20; Florida Power Light/Point Beach Nuclear Plant Snow Removal Plan; Revision 0
- OI 38; Circulating Water System Operation; Revision 47
- OI 106; Façade Freeze Protection; Revision 26
- OM 3.1; Operations Shift Staffing Requirements; Revision 16
- OM 3.9; Watch-station Status Checks And Watch-stander Turnover Guides; Revision 15
- OM 3.30; Operations Snow Emergency Staffing; Revision 3
- OM 3.39; Degraded Equipment/Adverse Condition Monitoring Procedure; Revision 1
- PC 49; Cold Weather Preparations; Revision 7
- PC 49 Part 5; Cold Weather Checklist: Outside Areas And Miscellaneous; Revision 25
- Equipment Out-Of-Service And Limiting Condition For Operation In Effect Report; January 7, 2010
- National Weather Service Forecast; Week of January 4, 2010
- Sargent And Lundy Engineers; Specification G-2301; Specification For Butterfly Valve
- Upcoming Critical Surveillance List; January 7, 2010

1R04 Equipment Alignment

- AR 01156251; P-032E Motor Leads Landed Incorrectly
- AR 01158189; Unit 1 Control Rods Left In Manual Following I&C Testing
- AR 01168539; Discovered ICC-744A; Heat Exchanger 8B; Boric Acid Evaporation Component Cooling Supply Throttled (NRC Identified)
- 1-CL-CC-001; Component Cooling Unit 1; Revision 14
- 1-SOP-CC-001; Component Cooling System; Revision 18
- CL 11A G-01; G-01 Diesel Generator Checklist; Revision 23

- CL 13E Part 1; Auxiliary Feedwater Valve Lineup Turbine-Driven; Unit 2; Revision 21
- CL 13E Part 2; Auxiliary Feedwater Valve Lineup Motor Driven; Revision 43
- DBD-01; Auxiliary Feedwater System; Design Basis Document; Revision 17
- DBD-02; Component Cooling Water System; Revision 13
- DBD-12; Service Water System; Revision 16
- FSAR Section 5.2; Containment Isolation System; Figure 5.2-15 Component Cooling Water To Reactor Coolant Pump
- FSAR Section 7.5; Operating Control Stations
- FSAR Section 9.1; Component Cooling Water
- Drawing 018980; Auxiliary Coolant System; Unit 1; Revision 67
- Drawing 018981; Auxiliary Coolant System; Unit 1; Revision 22
- Drawing 018982; Auxiliary Coolant System; Unit 1; Revision 41
- Drawing 018983; Auxiliary Cooling System; Unit 1; Revision 44
- Drawing 019016; Auxiliary Feedwater System; Units 1 And 2; Revision 3
- Drawing 275460; Auxiliary Feedwater System; Units 1 And 2; Revision 20

1R05 Fire Protection

- AR 01161868; Fire Barrier Penetration Seals Left Open Without Fire Watch
- AR 01163220; Transient Combustibles Located In Combustible Exclusion Zone
- AR 01163300; NRC Regulatory Fire Protection Questions
- AR 01163335; Fire Rounds Required Hourly Entry Into Containment Area
- AR 029169; National Fire Protection Association Code Deviation Identified During Fire Protection Assessment Walkdown
- FEP 4.12; Auxiliary Feedwater Pump And Vital Switchgear Area; Revision 8
- FEP 4.14; Turbine Hall – Unit 1; Revision 9
- FOP 1.2; Potential Fire Affected Safe Shutdown Components; Appendix A – Tab A01-A; General Plant Area – 8' Elevation And Below; Revision 19
- FOP 1.2; Potential Fire Affected Safe Shutdown Components; Appendix A – Tab A23N; Auxiliary Feedwater Pump Room (North); Revision 19
- FOP 1.2; Potential Fire Affected Safe Shutdown Components; Appendix A – Tab A23S; Auxiliary Feedwater Pump Room (South); Revision 19
- NP 1.9.9; Transient Combustible Control; Revision 17
- NP 5.2.11; Fire Protection Program Documentation; Revision 8
- PM 3.27; Control Of Fire Protection And Appendix R Safe Shutdown Equipment; Revision 37
- Duke Engineering And Services Analysis Summary Report; Fire Area A23N; Auxiliary Feedwater Pump Room (North)
- Duke Engineering And Services Analysis Summary Report; Fire Area A23S; Auxiliary Feedwater Pump Room (South)
- Fire Hazards Analysis Report; Appendix A; Fire Hazard Analyses; Revision 3
- Fire Hazards Analysis Report; FHAR FZ 304; Fire Zone Data; June, 2009
- Fire Rounds Report Of Radiologically Controlled Area And Turbine Building
- Safe Shutdown Analysis Report; Table 1-2 PBNP Appendix R Exemption Summary; Revision 7

