January 25, 2007

EA-06-178

Mr. Dennis L. Koehl
Site Vice President
Point Beach Nuclear Plant
Nuclear Management Company, LLC
6590 Nuclear Road
Two Rivers, WI 54241-9516

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2 NRC INTEGRATED INSPECTION REPORT 05000266/2006013; 05000301/2006013 AND 05000266/2006014; 05000301/2006014

Dear Mr. Koehl:

On December 31, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Point Beach Nuclear Plant, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on January 2, 2007, 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, three findings of very low safety significance were identified. Two of the findings were determined to involve violations of NRC requirements. Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs), consistent with Section VI.A.1 of the NRC Enforcement Policy. There is no violation associated with the third NRC-identified finding. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, 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 at the Point Beach Nuclear Plant.

In a letter to you dated November 30, 2006, the NRC closed Confirmatory Action Letter 3-04-001, Revision 1. In addition, we concluded that the three Red findings and one Yellow finding pertaining to the auxiliary feedwater system and identified in 2003 would no longer be considered in the NRC's assessment process after the 4th quarter of 2006. As a result, NRC oversight of Point Beach was reduced to a level consistent with the station's current performance, which at that time was the Licensee Response Column (Column I) of the NRC Action Matrix.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records System (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Patrick L. Louden, Chief
Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 05000266/2006013; 05000301/2006013
w/Attachment: Supplemental Information

cc w/encl: F. Kuester, President and Chief
Executive Officer, We Generation
D. Cooper, Senior Vice President, Group Operations
J. McCarthy, Site Director of Operations
D. Weaver, Nuclear Asset Manager
Plant Manager
Regulatory Affairs Manager
Training Manager
Site Assessment Manager
Site Engineering Director
Emergency Planning Manager
J. Rogoff, Vice President, Counsel & Secretary
K. Duveneck, Town Chairman
Town of Two Creeks
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Public Service Commission of Wisconsin
J. Kitsembel, Electric Division
Public Service Commission of Wisconsin
State Liaison Officer

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-266; 50-301
License Nos:	DPR-24; DPR-27
Report No:	05000266/2006013; 05000301/2006013 and 05000266/2006014; 05000301/2006014
Licensee:	Nuclear Management Company, LLC
Facility:	Point Beach Nuclear Plant, Units 1 and 2
Location:	Two Rivers, Wisconsin
Dates:	October 1, 2006, through December 31, 2006
Inspectors:	R. Krsek, Senior Resident Inspector G. Gibbs, Resident Inspector J. Jandovitz, Reactor Inspector M. Phalen, Radiation Specialist J. Robbins, Reactor Engineer J. Bartleman, Reactor Engineer R. Winter, Reactor Engineer
Approved by:	P. Louden, Chief Projects Branch 5 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000266/2006013, 05000301/2006013 and IR 05000266/2006014, 05000301/2006014; 10/01/2006 - 12/31/2006; Point Beach Nuclear Plant, Units 1 and 2; Flood Protection Measures, and Followup of Events and Notices of Enforcement Discretion.

This report covers a 3-month period of inspection by resident inspectors and announced inspections by regional specialists of inservice inspection and radiation protection. The emergency preparedness portion of this inspection is being tracked using Inspection Report 05000266/2006014; 05000301/2006014. Two Green findings with associated non-cited violations and one Green finding with no associated violation were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 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 3, dated July 2000.

A. Inspector-Identified and Self-Revealed Findings

Cornerstone: Initiating Events

- Green: The inspectors identified a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," having very low safety significance for the failure to maintain flooding barriers after drilling holes and installing conduit from the containment facade buildings to the auxiliary building during modification MR 04-013 "Charging Pump Variable Frequency Drive Installation." As part of corrective actions, the licensee properly sealed the openings. The issue was entered into the corrective action program.

  The finding is greater than minor because it was associated with the design control and flood hazard attributes of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. A flood in the auxiliary building could affect safety-related equipment and result in an upset of plant stability. Although the finding involved the degradation of a flooding barrier, the volume of any potential flooding was judged, based on the size of the hole, to be bounded by the existing internal flooding analysis for the auxiliary building, as well as the licensee's probabilistic risk assessment; hence, the finding screened as very low safety significance. This finding has a cross-cutting aspect in the area of human performance because resources were not provided to ensure accurate and up-to-date work packages for implementation of the modification. (Section 1R06.1)

- Green. A finding of very low safety significance was self-revealed on November 14, 2006, when unqualified contract crane technicians operated the Unit 2 polar crane and damaged the "B" steam generator vent line with the main hook of the crane. The reactor was shut down at the time of the event. As part

of corrective actions, the licensee removed authorization for the technicians to operate the crane, ensured necessary procedural controls were implemented, and evaluated the damaged vent line. The issue was entered into the corrective action program. Subsequently, plant engineers concluded that the vent line remained operable, but degraded.

This finding is greater than minor because if left uncorrected it would become a more significant safety concern in that a significant upset of plant stability would have occurred had the crane hook damaged other, safety-related equipment. In addition, the finding is associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Because the transient initiator contributor was main steam vent piping damage, which 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 is considered to be of very low safety significance. The finding has a cross-cutting aspect in the area of human performance because the licensee's work practices failed to ensure adequate supervisory and management oversight of contractor work activities. (Section 4OA3.1)

- Green. A finding and associated non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," having very low safety significance was self-revealed on October 16, 2006, during the out-of-service tagging of a manually operated breaker (MOB) in the Unit 2 control panel. The reactor was shut down at the time of the event but at normal operating pressure and temperature. During the tagging, an adjacent breaker was inadvertently repositioned resulting in the opening of the pressurizer power-operated relief valve. About 63 gallons of reactor coolant were released through the valve to the pressurizer relief tank before operators repositioned the breaker and the valve re-closed. The released was categorized as a Notification of Unusual Event. The mispositioning was caused by a lack of adequate procedural controls for working in the control panels and a lack of knowledge by personnel as to the minimal force required to open the MOBs. As part of corrective actions, the licensee replaced or protected the most risk significant MOBs, trained workers on the operating sensitivity of the breakers, and established controls governing work in the control panels around sensitive equipment. The issue was entered into the corrective action program and the licensee performed a root cause evaluation for this event.

  This finding is greater than minor because if left uncorrected it would become a more significant safety concern in that the inadvertent re-positioning of other similar breakers in the main control room control panels would significantly upset plant stability. In addition, the finding is associated with the procedure quality and human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Because attributes such as core heat removal,

inventory control, power availability, containment control, and reactivity guidelines were met, the finding screened as having very low safety significance. The finding has a cross-cutting aspect in the area of human performance because the licensee's control of work failed to incorporate into planned work activities job site conditions, including environmental conditions which may impact human performance, and the human-system interface, that is, the operator interface with the breakers in the close confines of the control panels. (Section 4OA3.2)

B. Licensee-Identified Violations

A violation of very low significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective actions are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at 100 percent power and remained there until December 2, 2006, when power was reduced to approximately 65 percent for routine surveillances and testing. Unit 1 was restored to full power the next day and remained there, with the exception of routine downpowers for surveillances and testing, for the remainder of the inspection period.

Unit 2 began the inspection period at 100 percent power and remained there until October 15, 2006, when a shutdown was commenced to begin the cycle 28 refueling outage (U2R28). Unit 2 remained shutdown until November 19, 2006, when Unit 2 was returned to full power. Unit 2 remained at full power, with the exception of routine downpowers for surveillances and testing, for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

The inspectors walked down accessible portions of risk-significant equipment and systems susceptible to cold weather freezing. The inspectors also reviewed the licensee's preparation of the facade buildings, which enclose the reactor containments, and other buildings inside the protected area. The inspectors reviewed the corrective actions and work orders (WOs) written to correct identified problems and assessed whether completion dates would ensure that corrective maintenance was completed prior to the onset of cold weather. The inspectors also walked down areas which had a history of freeze problems. This observation constituted one inspection procedure system sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of risk-significant systems to determine the operability of the systems. The inspectors utilized system valve lineup and electrical breaker checklists, tank level books, plant drawings, and

selected operating procedures to determine if the systems were correctly aligned to perform the intended design functions. The inspectors also examined the material condition of the components and observed operating equipment parameters to determine if there were obvious deficiencies. The inspectors reviewed completed WOs and calibration records associated with the systems for issues that could affect component or train functions. The inspectors used the information in the appropriate sections of the Final Safety Analysis Report (FSAR) to determine the functional requirements of the system. Partial system walkdowns of the following systems constituted three inspection procedure samples:

- Unit 1 residual heat removal (RHR) system alignment for refueling outage decay heat removal;
- Unit 2 spent fuel pool system alignment for fuel movement; and
- Unit 2 safety injection (SI) system, containment spray (CS) system, and RHR system alignment for Mode 5 and Mode 6.