1R06 Flood Protection Measures

- AR 00285391; Living With Adverse Conditions Related To Cold Weather-Not Fixing The Cause
- AR 00289446; Evaluation Of Manhole Pumping
- AR 01114734; Lack Of Progress On Cable Submergence Issue

- AR 01158883-20; Review Preventive Maintenance Frequencies
- AR 01163993; Manholes Under Water
- AR 01164431; Found Cables Submerged
- AR 01164937; Cable Submergence Issues
- AR 01165650; Increase Manhole Frequency
- AR 01165960; Determine Equipment Affected From Manholes
- AR 01164967; Manholes Under Water
- AR 01163155; Ground Water Drain Line Dripping
- AR 01163534; Unit 2 Number 4 Water Box Circulating Water Inlet Leak
- AR 01164037; Turbine Hall Sump Pump Issues
- AR 01165431; Instructions For using A Contingency Water Tank During Condensate Storage
- AR 01166587; Prompt Operability Determination Not Identified – Submerged Cables
- AR 01166967; Manhole Pumping Program
- DBD-01; Component Functions; Revision 17
- NP 7.3.10; Condition Monitoring Program; Revision 8
- NP 8.4.16; Point Beach Nuclear Plant High Energy Line Break Barriers/Vent Paths; Revision 13
- NP 8.4.17; Point Beach Nuclear Plant Flooding Barrier Control; Revision 10
- OI 150; Condensate Storage Tank Operations; Revision 12
- PI-AA-205; Condition Evaluation And Corrective Action
- RCE 1119996; 1X04 Lockout And Loss Of 1B04
- WO Pack 374114; Surveillance Of Manholes
- Adams ML070940311; Point Beach Response To Generic Letter 2007-01
- Calculation 2008-0024; Auxiliary Feedwater Pump Room Flood Basis Calculation; Revision 0
- Final Safety Analysis Report; Appendix A.7; Plant Internal Flooding
- Manholes 10, 14, 19, And 20 Data For January 28, 2010
- Manholes 10, 14, 19, And 20 Data For February 4, 2010
- Model Call-Ups Data For WO 161812
- Point Beach Nuclear Plant Action Request Report Data; February 5, 2010
- Point Beach Nuclear Plant Units 1 And 2; NRC Integrated Inspection Report 05000266/2002013 And 05000301/2002013
- Point Beach Nuclear Plant NRC Special Inspection Report 05000266/2008007 And 05000301/2008007
- Point Beach Nuclear Plant Site Information Repository Equipment Report; February 4, 2010
- Tank Work Not Controlled And Not Accurate

1R07 Heat Sink Performance

- AR 01117935; Service Water System Unable To Support VNBI Under Worst Case Conditions
- AR 01120927; MIC Degradation Of HX-105B Return Cover
- AR 01141803; HX-105B Fouled Beyond Design And Mussel Issues
- AR 01164187; Degradation Of HX-105A Tubesheets And Covers
- AR 01164187-01; Condition Evaluation Of Pitting On The Lower Coil Return Tubesheet Of HX-105A Related To Exposure Days And Flow Rate
- Bio/Silt Fouling Inspection Form For HX-105A; January 6, 2010
- Calculation N-94-064; Ventilation Battery Inverter Room [HX-105A/B] Service Water vs. Temperature Requirements; December 13, 2007
- PAB Battery & Inverter Room Heating And Ventilation System Health Report, 3rd Quarter 2009

1R08 Inservice Inspection Activities

- AR 1134482; Radiography Failure Of Shop Weld For SW-00017; August 26, 2008
- AR 1137810; Ultrasonic Testing Inspection Results For Generic Letter 2008-01; October 17, 2008
- AR 1138380; Radiography Of 1CV-393 Welds identify Rejectable Indications; October 24, 2008
- AR 1138457; VT-3 On Removed Bolting Missed On WO3151186; October 25, 2008
- AR 1138473; Incorrect NDE Performed (Recoverable Error); October 25, 2008
- AR 1138848; VT-3 Of Bolting Missed Second Time (1SC-959); October 31, 2008
- AR 1151581; Drawing/Database Discrepancy Discovered During Review; June 18, 2009
- AR 1160138; Weld Visual Inspection Failure; October 31, 2009
- AR 1160637; SI-1501R-3-2H2 Pipe Hanger Clevis Pin/Bolt Wrong Size; November 6, 2009
- AR 1160992; Corrosion Of Support HB-19-SA5; November 11, 2009
- BAE373987 10-010; 1P-1A Reactor Coolant Pump Seal Water Injection Flow Element; January 30, 2010
- BAE373987 10-012; Charging Line Flow Control; February 1, 2010
- BAE375180 10-131; 2P-1A/B Reactor Coolant Pump Seal Water Injection Vent; February 25, 2010
- BALCM Program Boric Acid Leakage and Corrosion Monitoring Program; Revision 5
- BALCM Appendix C Boric Acid Indication Evaluation; Revision 7
- N-685; Code Case N-685: Lighting Requirements For Surface Examination Section XI, Division 1; May 9, 2003
- NDE-451; Visible Dye Penetrant Examination Temperature Applications 45F to 125F: Revision 25
- 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 16
- NDE-754; Visual Examination (VT-3) Of Nuclear Power Plant Components; Revision 17
- NMP 2007-0233; Demonstration of NDE-451, "Visible Dye Penetrant Examination Temperature Applications 45F to 125F To Meet The Requirements Of ASME Section V, Article 6, 2004 Edition Through 2006 Addenda"; July 16, 2007
- NMP-2005-0239; Verification Of Measurement Of Point Beach Nuclear Plant Visual Examination Character Demonstration Cards; March 28, 2005
- NMP-2006-0479; Verification of Measurement Of Point Beach Nuclear Plant Visual Examination Character Demonstration Cards; October 11, 2006
- PQR 91-P8P8F6F5-7; SS to SS; November 21, 1991
- PQR W-66; GTAW For P-8 To P-8; Revision 0
- WO 349471; Liquid Penetrant Examination Of CVC-02-PSI-1001-48; October 7, 2008
- WO 335667; 1F-39B Reactor Coolant Pump Seal Injection Filter Inlet; October 13, 2008
- WPS FP-PE-B31-P8P8-GTSM-037; GTAW P-8 to P-8 Material; Revision 4

1R11 Licensed Operator Requalification Program

- Point Beach Nuclear Plant Licensed Operator Requalification Training Cycle 10A Schedule; Revision 2
- Point Beach Nuclear Plant Simulator Exercise Guide PBN LOC 10A 001E; Cycle 10A As-Left; Revision 0

1R12 Maintenance Rule Implementation

- 125 Volt Direct Current System (a)(1) Action Plan Matrix
- 125 Volt Direct Current System Maintenance Rule (a)(1) Action Plan
- 125 Volt Direct Current Documentation Of Maintenance Rule Performance Criteria
- 125 Volt Function List
- 125 Volt Documentation Of CAPS
- 125 Volt Quarterly Performance Reviews; 2008-2010
- 125 Volt Unavailability; 2008-2010
- AR 01123323; MROEP To Evaluate a(1) a(2) Status Of Chemical And Volume Control System
- AR 01128142; Charging Line Flow Oscillations While Running 2P-2A Charging
- AR 01135778; 1P-2C Charging Pump Excessive Seal Leakage
- AR 01137119; 2P-002A/B/C Pump Train Exceeds Maintenance Rule Performance Criteria
- AR 01164302; Issues With Charging Pump Seals
- AR 01165277; Increased Seal Leakage For Charging Pump 1P-2B
- AR 01166132; D-07 Battery Charger Trouble Alarm During G01 Emergency Diesel Generator Field Flash
- AR 01167621; A Spike Was Observed On Both N31 and N32 Source Range Nuclear Instruments When Shifting To Steam Pressure Mode On Condenser Steam Dump
- NPM 2005-0556, Minutes for 9/12/2005 MROEP Meeting
- OP 3B; Reactor Shutdown; Revision 40
- OP 3C; Hot Standby To Cold Shutdown; Revision 109
- PRA 14.0; Risk-Informed Applications Notebook; Revision 0
- Chemical and Volume Control System Health Report, 3rd Quarter 2009
- Control Room Log Entries Report; February 26 – March 1, 2010
- Maintenance Rule (a)(1) System Action Plan CV System; November 8, 2004
- Maintenance Rule (a)(1) System Action Plan Checklist And Approval Data; Nuclear Instrumentation; July 6, 2009
- Maintenance Rule Performance Criteria; Component Service Water System; January 8, 2010
- Point Beach System Health Report; Unit 1; Nuclear Instrumentation; January 1 Through March 31, 2010
- System Health Report; July 1 – September 30, 2009
- System Health Report; October 1 – December 31, 2009
- System Health Report; January 1 – March 31, 2010

1R13 Maintenance Risk Assessments and Emergent Work Control

- 1-TS-ECCS-002; Safeguards System Venting (Monthly) Unit 1; Revision 10
- 11CP05.058A-1; Safeguards Timing Relays Calibration Train A; Unit 1; Revision 15
- AR 01164393; Modeling Question Regarding T-24B Condensate Storage Tank
- AR 01164834; Possible Incorrect Use Of A Dedicated Operator (NRC Noted)
- AR 01165220; Unit 1 AOP-9B Component Cooling Water Malfunction Entry
- AR 01165267; 1PIC-639 Unit 1 Component Cooling Water Pump Start/Alarm Switch Unrepairable
- BG-EOP-0; Reactor Trip Or Safety Injection; Revision 37
- AR 01165414; Use Of OI-38 Factor In Safety Monitor Is Not Workable
- AR 01165431; Instructions For Using A Contingency Water Tank During Condensate Storage Tank Work Not Controlled And Not Accurate
- AR 01166554; Received Auto Start Of 1P-11B Component Cooling Water Pump During CO 30297
- AR 01166865; 1PIC-639 Needle Fell Off