.2 Complete System Walkdowns

a. Inspection Scope

The inspectors performed a complete system alignment inspection of the SI system for Units 1 and 2. This safety-related system was selected based on the risk-significance of the system in the licensee's probabilistic risk assessment. The walkdown of the SI system constituted one semiannual inspection procedure sample.

The inspection consisted of the following activities:

- Review of plant procedures (including selected abnormal and emergency procedures), drawings, and the FSAR to identify proper system alignment;
- Review of outstanding or completed temporary and permanent modifications to the system;
- Review of open corrective action program documents (CAPs) and WOs that could impact operability of the system; and
- Walkdown of mechanical and electrical components in the system to assess alignment, component accessibility, availability, and current condition.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Walkdown of Selected Fire Zones

a. Inspection Scope

The inspectors conducted fire protection walkdowns that focused on the following attributes: the availability, accessibility, and condition of fire fighting equipment; the

control of transient combustibles and ignition sources; and the condition and status of installed fire barriers. The inspectors selected fire areas for inspection based on the area's overall fire risk contribution, as documented in the Individual Plant Examination of External Events or the potential to impact equipment which could initiate a plant transient.

In addition, the inspectors assessed these additional fire protection attributes during walkdowns: fire hoses and extinguishers were in the designated locations and available for immediate use; unobstructed fire detectors and sprinklers; transient material loading within the analyzed limits; and fire doors, dampers, and penetration seals in satisfactory condition. The inspectors also determined if minor issues identified during the inspection were entered into the licensee's corrective action program. The walkdown of the following selected fire zones during the refueling outage constituted four inspection procedure samples:

- Fire Zone FZ-608; Unit 2 Containment, 8-foot elevation;
- Fire Zone FZ-611; Unit 2 Containment, 21-foot elevation;
- Fire Zone FZ-615; Unit 2 Containment, 46-foot elevation; and
- Fire Zone FZ-618; Unit 2 Containment, 66-foot elevation.

b. Findings

No findings of significance were identified.

.2 Fire Protection Annual Fire Drill Observation (71111.05A)

a. Inspection Scope

The inspectors observed and evaluated the effectiveness of the fire brigade response to a simulated fire in the plant on October 4, 2006. The inspectors verified that protective clothing was available and properly donned by participants. The inspectors also verified that self-contained breathing apparatus equipment was properly utilized. In addition, the inspectors verified that all fire fighting equipment was in good condition and properly utilized. Finally, the inspectors verified that radio communications between all participants involved in the drill were effective.

The inspectors observed the actions of the fire brigade leader and the manner in which the fire strategy was implemented to extinguish the simulated fire. The fire drill plan contained evaluation criteria and was followed appropriately by fire drill coordinators. This inspection constituted one annual inspection procedure sample

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures - Internal Floods (71111.06)

.1 Inadequate Flood Barrier Control During a Plant Modification

a. Inspection Scope

The inspectors completed a walkdown of the primary auxiliary building (PAB) and facade buildings to assess the overall readiness of flood protection equipment and barriers for protection against internal flood sources. The inspectors evaluated flood protection features, such as flood doors, door gaps, and subsoil drains, to determine if the components were in satisfactory physical condition, unobstructed, and capable of providing an adequate flood barrier. The inspectors also reviewed design basis documents and risk analyses to evaluate the potential flooding effects of a nonseismically-qualified reactor makeup tank rupture on the PAB during a seismic event. This walkdown of the flood protection measures constituted one inspection procedure sample for internal flooding.

b. Findings

Introduction: The inspectors identified a finding and associated non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) for the failure to assure preservation of flood barriers and the failure to establish controls when drilling holes and installing conduit from the facade buildings to the PAB during modification MR 04-013 "Charging Pump Variable Frequency Drive (VFD) Installation."

Description: During a walk-down of the PAB and Unit 1 facade building, the inspectors identified that conduits installed for the charging pump VFD Modification, MR 04-013, appeared to have inadequate covers for prevention of potential flooding from the facade building into the PAB through the conduits. The inspectors were concerned that rupture of the non-seismic reactor water makeup tank, located in the facade building, during a seismic event could result in flooding in the PAB via holes drilled in the adjoining building wall for 4-inch (approximate) diameter conduit and through openings in the conduit. The inspectors inquired as to whether potential flooding of the PAB had been considered during the design and installation of this modification, especially after the drilling of the facade building/PAB wall for installation of the conduits. The licensee responded that the potential for flooding had not been considered in the modification.

The licensee added that Section A.7 of the Point Beach FSAR as the basis that the NRC had found that the protective measures, in conjunction with the existing plant design features, provided a sufficient level of protection from flooding from non-seismic sources. This FSAR section was based on an NRC Safety Evaluation Report forwarded by letter from the NRC to Wisconsin Electric dated November 20, 1975.

The inspectors subsequently identified that the licensee failed to update the FSAR in 1987 when internal flooding was re-evaluated by engineering evaluations, NEPB-87-250 and NEPB-87-772. Also in November 2005, Design Basis Document (DBD) DBD-T-41, "Hazards, Internal and External Flooding," Revision 4, was issued. This revision

acknowledged the effects of the catastrophic failure of the non-seismic reactor water makeup tank on the PAB and concluded minimal leakage into the PAB would occur if all credited barriers were in place. However, when this revision was issued to the DBD, the FSAR was not updated to reflect the 1987 flooding analysis. Another opportunity to update the design and licensing basis documents with the appropriate internal flooding basis occurred in August 2006 when Section A.7 (Internal Flooding) of the FSAR was revised.

The 1987 review identified that the reactor water makeup tank was a large source of water subject to failure in a seismic event. Additionally, the review noted that the magnitude of the flooding could be mitigated by maintaining the tendon gallery access doors open to utilize the large volume for containment of facade building flooding from whatever source. The licensee closes these doors during the winter as part of cold weather protection measures; which was in conflict with leaving the doors open to mitigate facade flooding. Additionally, Wisconsin Electric letter dated February 17, 1975, NPC-27204, was incorrect in the response to NRC initial licensing questions in that, the letter indicated that the licensee's review of the facade buildings had shown that large water sources located in these areas were seismically qualified and that flooding in the facade buildings could result from overfilling of seismically-qualified tanks or from ruptures of a non-seismic portion of the service water system. This statement is incorrect in that it omitted identification of the reactor water makeup tank as non-seismic and a potential flooding source during a seismic event.

The licensee agreed that internal flooding from the reactor water makeup tank should have been addressed during the modification. The licensee took immediate action to install appropriate closures in the open conduits which re-established the flood barrier.

Analysis: The inspectors determined that the failure to consider the effects of potential flooding and establish appropriate controls during the design and installation of modification MR-04-013, "Charging Pump VFD Installation," was a performance deficiency and a finding warranting a significance evaluation. Using Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated November 2, 2006, the inspectors concluded that the finding is greater than minor because it was associated with the design control and flood hazard attributes of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. A flood in the PAB could affect safety-related equipment and result in an upset of plant stability.