- FSAR Section 9.1; Component Cooling Water
- NP 2.1.8; Protected Equipment; Revision 10
- NP 10.3.5; Risk Monitoring And Risk Management; Revision 2
- NP 10.3.6; Shutdown Safety Review And Safety Assessment; Revision 32
- NP 10.3.7; On-Line Safety Assessment; Revision 20
- OM 3.12; Control Of Equipment And Equipment Status; Revision 17
- OM 3.26; Use Of Dedicated Operators; Revision 10
- PRA 5.14; Component Cooling Water System Notebook; Revision 0
- WO 00370132; T-024B Auxiliary Feedwater Mechanical Tie-Ins To "B" Condensate Storage Tank
- WO 00376172; 1PIC-00639/Replace Pressure Switch
- WO 00381751; 1PIC-00639/Perform Calibration Check
- Control Room Log Entries Report; Week Of January 6 Through January 13, 2010
- Control Room Log Entries Report; March 2, 2010
- Drawing 019016; Auxiliary Feedwater System; Units 1 And 2; Revision 15
- Equipment Out-Of-Service Log; February 18, 2010
- Safety Monitor Risk Evaluation; Unit 1; January 11, 2010
- Safety Monitor Risk Evaluation; Unit 2; January 11, 2010
- Safety Monitor Report For February 15, 2010
- Safety Monitor Report For February 17, 2010
- Safety Monitor Report For February 19, 2010

1R15 Operability Evaluations

- AOP-10B; Unit 1; Safe To Cold Shutdown In Local Control; Revision 11
- AR 01136774; Void Discovered By UT In 10"-AC-601R – Unit 1
- AR 01158549; U2R30 Mode 3 UT Results – Generic Letter 2008-01
- AR 01166539; Unit 2 Component Cooling Water Flow Increase
- AR 01165876; NRC Senior Resident Concerns With 2SI-850B
- AR 01165905; Turbine Hall Condition Inspection
- AR 01165906; Foreign Material Exclusion In Relay Inside 1C03 Control Board
- AR 01166160; Calculation 2004-0009; 50D Settings Tolerance Differ Between 1/2P-15B
- AR 01167453; Discrepancies Between Technical Specification Bases And Final Safety Analysis Report Questioned
- AR 01165541; Added Oil To reservoir During IT-45
- AR 01170573; Delays Encountered In Preparation For ORT-3C
- AR 01170574; ORT 3C Auxiliary Feed And AMSAC Actuation Delays
- AR 01170599; Unit 1 Steam Generator Low-Low Level Relays Logic Legacy Issue
- AR 01170605; 1PQ-4044 Timer Too Long During 1ORT-3C
- AR 01170744; Failure Of Control Power Fuses for 1B-03 Bus Feeder Breaker 1B52-16B
- FSAR 2008; Section 9.1; Component Cooling Water
- IT 45; Safety Injection Valves (Quarterly); Unit 2; Revision 51
- JGG-006; Ultrasonic Testing Inspection Report For SI Line; October 19, 2009
- RMP 9201; Control And Documentation For Troubleshooting And Repair Activities; Revision 4
- RR001; Ultrasonic Testing Inspection Report For SI Line; October 15, 2009
- WO 2008-037; Vent Down Stream Side Of 1RH-701; October 5, 2008
- Control Room Log Entries Report; March 29, 2010
- Drawing 018963; Letdown Gas Strippers; Units 1 And 2; Revision 29
- Drawing 018978; Auxiliary Coolant System; Unit 2; Revision 17
- Drawing 018979; Auxiliary Coolant System; Unit 2; Revision 43
- Drawing 018981; Auxiliary Coolant System; Unit 1; Revision 22

- Drawing 018982; Auxiliary Coolant System; Unit 1; Revision 41
- Drawing 018987; Piping And Instrument Diagram Legend; Unit 1; Revision 19
- Drawing 024926; Radwaste Component Cooling Water; Units 1 and 2; Revision 13
- Point Beach Nuclear Plant Safe Shutdown Analysis Report; Residual Heat Removal System Operation; Revision 7
- Point Beach Nuclear Plant Training Handbook 10.9; Primary Systems Descriptions: Component Cooling System; Revision 6
- 2008CA-054; Ultrasonic Testing Inspection Report for 1RH-S04 And 1RH-S01; October 5, 2008

1R18 Plant Modifications (Temporary)