The inspectors evaluated the finding using IMC 0609, "Significance Determination Process," Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," dated November 22, 2005. Although the finding involved the degradation of a flooding barrier, the volume of any potential flooding was judged, based on the size of the hole, to be bounded by the existing internal flooding analysis for the PAB as well as the licensee's probabilistic risk assessment; hence, the finding screened as very low safety significance (Green).

The inspectors determined that a primary cause of this finding is related to the cross-cutting area of human performance. The failure to have adequate procedures or modification instructions involved the cross-cutting component of resources with the cross-cutting aspect of failing to provide accurate procedures for work package implementation.

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that applicable regulatory requirements and the design basis are correctly translated into specifications, drawings, procedures and instructions. Design control measures shall be applied to items such as maintenance and repair and design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design. Contrary this, design control measures to assure preservation of flooding barriers and establish interim flooding controls from the facade buildings to the PAB were not addressed in modification MR 04-013 and were not implemented during field installation of the modification until the inspectors questioned the licensee about flood mitigation. Because of the very low safety significance of this finding and because the issue was entered into the licensee's corrective action program (CAP01052315, CAP01059757, CAP01059748, CAP01059610, CAP01059753, and CAP01059755) the violation is being treated as a non-cited violation (NCV), consistent with Section VI.A.1 of NRC Enforcement Policy (NCV 05000266/2006013-01; 05000301/2006013-01).

.2 Additional Flood Inspection Activities

a. Inspection Scope

The inspectors completed a walkdown of the Unit 1 turbine building to assess the overall readiness of flood protection equipment and barriers for protection against external flood sources. The inspectors evaluated flood protection features, such as flood doors, door gaps, and subsoil drains, to determine if the components were in satisfactory physical condition, unobstructed, and capable of providing an adequate flood barrier. This walkdown of the flood protection measures constituted one inspection procedure sample for internal flooding.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

.1 Fan Cooler Performance

a. Inspection Scope

The inspectors assessed the condition and cleanliness of the Unit 2 containment fan coolers and the effectiveness of biofouling controls through direct observation of the component during scheduled cleaning and inspection activities. In addition, the

inspectors reviewed the inspection results against pre-established licensee acceptance criteria to determine if the number of plugged tubes affected heat exchanger operability. The inspectors also determined if the inspection frequency was appropriate to detect degradation prior to the loss of heat removal capabilities below design basis values. Finally, the inspectors interviewed the system engineer to determine whether previous thermal performance test results appropriately considered test instrument inaccuracies. This review of heat sink performance constituted one inspection procedure sample.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection Activities (71111.08)

.1 Piping System Inservice Inspections

a. Inspection Scope

The inspectors conducted a review of the implementation of the licensee's inservice inspection (ISI) program for monitoring degradation of the reactor coolant system boundary, risk-significant piping system boundaries, and the containment boundary. Steam generator and reactor vessel upper head penetration inspections were not conducted during this outage, U2R28.

From October 17 through 26, 2006, the inspectors evaluated activities involving non-destructive examination (NDE) with recordable indications, and welding. Specifically, the inspectors observed the following:

- Ultrasonic (UT) examination of steam generator A primary inlet and outlet nozzle inner radius;
- Visual (VT-3) examination of pipe support EB-10-H27; and
- Visual (VT-3) examinations of containment liner plates 2CP-116, 2CP-127 and 2CP-128.

The inspectors selected these components in order of risk priority as identified in Section 71111.08-03 of IP 71111.08, "Inservice Inspection Activities," based upon the ISI activities available for review during the on-site inspection period. The inspectors evaluated these examinations for compliance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section XI and plant Technical Specification (TS) requirements and to determine if indications and defects (if present) were dispositioned in accordance with the ASME Code.

The inspectors reviewed the licensee's records related to disposition of recordable indications identified in five examinations. Specifically, the inspectors reviewed the evaluation records with recordable indications accepted for continued service, as documented in the following CAPs:

- CAP062342, ISI Exams Find Indications on Support AC-601R-3-2H14, Spring Indicator Found Low, dated February 25, 2005;
- CAP062338, ISI Exams Find Indications on Support AC-601R-3-2H6, Gaps Found at Baseplate, dated February 25, 2005;
- CAP062335, ISI Exams Find Indications on Support AC-601R-3-2H8, Gaps Found at Baseplate, dated February 25, 2005;
- CAP063558, ISI Exams Find Indications on Support HB-19-2R181, Gaps Found at Shim, dated April 10, 2005; and
- CAP062761, ISI Exams Find Indications on Support SI-301R-1-S873, Gaps Found at Shim, dated March 15, 2005.

The inspectors evaluated the disposition of indications identified during these examinations for compliance with the requirements of the ASME Code Section XI.

The inspectors reviewed licensee's records related to pressure boundary welding performed on the following components:

- CS-00221 valve replacement, 2-inch valve in Feedwater Leakage Check Test Line, dated April 25, 2005, and

- CC-00777A valve replacement, 2-inch valve on 2T-12 CC Surge Tank-2LIT-618 Lower Root Valve, dated October 18, 2005.

The inspector performed this review to determine if the welding acceptance and pre-service examinations (e.g., pressure testing, visual, dye penetrant, and weld procedure qualification tensile tests and bend tests) were performed in accordance with the requirements of the ASME Code, Sections III, V, IX, and XI.

The above review counted as one inspection sample.

b. Findings

Introduction: The inspectors identified an unresolved item (URI) associated with the licensee's failure to have the basis for the transducer angles and skews used in the UT examination of the steam generator "A" primary inlet and outlet nozzle inner radii. This issue is considered an URI pending further information from the licensee to ensure that complete ultrasonic coverage of the Code required volume was obtained and that the transducer angles used resulted in the sound impacting the inner surface of the component at angles that provide reliable detection of flaws, i.e., 45° (degrees).

Description: On October 25, 2006, during the licensee's UT examination of the steam generator "A" primary inlet and outlet nozzles inner radius sections, the inspectors noted that the licensee used a 30° and a 37° transducer in accordance with the licensee ultrasonic procedure, NDE-171. In addition, the procedure required the 30° transducer be skewed at a 20° angle. This combination of transducer angles and skew was intended to ensure that 100 percent of the Code required examination volume was examined. In addition, these angles and skews were intended to ensure that the

ultrasonic sound beam impinged the inner surface of the component at an angle that would provide reliable flaw detection, i.e., 45°.

The licensee procedure was based on the vendor ultrasonic procedure used during preservice examination (the Unit 2 steam generators were replaced in 1996). Review of this data did not provide any information for the basis of the transducer angle selection or skew angles used.

Due to the complex geometries of the nozzle, three dimensional models, such as computer-assisted design programs, existed that should be used to design ultrasonic procedures, scan patterns, and transducers that ensure the required volume was obtained and the correct impingement angles were obtained. The licensee did not have information on modeling or other means to verify the correct ultrasonic techniques and equipment was used. Without this information, verification of compliance with Code requirements was not possible.

The licensee initiated a corrective action to obtain the information necessary to ensure compliance with the Code requirements. Pending NRC review of the additional information, this issue is considered an unresolved item (URI 05000315/2006013-02; 05000316/2006013-02).

.2 Boric Acid Corrosion Control (BACC) ISI

a. Inspection Scope

From October 17 through 26, 2006, the inspectors reviewed the Unit 2 BACC inspection activities conducted pursuant to licensee commitments made in response to NRC Generic Letter 88-05, “Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary.”

The resident inspectors observed the licensee conducting a walkdown of borated systems within the Unit 2 containment to evaluate compliance with licensee BACC program requirements and 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” requirements. In particular, the inspectors performed this observation to determine if the licensee focused BACC inspections on locations where boric acid leaks can cause degradation of safety significant components and to determine if degraded or non-conforming conditions were properly identified in the licensee’s corrective action system.

The inspectors reviewed pictures from the reactor vessel bottom head penetrations that showed no evidence of boric acid leakage.

The inspectors reviewed corrective actions and evaluations performed for boric acid found on reactor coolant system connected piping and components to confirm that corrective actions were consistent with requirements of Section XI of the ASME Code and 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” and that the minimum Code required section thickness had been maintained for the affected

components. In particular, the inspectors reviewed boric acid evaluations for an active leak at the reactor vessel head vent line low point drain.

The documents reviewed during this inspection are listed in the Enclosure to this report.

The reviews as discussed above counted as one inspection sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Resident Inspector Quarterly Observation of Licensed Operator Training

a. Inspection Scope

On November 15, 2006, inspectors observed outage just-in-time licensed operator training for the Unit 2 emergency core cooling system sump "B" modification. The inspectors verified that the training focused on high-risk operator actions, changes in operator actions and procedure limits associated with normal operating procedures, changes in operator actions and procedure limits associated with abnormal and shutdown emergency procedures required as contingencies, and recent operating experience along with previous lessons learned regarding the modification. Observation of the training evolutions constituted one inspection procedure sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors performed maintenance effectiveness reviews of the systems listed below. The inspectors reviewed repetitive maintenance activities to assess maintenance effectiveness, including maintenance rule activities, work practices, and common cause issues. Inspection activities included, but were not limited to, the licensee's categorization of specific issues, including evaluation of performance criteria, appropriate work practices, identification of common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed implementation of the Maintenance Rule (10 CFR 50.65) requirements, including a review of scoping, goal setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations, and current equipment performance status.

For each system reviewed, the inspectors reviewed significant WOs and CAPs to determine if failures were appropriately identified, classified, and corrected, and if unavailable time was correctly calculated. The reviews of maintenance effectiveness for the following components constituted two inspection procedure samples:

- Fuel Handling System; and
- Unit 2 Nuclear Instrumentation System.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation (71111.13)

a. Inspection Scope

The inspectors reviewed risk assessments for the following maintenance activities, completing risk assessment and emergent work control inspection procedure samples. During these reviews, the inspectors compared the licensee's risk management actions to those actions specified in the licensee's procedures for the assessment and management of risk associated with maintenance activities. The inspectors assessed whether evaluation, planning, control, and performance of the work was done in a manner to reduce the risk and minimize the duration where practical, and whether contingency plans were in place where appropriate.

The inspectors used the licensee's daily configuration risk assessment records, observations of shift turnover meetings, and observations of daily plant status meetings to determine if the equipment configurations were properly listed. The inspectors also verified that protected equipment was identified and controlled as appropriate, and that significant aspects of plant risk were communicated to the necessary personnel. The reviews of maintenance risk assessment and emergent work evaluation constituted four inspection procedure samples:

- Planned and emergent maintenance during the week of October 1, 2006;
- Planned and emergent maintenance during the week of October 15, 2006;
- Planned and emergent maintenance during the week of October 22, 2006; and
- Planned and emergent maintenance during the week of October 29, 2006.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Operability Evaluations Reviewed

a. Inspection Scope

The inspectors reviewed selected operability evaluations (OPRs - operability recommendations) associated with issues entered into the licensee's corrective action system. The inspectors reviewed design basis information, the FSAR, TS requirements, and licensee procedures to determine the technical adequacy of the operability evaluations. In addition, the inspectors determined if compensatory measures were implemented, as required. The inspectors assessed whether system operability was properly justified and that the system remained available, such that no unrecognized increase in risk occurred. The reviews of the following operability evaluations constituted five inspection procedure samples:

- OPR096, Revision 1; Unit 2 Main Steam Line Containment Penetration Concrete Temperature above FSAR Specified Allowable (CAP0549997);
- AR01032378-01; 2 Aspects of the Methodology of the High Energy Line Break Calculations for Piping Inside Containment Do Not Reflect the Design and Licensing Basis (CAP01032378);
- AR01040215; Emergency Diesel Generators G-03 and G-04 Radiator Performance;
- OPR170, Revision 1; Design Basis Leakage Detection May Have Been Defeated; and
- AR01061577; Unit 2 Main Steam Line Vent Bent.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

During completion of the post-maintenance testing (PMT) inspection procedure samples, the inspectors observed in-plant activities, and reviewed procedures and associated records to determine if:

- Testing activities satisfied the test procedure acceptance criteria,
- Effects of the testing were adequately addressed prior to the commencement of the testing,
- Measuring and test equipment calibration was current,
- Test equipment was within the required range and accuracy,
- Applicable prerequisites described in the test procedures were satisfied,
- Affected systems or components were removed from service in accordance with approved procedures,

- Testing activities were performed in accordance with the test procedures and other applicable procedures,
- Test data and results were accurate, complete, and valid,
- Test equipment was removed after testing,
- Equipment was returned to a position or status required to support the operability of the system in accordance with approved procedures, and
- All problems identified during the testing were appropriately entered into the corrective action program

The post-maintenance testing activities listed below were reviewed by the inspectors and constituted 7 quarterly inspection procedure samples:

- 2Y-05 120-Volt Alternating Current (VAC) Vital Instrument Return To Service in accordance with Routine Maintenance Procedure RMP-9374-2, "Molded Case Circuit Breaker Maintenance";
- Bus 2B-32 Operations Return To Service for Bolted Fault Modification MR 01-128K for: PAB-W85, Battery and Inverter Room Vent Fan; P-207A, G02 EDG Fuel Oil Transfer Pump; and SW2927B, Heat Exchanger HX-13 Inlet Isolation Valve;
- Unit 2 Safety Injection Valve 2-SI-878D, in accordance with IT-215, "SI Valves (Cold Shutdown) Unit 2, Revision 18";
- Unit 2 Safety Injection Valve 2SI-851A, in accordance with Installation Work Procedure IWP-01-128*K-Br, "Partial Operability Verification for 2SI-851A";
- Unit 2 Containment Spray Valves, in accordance with Outage Refueling Test ORT-60, "Train B Spray System CIV Leakage Test Unit 2";
- Point Beach Test Procedure PBTP-147, "2B-40 MCC Vital to Non-vital Bus Tie Breaker Test"; and
- Unit 2 SI-850(A)(B) Valves, in accordance with Routine Maintenance Procedure RMP-9314, "1(2) SI-850A/B Maintenance Static Test and Adjustment."

b. Findings

No findings of significance were identified.

1R20 Refueling and Other Outage Activities (71111.20)

.1 Routine Refueling Outage Inspection Activities

a. Inspection Scope

The inspectors observed activities during the Unit 2 refueling outage (U2R28) conducted from October 15 through November 16, 2006. These inspection activities constituted one refueling outage inspection sample.

This inspection consisted of an in-office review of the licensee's outage schedule, safe shutdown plan, and administrative procedures governing the outage; and periodic observations of equipment alignment and plant and control room outage activities.

Specifically, the inspectors determined the licensee's ability to effectively manage elements of shutdown risk pertaining to reactivity control, decay heat removal, inventory control, electrical power control, and containment integrity.

The inspectors conducted the following inspection activities:

- Attended outage management turnover meetings to determine if the current shutdown risk status was accurate, well understood, and adequately communicated;
- Performed walkdowns of the main control room to observe the alignment of systems important to shutdown risk;
- Observed the operability of reactor coolant system (RCS) instrumentation and compared channels and trains against one another;
- Performed in-plant walkdowns to observe ongoing work activities; and
- Conducted in-office reviews of selected issues that the licensee entered into its corrective action program to determine if identified problems were being entered into the program with the appropriate characterization and significance.