- AR 01168914; Condensate Storage Tank – Alternate Water Supply
- AR 01170452; Component Cooling Water Pump Oiler Weight Addition
- AR 01165002; Entry Into An Unplanned Technical Specification
- AR 01165174; Work Associated With The Condensate Storage Tank T-24A Not Properly Scheduled
- AR 01167907; 1Z-13 Main Hoist Cable Not Wrapped On Drum Correctly
- AR 01165626; As-Found Conditions Inside Condensate Storage Tanks T-24A And T-24B
- AR 01170612; Temporary Water Supply During Condensate Storage Tank Mods
- AR 01170616; Unresolved Issue-Temporary Water Supply For Condensate Storage Tank Mods
- ECN EC 14945; Condensate Storage Tank 4” Roof Spare Nozzle/Vent For Fill (ECN 13400-08)
- ECN EC 15415; Add Mass To The Pipe Leading To The Oiler On 1P-11B To Reduce Vibration
- FP-E-MOD-02; Engineering Change Control; Revisions 6 And 7
- FP-E-MOD-03; Temporary Modifications; Revision 6
- FSAR Appendix A.7; Plant Internal Flooding
- FSAR Section 10.2; Auxiliary Feedwater System
- MR 97-107; Replacement Of 1P-11B Component Cooling Water Pump Motor
- SCR 2009-0114-02; EC 13400-U2R30 Replacement Motor-Driven Auxiliary Feedwater Mechanical Tie-Ins
- TLB 3.4; Condensate Storage Tank (T-24 A/B); Revision 8
- WO 9702541; Main Control Board Wire Separation Project
- WO 9711694; Change Out Existing Motor With Appendix R Motor
- WO 9800351; Inspect Terminations And Verify They Meet Identified Standard
- WO 0306021; 1P-011B-M Evaluate Terminal Box
- WO 0306605; P-11B-M EQ Cable/Splice Field Verification
- WO 00364706; T-24A EC 13400 Install Suppressor, Taps, And Isolation Valves; T-024B Reinstall 4” Blind Flange On Top Of Tank; Drain, Flush, Fill Frac Tank-Move Hose/Adapter
- WO 00367565; 1Z-013, OSHA Crane Inspection Per 1RMP 9118-1
- WO 00370132; T-024B/Auxiliary Feedwater Mechanical Tie-ins To “B” Condensate Storage Tank; T-024A/Install Flange Adapter T-Mod
- WO 00385786; 1P-11B Inboard Oiler – Add Weight To Stop Vibration
- Calculation 97-0233; Seismic Evaluation Of The 1P-11B Component Cooling Water Pump Power Supply Junction Box Support Stand
- Calculation 98-0069; Seismic Evaluation Of Trico Glass Opto-Matic Oiler; Revision 0
- Control Room Log Entries Report; March 23, 2010
- Generic Letter 90-05; Guidance For Performing Temporary Non-Code Repair Of ASME Code Class 1, 2, And 3 Piping

- Information Notice 89-81; Inadequate Control Of Temporary Modification To Safety-Related Systems
- Licensee White Paper “CST Alternate Water connection Summary”
- Point Beach Technical Specifications
- Point Beach Technical Specification Bases
- Regulatory Guide 1.33; Quality Assurance Program Requirements (Operation); Revision 2
- Spare Parts Equivalency Evaluation Documentation; 1 Or 2P11B Spare Motor

1R19 Post-Maintenance Testing

- AM 1-10; Job Safety Analysis; Revision 2
- AR 01166082; Correct Abnormal Vibration Indications On The OP-032C Service Water Pump
- AR 01170326; Procedure Use Discrepancies
- AR 01164095; Security Equipment
- AR 01164097; G-01 Emergency Diesel Generator Voltage Setting Found Out Of Specification
- AR 01165599; P-032C Unavailability Exceeds 80% of Maintenance Rule Criteria
- AR 01165945; Unapproved Work Added To The P-32C Work
- AR 01166077; Discovered A-473B Antiscalant Mixer Water Seized
- AR 01168147; New Component Cooling Water Motor Bearing Issue – Does Not Meet Environmental Qualification
- AR 01168849; P-032C Service Water Pump Loose Bolt On Column
- AR 01169536; 1P-11B-M Issues
- AR 01169667; 1P-11B Rotating Assembly Uncertainty
- AR 01169684; Defective Gasket Material identified
- AR 01169694; Indication Found On 1CC-736A During License Renewal Exam
- FSAR Section 10.2; Auxiliary Feedwater System
- IT 12A; Component Cooling Pumps And Valves While Aligned For Residual Heat Removal Operation (Cold Shutdown) Unit 1; Revision 18
- IT 7C; P-32C Service Water Pump (Q); Revision 26
- 10 CFR 50.59/72.48 Screening 2010-0037; Changes to IT-7C Following Rebaseline Of P-32C Service Water Pump
- MDB 3.2.9; Panel 112L; Electrical; Revision 5
- MI 23.4; Taped Electrical Connections 480 And Below; Revision 4
- NP 1.1.4; Use And Adherence Of Procedures; Revision 25
- O-PT-EDG-011; G-01 Emergency Diesel Generator Endurance And Margin Testing; Revision 2
- OP-32C; Inspection And Test Plan And Results Data
- RMP 9006-5; Component Cooling Water Pump Overhaul; Revision 23
- RMP 9201; Control And Documentation For Troubleshooting And Repair Activities
- RMP 9216-1; Service Water Pump Motor Removal And Installation; Revision 16
- RMP 9216-2; Service Water Pump Removal Installation And Maintenance; Revision 17
- RMP 9216-3; Service Water Pump Vibration Testing And Balancing For Post-Maintenance Testing; Revision 16
- RMP 9387; AC Induction Motor MCE Testing Procedure; Revision 7
- TS 81; Emergency Diesel Generator G-01 Monthly; Revision 76
- WO 00183235-01; T-24B; Recoat Inside Manway
- WO 00183235-02; T-24B; Final Cure Time
- WO 00183799-01; T-24A; Clean And Reseal Coating
- WO 00183799; T-24A; Coating Post-Maintenance Testing; Pull-Off Adhesion Test Field Data Sheet

- WO 00183799-02; T-24A; Final Cure Time
- WO 00183235; T-24B; Coating Post-Maintenance Testing; Pull-Off Adhesion Test Field Data Sheet
- WO 00367253-01; Replace Inboard/Outboard Bearings/Seals As Required
- WO 00367455-08; Tighten Loose Bolt On P-032C Pump Column
- WO 00367455-09; P-032C Complete Post Maintenance Testing After Bolt Torque
- WO 00369806-10; 1P-011B Pump Replace Outboard Bearing And Oil Seal
- WO 00373413-01; 1P-11B-M-OB Motor Bearing Replacement
- WO 00370132-05; T-24B; Perform Post-Modification Testing
- WO 00381091; Inspect G-01 Voltage Regulator Motor Operated Potentiometer
- WO 00381389-03; 1Z-013 Trouble Shoot/Repair Crane
- WO 00381689; P-032C-N – Motor Replacement Needed
- WO 00384064; 1P-10A Disassemble Pump As Required For Foreign Material Exclusion Inspection
- American Society For Testing And Materials Designation D 4541-09; Standard Test Method For Pull-Off Strength Of Coatings Using Portable Adhesion Testers; Section 06; Paints, Related Coatings, And Aromatics
- American Society For Testing And Materials Designation D 4541-95; Standard Test Method For Pull-Off Strength Of Coatings Using Portable Adhesion Testers
- Calculation 2000-0068; Design Evaluation Of Service Water Pump Column Connections
- Woodward Governor Company Manual 37716C; Motor Operated Potentiometer

1R20 Refueling and Other Outage Activities

- IICP 05.064; Reactor Vessel Level Outage Calibration; Revision 3
- 1-PT-RCS-1; Reactor Coolant System Pressure Test – Inside/Outside Containment Unit 1; Revision 6
- AR 01167764; Maintenance And Test Equipment Suspected To Be Out Of Tolerance During ICP 5.64
- AR 01168167; Critical Path Delay U1R32; 1LT-447/447A Difference
- AR 01168420; Foreign Material Exclusion Retrieval From Unit 1 Reactor Vessel Upper And Lower Cavity
- AR 01168738; Foreign Material Discovered On Fuel Assembly KK30
- AR 01168759; Foreign Material Identified On Lower Core Plate
- AR 01169407; Trend CAP Of Foreign Material Found In Unit 1 Reactor Coolant System
- AR 01169509; Unit 1 Reactor Vessel Narrow Range Level Transmitters
- AR 01169685; Foreign Material Exclusion Found In 1HX-11A Bowl And Drains
- AR 01169762; Fuel Assembly KK23 Metal Debris
- AR 01169763; Fuel Assembly LL36 Metal Debris
- AR 01169766; Foreign Material On Assembly LL23
- AR 01170191; During Fuel Reload A Core Loading Supervisor Received A Dose Alarm
- CL 2A; Defueled to Mode 6 Checklist; Revision 12
- NP 4.2.12; Requirements For Radiologically Controlled Area Entry; Revision 21
- NP 4.2.19; Entry Requirements Into Various Radiologically Controlled Areas; Revision 16
- NP 4.2.27; Personnel Exposure Monitoring Device Minimum Requirements And General Use; Revision 17
- NP 10.3.6; Shutdown Safety Review And Safety Assessment; Revision 31
- OP 3A; Power Operation To Hot Standby; Unit 1
- OP 3B; Reactor Shutdown; Revision 40
- OP 3C; Hot Standby To Cold Shutdown; Revision 109
- OP 4D Part 1; Draining The Reactor Coolant System; Revision 78