Additionally, the inspectors performed the following specific in-plant activities:

- Performed Mode 3 walkdowns at the start and end of the refueling outage to check for active boric acid leak indications;
- Observed core unloading activities in the containment, spent fuel pool, and control room;
- Observed outage clearance activities;
- Verified the status and configuration of electrical systems against TSs and the licensees's outage risk management plan;
- Verified that the flow paths, configurations, and alternative means for inventory addition were consistent with the outage risk plan;
- Observed core reload from containment;
- Observed operators align the RHR system for shutdown cooling and verified the system was functioning properly to remove decay heat;
- Observed placement of the over-pressure protection system into operation;
- Monitored a pre-job briefing for fuel handling evolutions;
- Observed lifting and transport of the reactor vessel head in preparation for core offload;
- Performed a closeout inspection of the Unit 2 containment, including a review of the emergency core cooling sump final installation ;
- Reviewed shutdown margin calculations;
- Reviewed spent fuel pool cooling and service water pump configurations during partial core offload;
- Observed operation of the fuel handling bridges in containment and over the spent fuel pool;
- Reviewed mode-change checklists to verify that selected requirements were met while transitioning from the refueling mode to full power operation;
- Observed portions of low power physics testing and approach to criticality; and
- Observed portions of the plant ascension to full power operations.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

During completion of the inspection procedure samples, the inspectors observed in-plant activities and reviewed procedures and associated records to determine if:

- Preconditioning occurred;
- Effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- Acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- Plant equipment calibration was correct, accurate, and properly documented; as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the FSAR, procedures, and other 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;
- 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;
- 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 corrective action program.

During this inspection period, the inspectors completed the following inspection procedure samples, which constituted 7 quarterly inspection procedure samples:

- Unit 2 local leak rate test for the RCS letdown line isolation valves;
- Unit 2 train “A” SI, RHR, and full flow test line leakage rate testing;
- Unit 2 SI actuation with loss of engineered safeguards alternating current for train “A”;
- Unit 2 SI actuation with loss of engineered safeguards alternating current for train “B”;
- Unit 2 atmospheric steam dump valves operability test for 2MS-2016 and Unit 2 main steam isolation valves (Cold Shutdown) test;

- Unit 2 main steam isolation valves operability trip test; and
- Unit 2 SI valves shutdown test.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors conducted in-plant observations of physical changes to the plant and reviewed the following Temporary Modification:

- EC-8551, Temporarily Replace Failing 1TE-36 with 1TE-37.

The review included associated WOs, temporary modification instructions/procedures, and 10 CFR 50.59 screenings and evaluations. The review of the temporary modification constituted one inspection procedure samples.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Review of Licensee Performance Indicators for the Occupational Exposure Cornerstone

a. Inspection Scope

The inspectors reviewed the licensee's occupational exposure control cornerstone performance indicators (PIs) to determine whether or not the conditions surrounding the PIs had been evaluated and to determine if identified problems had been entered into the corrective action program for resolution. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors identified radiologically significant work areas within radiation areas, high radiation areas (HRA), locked HRAs, and airborne areas in the auxiliary and containment buildings. Selected work packages and radiation work permits (RWP) were reviewed to determine if radiological controls, including surveys, postings, air sampling data and barricades, were acceptable. Work areas included, but were not limited to:

- Reactor Head Lift/Disassembly;
- Reactor Coolant Pump (RCP) "B" Motor Replacement;
- RCP "B" Seal Replacement;
- Sump "B" Strainer Modification;
- Replacing the Diaphragm 2CV205B; and
- Fuel Moves.

This review represented one sample.

The identified radiologically significant work areas were walked down and surveyed to determine if the prescribed RWPs, procedures, and engineering controls were in place, that licensee surveys and postings were complete and accurate, and that air samplers were properly located. This review represented one sample.

The inspectors reviewed selected RWPs and associated radiological controls used to access these and other radiologically significant areas and evaluated the work control instructions and control barriers that were specified to determine if the controls and requirements provided adequate worker protection. Site TS requirements for HRAs and locked HRAs were used as standards for the necessary barriers. Electronic dosimeter alarm setpoints for both integrated dose and dose rate were evaluated for conformity with survey indications and plant policy. The inspectors attended pre-job briefings to determine if instructions to workers emphasized the actions required when their electronic dosimeters noticeably malfunctioned or alarmed. This review represented one sample.

The inspectors reviewed job planning records and interviewed licensee representatives to determine if there were airborne radioactivity areas in the plant with a potential for individual worker internal exposures to exceed 50 millirem committed effective dose equivalent. Barrier integrity and engineering controls performance, such as high efficiency particulate filtration ventilation system operation and use of respiratory protection, were evaluated for worker protection. Work areas having a history of, or the potential for, airborne transuranic isotopes were reviewed to determine if the licensee had considered the potential for transuranic isotopes and provided appropriate worker protection. This review represented one sample.

The adequacy of the licensee's internal dose assessment process for internal exposures exceeding 50 millirem committed effective dose equivalent was assessed to determine if affected personnel were properly monitored utilizing calibrated equipment and that the data were analyzed and internal exposures were properly assessed in accordance with licensee procedures. This review represented one sample.

The inspectors reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within the spent fuel pool. This review represented one sample.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, and CAPs related to the access control program to determined if identified problems were entered into the corrective action program for resolution. This review represented one sample.

Corrective action reports related to access controls and HRA radiological incidents (non-performance indicator occurrences identified by the licensee in HRAs of less than 1Rem/hour) were reviewed. Staff members were interviewed and corrective action documents were reviewed to determine if follow-up activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of Non-Cited Violations tracked in the corrective action program and
- Implementation/consideration of risk significant operational experience feedback.

This review represented one sample.

The inspectors evaluated the licensee's process for problem identification, characterization, and prioritization, and determined if problems were entered into the corrective action program and resolved. For repetitive deficiencies and/or significant individual deficiencies identified in the program, the inspectors determined if the licensee's self-assessment activities also identified and addressed these deficiencies. This review represented one sample.

The inspectors discussed performance indicators with the radiation protection staff and reviewed data from the licensee's corrective action program to determine if there were any performance indicators for the occupational exposure cornerstone that had not been reviewed. There were none to evaluate. This review represented one sample.

b. Findings

No findings of significance were identified.

.4 Job-In-Progress Reviews

a. Inspection Scope

The inspectors evaluated selected jobs being performed in radiation areas, potential airborne radioactivity areas, and HRAs for observation of work activities that presented the greatest radiological risk to workers, and included areas where radiological gradients were present. This involved work that was estimated to result in higher collective doses, and included vessel head lift, steam generator inspections, and other selected work areas in the containment building. The inspectors reviewed radiological job requirements including RWP and work procedure requirements and attended As-Low-As-Is-Reasonably-Achievable (ALARA) job briefings. Job performance was observed with respect to these requirements to determine if radiological conditions in the work areas were adequately communicated to workers through pre-job briefings and radiological condition postings. This review represented one sample.

The inspectors also evaluated the adequacy of radiological controls, including required radiation, contamination and airborne surveys for system breaches, and entry into HRAs. Radiation protection job coverage, including direct visual surveillance by radiation protection technicians along with the remote monitoring and teledosimetry systems and contamination control processes, was evaluated to determine if workers were adequately protected from radiological exposure. This review represented one sample.

Work in high radiation areas having significant dose rate gradients was reviewed to evaluate the application of dosimetry to effectively monitor exposure to personnel and to determine if licensee controls were adequate. The inspectors observed radiation protection coverage of the vessel head lift work which involved controlling worker locations based on radiation survey data and real time monitoring using teledosimetry to maintain personnel radiological exposure ALARA. This review represented one sample.

b. Findings

No findings of significance were identified.

.5 High Risk Significant, High Dose Rate High Radiation Area, and Very High Radiation Area Controls

a. Inspection Scope

The inspectors reviewed selected activities that were performed in high risk, high dose rate HRAs, and very high radiation areas to determine if workers were adequately protected from radiological overexposure. Discussions were held with radiation protection management concerning high dose rate HRA and very high radiation area controls and procedures, including procedural changes that had occurred since the last inspection. This was done to determine if any procedure modifications had substantially reduced the effectiveness and level of worker protection. This review represented one sample.

The inspectors interviewed radiation protection (RP) supervisors to determine how the required communications between the RP group and other involved groups would occur beforehand to allow corresponding timely actions to properly post and control the radiation hazards. This review represented one sample.

During plant walkdowns, the posting and locking of entrances to high dose rate HRAs and very high radiation areas were reviewed for adequacy. This review represented one sample.

b. Findings

No findings of significance were identified.