- RMP 9008-02; Residual Heat Removal Pump Rotating Assembly Maintenance; Revision 4
- U1R32 Outage Safety Review Supporting Documentations
- WO 00349950-01; 1RH-713A Boric Acid Around The Body to Bonnet Joint
- Drawing 018980; Auxiliary Coolant System; Unit 1; Revision 68
- Foreign Material Exclusion Log Entries Report; March 8, 2010
- Outage Control Center Log Entries Report; March 9, 2010
- Protected Equipment Requirements And Expectation For Protection Documentation
- Risk Profile Activity Data; March 1 Through March 6, 2010
- Time To Boil Chart Data

1R22 Surveillance Testing

- 1-TS-ECCS-002; Safeguards System Venting (Monthly) Unit 1; Revision 10
- AOP-1A; Reactor Coolant Leak; Revision 17
- AR 01164834; Possible Incorrect Use Of A Dedicated Operator (NRC Noted)
- AR 01166937; Control Rod Bank "A"; Group 2 Step Counter
- BG-EOP-0; Reactor Trip Or Safety Injection; Revision 37
- AR 01163535; Unit 1 Sump "A" Sample Results
- AR 01164095; Security Equipment
- AR 01164097; G-01 Emergency Diesel Generator Voltage Setting Found Out Of Specification
- AR 01164238; Leak Identified On ISC-954A Hot Leg Sample Valve
- AR 01164291; Unit 1 Containment Elevated Radioactivity
- AR 01165876; NRC Senior Resident Concerns With 2SI-850B
- AR 01165908; Entered Action Level 1 For Unidentified Reactor Coolant System Leak Rate; Unit 2
- AR 01165980; Reactor Coolant System Leak Rate Action Level 2 Trend Alert; Unit 2
- AR 01166029; Reactor Coolant System Leak Rate Trend; Unit 2
- CR 01165541; Added Oil To reservoir During IT-45
- ISC-954A; Hot Leg Sample Valve; Revision 0
- IT 03; Low Head Safety Injection Pumps And Valves (Q) Unit 1; Revision 59
- IT 45; Safety Injection Valves (Quarterly); Unit 2; Revision 51
- NP 2.1.8; Protected Equipment; Revision 10
- NP 10.3.5; Risk Monitoring And Risk Management; Revision 2
- O-PT-EDG-011; G-01 Emergency Diesel Generator Endurance And Margin Testing; Revision 2
- OI 55; Primary Leak Rate Calculation; Revision 24
- OM 3.12; Control Of Equipment And Equipment Status; Revision 17
- OM 3.26; Use Of Dedicated Operators; Revision 10
- OM 3.39; Degraded Equipment/Adverse Condition; Revision 1
- TS5; Rod Exercise Test; Unit 1; Revision 32
- TS 81; Emergency Diesel Generator G-01 Monthly; Revision 76
- WO 00381091; Inspect G-01 Voltage Regulator Motor Operated Potentiometer
- Control Room Log Entries Report; January 6 Through January 13, 2010
- Control Room Log Entries Report; January 30 Through February 3, 2010
- Drawing D-3TE-D22SX; 3/8 T-Globe Valve With Nipples
- Point Beach Leak Rate Data; January 15 – February 3, 2010
- Point Beach Nuclear Plant Airborne Radioactivity Survey; Sample 30-157; Unit 1 Containment; December 28, 2009
- Point Beach Nuclear Plant Airborne Radioactivity Survey; Sample 30-159; Unit 1 Containment; January 4, 2010

- Point Beach Nuclear Plant Airborne Radioactivity Survey; Sample 30-159; Unit 1 Containment OP9C; January 5, 2010
- Woodward Governor Company Manual 37716C; Motor Operated Potentiometer

1EP6 Drill Evaluation

- Point Beach Nuclear Plant LOCT Cycle 10A Schedule; Revision 2
- Point Beach Nuclear Plant Simulator Exercise Guide PBN LOC 10A 001E; Cycle 10A As-Left; Revision 0

2RS1 Radiological Hazard Assessment and Exposure Controls

- HP 2.6; Locked and Very High Radiation Area Key Control; Revision 32
- Point Beach Nuclear Plant Airborne Radioactivity Survey; Sample 30-159; Unit 1 Containment OP9C; January 5, 2010
- NP 4.2.19; Entry Requirements into Various Radiologically Controlled Areas; Revision 16

2RS2 Occupational ALARA Planning and Controls

- AR 01160468; Conceptual Dose Concerns with GSI-191 Project; dated November 2009
- AR 01166122; Review of the U2 GSI-191 Project; dated February 2010
- AR 01167425; U2 GSI-191 Post Job ALARA Review Note Completed; February 2010
- CAMP 110; Addition of Hydrogen Peroxide to RCS; Revision 19
- Daily (Outage) Dose Tracking Sheets; Dated March 2010
- FP-RP-JPP-01; RP Job Planning; Revisions 6 and 7
- NP 4.2.1; ALARA Program; Revisions 20 and 21
- NP 3.2.6; Strategic Primary Water Chemistry Optimization Plan; Revision 2
- Outage Readiness and Work Schedules for GSI 191 Containment Sump Project; dated October 15, 2009
- Radiological Work Planning Forms for Work Orders 371055, 371056, and 371057
- Work In Progress and Pre and Post Job ALARA Reviews for Work Orders 371055, 371056, And 371057
- WO 371055; Unit-2 Insulation Removal Support Activities
- WO 371056; Unit-2 Insulation Replacement Loop A, EC 13601
- WO 371057; Unit-2 Insulation Replacement Loop B, EC 13601