.6 Radiation Worker Performance

a. Inspection Scope

During job performance observations, the inspectors evaluated radiation worker performance with respect to stated radiation protection work requirements. The inspectors also evaluated whether workers were aware of the significant radiological conditions in their workplace, and the RWP controls and limits in place, and that their performance had accounted for the level of radiological hazards present. This review represented one sample.

Radiological problem reports, which found that the cause of an event resulted from radiation worker errors, were reviewed to determine if there was an observable pattern traceable to a similar cause and to determine if this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. This review represented one sample.

b. Findings

No findings of significance were identified.

.7 Radiation Protection Technician Proficiency

a. Inspection Scope

The inspectors observed and evaluated RP technician performance with respect to RP work requirements. This was done to evaluate whether the technicians were aware of the radiological conditions in their workplace, and the RWP controls and limits in place, and if their performance was consistent with their training and qualifications with respect to the radiological hazards and work activities. This review represented one sample.

Radiological problem reports, which found that the cause of an event was RP technician error, were reviewed to determine if there was an observable pattern traceable to a similar cause and to determine if this perspective matched the corrective action approach taken by the licensee to resolve the reported problems. This review represented one sample.

b. Findings

No findings of significance were identified.

2OS2 ALARA Planning And Controls (71121.02)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed plant collective outage exposure history, current exposure trends and ongoing outage activities to assess current performance and exposure challenges. This included determining the plant's current 3-year rolling average for collective exposure to help establish resource allocations and to provide a perspective of significance for any resulting inspection finding assessment.

The inspectors reviewed the outage work scheduled during the inspection period and associated work activity exposure and time/labor estimates for the following five work activities which resulted in the highest personnel collective exposures or were otherwise activities that were conducted in radiologically significant areas:

- Reactor Head Lift/Disassembly;
- RCP "B" Motor Replacement;
- RCP "B" Seal Replacement;
- Sump "B" Strainer Modification;
- Replacing the Diaphragm 2CV205B; and
- Fuel Moves.

The inspectors determined site specific trends in collective exposures based on plant historical exposure and source term data. The inspectors reviewed procedures associated with maintaining occupational exposures ALARA and assessed those processes used to estimate and track work activity exposures.

These reviews represented four inspection samples.

b. Findings

No findings of significance were identified.

.2 Radiological Work Planning

a. Inspection Scope

The inspectors evaluated the licensee's list of work activities ranked by estimated exposure that were completed during the outage and reviewed the following work activities of highest exposure significance:

- Reactor Head Lift/Disassembly;
- RCP "B" Motor Replacement;
- RCP "B" Seal Replacement;
- Sump "B" Strainer Modification;
- Replacing the Diaphragm 2CV205B; and
- Fuel Moves.

For the activities listed above, the inspectors reviewed the ALARA plan and associated RWP, exposure estimates, and exposure mitigation requirements to verify that the licensee had established radiological engineering controls that were based on sound radiation protection principles to achieve occupational exposures that were ALARA. This also involved determining that the licensee had reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

.3 Verification of Dose Estimates and Exposure Tracking Systems

a. Inspection Scope

The inspectors reviewed the licensee's assumptions and basis for its collective outage exposure estimate and evaluated the methodology and practices for projecting work activity specific exposures. This included evaluating both dose rate and time/labor estimates for adequacy compared to historical station specific or industry data.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.4 Job Site Inspections and ALARA Control

a. Inspection Scope

The inspectors observed the following five jobs that were being performed in radiation areas, airborne radioactivity areas, or high/locked high radiation areas to evaluate those work activities that presented the greatest radiological risk to workers:

- Reactor Head Lift/Disassembly;
- RCP “B” Motor Replacement;
- RCP “B” Seal Replacement;
- Sump “B” Strainer Modification; and
- Replacing the Diaphragm 2CV205B.

The inspectors reviewed the licensee’s use of ALARA controls for these work activities. Specifically, the inspectors evaluated the licensee’s use of engineering controls to achieve dose reductions. In addition, the inspectors verified that procedures and controls were consistent with the licensee’s ALARA reviews, that sufficient shielding of radiation sources was provided for, and that the dose expended to install/remove the shielding did not exceed the dose reduction benefits afforded by the shielding.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.5 Source Term Reduction and Control

a. Inspection Scope

The inspectors reviewed licensee records to understand historical trends and current status of plant source terms. The inspectors discussed the plant’s source term with ALARA staff to determine if the licensee had developed an adequate understanding of the input mechanisms and the methodologies and practices necessary to achieve reductions in source term. The inspectors discussed the water chemistry control initiatives implemented during the cool-down for the outage and its impact on source term reduction compared to industry practices.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.6 Radiation Worker Performance

a. Inspection Scope

Radiation worker and radiation protection technician performance was observed during work activities being performed in radiation areas, airborne radioactivity areas, and high radiation areas that presented the greatest radiological risk to workers. The inspectors evaluated whether workers demonstrated the ALARA philosophy in practice by being familiar with the work activity scope and tools to be used, by utilizing ALARA low dose waiting areas, and that they had knowledge of the radiological conditions and adhered to the ALARA requirements for the work activity. Also, radiation worker skill levels were reviewed to determine if they were sufficient relative to the radiological hazards and the work involved.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.7 Monitoring of Declared Pregnant Women and Dose to Embryo/Fetus

a. Inspection Scope

The inspectors reviewed the licensee's monitoring methods and procedures, exposure controls, and the information provided to declared pregnant women to determine if an adequate program had been implemented to limit embryo/fetal dose. The inspectors also reviewed the pregnancy declaration and radiation exposure results for individuals that declared their pregnancy to the licensee from July 2005 through August 2006 to verify compliance with the requirements of 10 CFR 20.1208 and 20.2106.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.8 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, and Special Reports related to the ALARA program since the last inspection to determine if the licensee's overall audit program's scope and frequency for all applicable areas under the Occupational Radiation Safety Cornerstone met the requirements of 10 CFR 20.1101(c).

The licensee's corrective action program was also reviewed to determine if repetitive deficiencies and/or significant individual deficiencies in problem identification and resolution had been addressed.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

Cornerstones: Occupational and Public Radiation Safety

.1 Radiation Safety Strategic Area

a. Inspection Scope

The Inspectors sampled the licensee's PI submittals for the periods listed below. The inspectors used PI definitions and guidance contained in Revision 4 of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the PI data. The following PIs were reviewed:

- Occupational Exposure Control Effectiveness:

  The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator related data was adequately assessed and reported during the previous 4 quarters. The inspectors compared the licensee's PI data with the CAP database, reviewed radiological restricted area exit electronic dosimetry transaction records, and conducted walkdowns of accessible locked high radiation area entrances to verify the adequacy of controls in place for these areas. This review represented one inspection sample.

- Radiological Environmental TS/Offsite Dose Calculation Manual Radiological Effluent Occurrences:

  The inspectors reviewed data associated with the RETS/ODCM PI to determine if the indicator was accurately assessed and reported. This review included the licensee's CAP database for the previous 4 quarters, to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors also selectively reviewed gaseous and liquid effluent release data and the results of associated offsite dose calculations and quarterly PI verification records generated over the previous 4 quarters. This review represented one inspection sample.

- Reactor Coolant System Specific Activity

  The inspectors reviewed Chemistry Department records, including isotopic analyses for selected dates in 2005 through November 2006, to determine if the greatest dose equivalent iodine (DEI) values determined during steady state operations corresponded to the values reported to the NRC. The inspectors also reviewed selected DEI calculations including the application of dose conversion factors as specified in plant TSs. Additionally, the inspector accompanied two chemistry technicians and observed the collection and preparation of reactor coolant system samples to evaluate compliance with the licensee's sampling procedure. Further, sample analyses and calculation methods were discussed with chemistry staff to determine their adequacy relative to TSs, licensee procedures, and industry guidelines. This review represented two samples, one for each operating unit.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Resident Inspector Review of Identification and Resolution of Problems

a. Inspection Scope

The inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to determine if issues were entered into the licensee's corrective action system at an appropriate threshold and that adequate attention was given to timely corrective actions. The inspectors also reviewed CAPs written by licensee personnel during the inspection period. The CAPs written by the licensee as a result of the inspectors' observations are included in the list of documents in the Attachment to this report.

b. Findings

No findings of significance were identified.

.2 Resident Inspector Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a semi-annual review of licensee trending activities to determine if emerging adverse trends might indicate the existence of a more significant safety issue not previously identified. The inspectors also determined whether the trends were entered into the licensee's corrective action system at an appropriate threshold, and timely corrective actions were planned or implemented by the licensee. The effectiveness of licensee trending activities was assessed by comparing trends identified

by the licensee with those trends identified by the NRC during the daily reviews of CAPs, as discussed in Section 4OA2.1 of this report.

The inspectors' review considered the 3-month period of July 2006 to September 2006, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors also reviewed the Department Roll-Up Meeting Reports and Quarterly Department Roll-Up Meeting Summary from July 2006 to October 2006. Finally, the inspectors reviewed the 3rd quarter 2006 human performance trend reports. The inspectors' review was focused on licensee human performance errors, but also considered the results of daily inspector corrective action program item screening, licensee trending efforts, and licensee human performance results. This inspection effort constituted one semi-annual trending inspection procedure sample.

b. Findings

No findings of significance were identified.

.3 Selected Issue Followup: Operator Workaround Aggregate Review

a. Inspection Scope

The inspectors reviewed operator workarounds with particular focus on the method by which instructions and contingency actions were communicated to and reviewed with operators. The inspectors reviewed selected operator workarounds to determine if in the aggregate, the functional capability of systems or human reliability in responding to an initiating event was affected. The review by the inspectors constituted one inspection procedure sample.

b. Assessments and Observations

The inspectors reviewed selected operator workarounds and verified in the aggregate that the functional capability of systems or human reliability in responding to an initiating event was not affected. The inspectors also reviewed outstanding operator workarounds to determine the overall complexity and aggregate effects on operator performance. The inspectors also verified that the licensee conducted periodic reviews and considered the total impact of outstanding work orders on risk and plant operations. Equipment out-of-service lists were reviewed to determine if there were operator workarounds that had not been identified as such. The inspectors concluded that a comprehensive operator workaround program was implemented at the site.

.4 Selected Issue Followup: Reactor Vessel Head Drop Analysis

a. Inspection Scope

This issue followup is to evaluate the licensee's corrective action program response to the issues raised by the inspectors regarding a 1982 reactor vessel head drop analysis, as discussed in NRC Special Inspection Report 05000266/2006011; 05000301/2006011.

The inspection criteria for this review include: the completeness and accuracy of identification of the problem, the evaluation and disposition of operability/reportability issues, the extent of condition, generic implications, classification and resolution of the issue commensurate with its safety significance, the identification of the causes of the problem, identification of corrective actions, and verification that interim corrective and compensatory actions have been identified and implemented to mitigate the effects of the problem until permanent action can be implemented. The review by the inspectors constituted one inspection procedure sample.

b. Assessments and Observations

The inspectors concluded that the licensee had appropriately evaluated and dispositioned the reportability of issues, the extent of condition, the classification of the issue commensurate with the safety significance, and the identification of the contributing causes and contributing factors associated. The inspectors concluded that the completeness and accuracy of the identification of the problems in CAP063450, CAP063536, and CAP063687 were adequate. In addition, the inspectors verified completed corrective actions. Finally, during U2R28, the inspectors verified that all required actions for the reactor vessel head lifts were implemented in accordance with the subject license amendment.

4OA3 Followup of Events and Notices of Enforcement Discretion

.1 Unit 2 Polar Crane Main Hoist Hook Contacted Unit 2 "B" Steam Generator Vent Line

a. Inspection Scope

On November 14, 2006, during U2R28, the Unit 2 polar crane was undergoing maintenance and an upgrade of the electric motors, controls, and panels per Modification package (MR04-023). During equipment testing of the modification, the containment polar crane main hook contacted the "B" steam generator (SG) vent line. The main hook displaced the vent line from the anchor point and bent the line approximately 20°. Following the event, the inspectors observed the licensee's initial event response, verified the licensee's response was done in accordance with procedures and reviewed the statements written by the individuals involved with this event. Finally, the inspectors verified that the damage incurred was appropriately evaluated by the licensee prior to continuing with plant startup and that the appropriate compensatory measures were put in place for the remainder of the polar crane modification. The licensee subsequently conducted a root cause evaluation (RCE) which was being finalized at the end of the inspection period.

b. Findings

Introduction: A Green finding with no associated violation was self-revealed for the licensee's failure to provide adequate contractor oversight during the refueling outage for the modification to the containment polar crane. The lack of adequate oversight directly resulted in unqualified contract crane technicians operating the crane which damaged the

"B" SG vent line, while the plant was in Mode 3 and steam generator secondary side pressure was about 900 pounds per square inch absolute.

Description: On November 14, 2006, at approximately 5:00 a.m., while contract crane technicians were attempting to get quality control personnel approval and test the function of the trolley "slow-down" and "stop" limit switches for the Unit 2 polar crane, the main hook came in contact with the "B" SG vent line. Just prior to the trolley travel testing, the technicians had completed the "raise" and "lower" operational test of the main and auxiliary hooks, but the technician performing the work had not raised the main hook to a sufficient elevation to clear the vent line following the testing of the hook operation. In addition, the contract crane technicians were not Point Beach qualified crane operators, nor was a spotter utilized during crane movement. The licensee determined that the contract management and personnel involved in the project were not aware of the significance of some of the installation work plan steps, and due to a reliance on the assumed expert knowledge of the crane technicians, the licensee contract management allowed the contract individual to perform activities with error likely situations and a lack of licensee supervisory oversight. Following the incident, licensee operations personnel isolated the damaged vent line.

Subsequent inspection of the vent line by licensee engineers determined that it remained operable but degraded in the current bent position. At the end of the inspection period, the licensee continued to assess the root causes and recommended corrective actions for this event. However, the licensee and inspectors concluded that inadequate procedure guidance existed for crane movement with no load on the crane, the procedure guidance for implementation of installation work plans may not be adequately implemented in the field and that inadequate guidance may exist to ensure that contractors working onsite have adequate oversight by contract and project managers.

Analysis: The inspectors determined that the failure to provide adequate contractor oversight during the refueling outage for the modification to the containment polar crane which directly resulted in unqualified contractors operating the crane and damage to the "B" SG vent line is a performance deficiency and a finding warranting a significance evaluation. Using IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated November 2, 2006, the inspectors concluded that the finding is greater than minor because if left uncorrected it would become a more significant safety concern in that an upset of plant stability would have occurred had the crane hook damaged other, safety-related equipment. In addition, the finding is associated with the human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations.

The inspectors evaluated the finding using IMC 0609, "Significance Determination Process," Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," dated November 22, 2005. The transient initiator contributor was main steam piping degradation and did not contribute to both the likelihood of both a reactor trip and that mitigation equipment or functions would not be available. Consequently, the finding is considered to be of very low safety significance (Green).

The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. Specifically, under the component of work practices, the licensee failed to ensure the aspect of supervisory and management oversight of contractor work activities such that nuclear safety was supported, which directly contributed to this performance deficiency.

Enforcement: The failure to establish and implement an adequate maintenance procedure for the Unit 2 polar crane was not an activity affecting quality subject to 10 CFR Part 50, Appendix B, nor a procedure required by license conditions or TSs. Therefore, while a performance deficiency existed, no violation of regulatory requirements occurred. This was considered a finding of very low safety significance (FIN 05000301/2006013-03).

The licensee entered the event into its corrective action program as CAP01061577. The remedial corrective actions were to: finish testing of the upgrade without allowing the contractor to operate the crane; ensure required procedure controls were implemented; evaluate the condition of the "B" SG vent line; and perform a root cause evaluation. At the end of the inspection period, the licensee was still developing the root causes and recommended corrective actions for this event.