2RS4 Occupational Dose Assessment

- NP 4.2.15; Fetal Protection Policy Implementation; Revision 7

4OA1 Performance Indicator Verification

- AR 01165977; Performance Indicator For Unit 1 Unplanned Power Changes Is Light Green
- NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 6; October, 2009
- Root Cause Evaluation 1161680; AOP-13A (Unit 1) Entry From Debris Intrusion
- Point Beach Nuclear Plant Units 1 And 2; First Quarter 2009; NRC Integrated Inspection Report 05000266/2009002 And 05000301/2009002
- Point Beach Nuclear Plant Units 1 And 2; Second Quarter 2009; NRC Integrated Inspection Report 05000266/2009003 And 05000301/2009003

- Point Beach Nuclear Plant Units 1 And 2; Third Quarter 2009; NRC Integrated Inspection Report 05000266/2009004 And 05000301/2009004
- Point Beach Nuclear Plant Units 1 And 2; Fourth Quarter 2009; NRC Integrated Inspection Report 05000266/2009005 And 05000301/2009005

4OA2 Problem Identification and Resolution

- AR 01161868; Fire Barrier Penetration Seals Left Open Without Fire Watch
- AR 01163220; Transient Combustibles Located In Combustible Exclusion Zone
- AR 01163300; NRC Regulatory Fire Protection Questions
- AR 01163335; Fire Rounds Required Hourly Entry Into Containment Area
- AR 029169; National Fire Protection Association Code Deviation Identified During Fire Protection Assessment Walkdown
- FEP 4.14; Turbine Hall – Unit 1; Revision 9
- NP 1.9.9; Transient Combustible Control; Revision 17
- NP 5.2.11; Fire Protection Program Documentation; Revision 8
- PM 3.27; Control Of Fire Protection And Appendix R Safe Shutdown Equipment; Revision 37

4OA3 Follow-Up of Events and Notices of Enforcement Discretion

- AOP-21; Plant Process Computer System Malfunction; Revision 11
- AR 01166815; Medical Emergency Response On-Site
- AR 01166888; Security Responded To 26' Unit 2 Turbine Hall For Medical Emergency
- AR 01168367; Loss Of Reactor Vessel Inventory Due To Valve Leakage
- AR 01168368; Unexpected Level Drop In Unit 1 Reactor Vessel
- EPIP 1.2.1; Emergency Action Level Technical Basis; Revision 4
- EPIP 11.2; Medical Emergency; Revision 25
- NP 1.7.1; Security Expectations; Revision 25
- Control Room Log Entries Report; March 5, 2010
- Emergency Plan Manual; Appendix B; Table C – Cold Shutdown/Refueling System Malfunction; Revision 23

LIST OF ACRONYMS USED

AC	Alternating Current
ADAMS	Agencywide Document Access Management System
ALARA	As-Low-As-Is-Reasonably-Achievable
AOP	Abnormal Operating Procedure
ARB	ALARA Review Board
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CST	Condensate Storage Tank
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
EC	Engineering Change
ECN	Engineering Change Notice
FIN	Finding
FSAR	Final Safety Analysis Report
GSI	Generic Safety Issue
HRA	High Radiation Area
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IR	Inspection Report
ISI	Inservice Inspection
kV	Kilovolt
LER	Licensee Event Report
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
NUMARC	Nuclear Management and Resources Council
OSP	Outage Safety Plan
PARS	Publicly Available Records System
PI	Performance Indicator
PT	Dye Penetrant Testing (Examination)
PWR	Pressurized-Water Reactor
RCA	Radiologically Controlled Area
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RFO	Refueling Outage
RHR	Residual Heat Removal
SDP	Significance Determination Process
SFP	Spent Fuel Pool
SG	Steam Generator
SI	Safety Injection
SSC	Structures, Systems, and Components
TI	Temporary Inspection
TS	Technical Specification
U2R30	Unit 2 Refueling Outage
URI	Unresolved Item
USAS	United States of America Standard
UT	Ultrasonic Testing (Examination)

VHRA	Very High Radiation Area
VT	Visual Testing
WO	Work Order

L. Meyer

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Sincerely,

/RA/

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

Docket Nos. 50-266; 50-301; 72-005
License Nos. DPR-24; DPR-27

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Letter to L. Meyer from M. Kunowski dated May 11, 2010

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 NRC INTEGRATED
INSPECTION REPORT 05000266/2010002 AND 05000301/2010002

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