.2 Unit 2 Unusual Event for RCS Identified Leakage Greater Than 25 Gallons per Minute

a. Inspection Scope

On October 16, 2006, while Unit 2 was in mode 5, the pressurizer power-operated relief valve (PORV) logic was de-energized after a manually operated breaker (MOB) was inadvertently repositioned during a tagging evolution in the main control room control panels. This resulted in the PORV lifting for approximately 30 seconds, discharging approximately 63 gallons of reactor coolant into the pressurizer relief tank until the MOB was closed. Following the event, the inspectors reviewed control room indications, operator logs, and the procedures that governed the tagging evolution. In addition, the inspectors reviewed operators' personal statements written and the licensee's root cause evaluation for this event. Finally, the inspectors verified the event was reported to the NRC in accordance with 10 CFR 50.72.

b. Findings

Introduction: A finding and associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," having very low safety significance (Green) was self-revealed during tagging activities for certain MOBs in the Unit 2 main control room control panels. The cause of the de-energization of the pressurizer PORV logic from the unintentional opening of the breaker during tag placement was due to lack of adequate procedural controls for working in the control panels and lack of knowledge of personnel as to the minimal force required to open the MOBs. The licensee performed a root cause evaluation of this event.

Description: On October 16, 2006, in preparation for hanging protected equipment caution tags on Unit 2 RHR train components, an operator used side-cut pliers to cut a

plastic tie wrap on MOB-281 and the breaker unexpectedly opened. The operator immediately notified the control room supervising senior reactor operator and after assessing the plant response (RHR flow control valves going full open, RHR flow increasing, letdown flow reducing and loss of the auxiliary feedwater pump discharge valve controller, PC-4019), the supervisor directed the tagger to reclose the breaker. As the operator reclosed MOB-281, the breaker (MOB-282) immediately below it opened. MOB-282 fed MOB-286 which fed the control logic to the Unit 2 pressurizer PORV. The PORV immediately opened, the associated alarm actuated, and the PORV indicating light showed open. Operators determined that plant conditions did not require the lifting of the PORV and so the control room supervisor directed the tagger to reclose MOB-282. With the breaker re-closed, the PORV closed, reactor pressure recovered, and the event was terminated. It was subsequently determined that the PORV was open about 30 seconds and approximately 63 gallons of reactor coolant had been discharged to the pressurizer relief tank. The licensee appropriately classified the event as a Notification of Unusual Event and made the proper notifications.

The licensee performed a root cause evaluation (RCE01055988) and determined that the causes were 1) the use in the original PBNP main control room control panel design of MOBs with sensitive operating switches in the confined spaces of the main control room control panels, 2) and a general lack of knowledge among personnel as to the minimal force required to open the MOBs, even though site specific operating experience was readily available. Testing of breaker MOB-282 at an offsite facility determined the breaker was not defective.

Analysis: The inspectors determined that the failure to provide adequate procedural controls for work with the sensitive breakers within the tight confines of the main control room control panels was a performance deficiency and a finding warranting a significance determination. The lack of adequate procedural controls when coupled with a general lack of knowledge among personnel as to the minimal amount of force required to open the MOBs (approximately one pound), led to an inadequate briefing for hanging Caution Tags on protected equipment. There were multiple opportunities to identify the need for additional procedural controls from thirteen previous events over the last 15 years. Additionally, the failure to adequately trend these events resulted in failure to address the application of these MOBs as an original design oversight that resulted in installing breakers with sensitive switch operating features within the very confining spaces of the main control room control panel racks. This performance deficiency and related deficiencies were appropriately identified in the licensee's RCE.

Using IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated November 2, 2006, the inspectors concluded that the finding is greater than minor because if left uncorrected the finding would become a more significant safety concern in that the inadvertent re-positioning of other similar breakers in the main control room control panels would significantly upset plant stability. In addition, the finding is associated with the procedure quality and human performance attributes of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Because this event occurred while the reactor was shut down, the significance was evaluated using IMC 609, "Significance Determination Process,"

Appendix G, Attachment 1, Checklist 2, “Cold Shutdown Operation: RCS Closed and SGs Available for DHR Removal,” dated May 25, 2004. Since all of the checklist attributes (core heat removal, inventory control, power availability, containment control and reactivity guidelines) were met, the finding screened as having very low safety significance (Green).

The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. Specifically, under the component of work control, the licensee failed to ensure the aspect of incorporating into planned work activities job site conditions, including environmental conditions which may impact human performance, and the human-system interface, that is, the operator interface with the breakers in the close confines of the control panels.

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” requires, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions procedure or drawings. Contrary to this, station procedures did not have appropriate controls for working on these MOBs within the control panels. Because of the very low safety significance of this finding and because the issue was entered into the licensee’s corrective action program (CAP01055988), the violation is being treated as an NCV, consistent with Section VI.A.1 of NRC Enforcement Policy (NCV 05000266/2006013-04; 05000301/2006013-04).

Licensee corrective actions included replacing or protecting the most risk significant MOBs, providing training to workers on the operating sensitivity of the MOBs, establishing controls governing work in the control room control panels around sensitive equipment, clarifying the use of caution tags on protected equipment, and sending MOB-282 offsite for testing.

4OA5 Other Activities

.1 Temporary Instruction (TI) 2515/166 - Pressurized Water Reactor Containment Sump Blockage (Partial Completion)

a. Inspection Scope

The scope of this TI included verifying the implementation of the plant modifications and procedure changes required in support of the modification. The inspectors reviewed the installation of the strainers as specified in plant modification MR 05-018, “Install New ECCS Sump (Sump B) Screen - Unit 2," and installation work plan IWP 05-018, “Install New ECCS Sump (Sump B) Screen - Unit 2.” Additionally, emergency operating procedure EOP-1.3, “Transfer To Containment Sump Recirculation - Low Head Injection,” Unit 2, Revision 37, and EOP-1.4, “Transfer to Containment Sump Recirculation - High Head Injection,” Unit 2, Revision 19, were reviewed. Calculation WEP-SPT-37-01-A was verified to have addressed the required sump level changes in support of the modification and EOP changes. The inspectors attended the operator just-in-time training on the EOP changes for the modification. The TI was not completed because the Unit 1 modification will not be completed until the Unit 1 cycle 30 refueling

outage scheduled for April 2007. The procedures reviewed to satisfy the TI for Unit 2 are identified below. For tracking purposes, the procedures that remain to be reviewed are those for the Unit 1 modification.

- RP-1A, Preparation for Refueling, Revision 72,
- RP-1B, Recovery from Refueling, Revision 62,
- EOP-1.3, Transfer to Containment Sump Recirculation - Low Head, Revision 37,
- BG-EOP-1.3, Transfer to Containment Sump Recirculation - Low Head, Revision 29,
- DD-EOP-1.3, Transfer to Containment Sump Recirculation - Low Head, Revision 29,
- EOP-1.4, Transfer to Containment Sump Recirculation - High Head, Revision 19,
- BG-EOP-1.4, Transfer to Containment Sump Recirculation - High Head, Revision 13,
- DD-EOP-1.4, Transfer to Containment Sump Recirculation - High Head, Revision 13,
- ECA-1.3, Point Beach Nuclear Plant Emergency Contingency Action Containment Sump Blockage, Revision 3,
- SEP-2.3, Cold Shutdown LOCA, Revision 17,
- BG-SEP-2.3, Cold Shutdown LOCA, Revision 10,
- SEP-2.1, Shutdown LOCA with RHR Aligned for Low Head Injection, Revision 14,
- BG-SEP-2.1, Shutdown LOCA with RHR Aligned for Low Head Injection, Revision 13,
- SEP-2.2, Shutdown LOCA with RHR Aligned for Decay Heat Removal, Revision 13,
- BG-SEP-2.2, Shutdown LOCA with RHR Aligned for Decay Heat Removal, Revision 11,
- EOP Index, Revision 114,
- FEP- 4.7, Containment Unit 2, Revision 7,
- NP-7.2.28, Containment Debris Control Program, Revision 2*,
- NP-8.4.15, Protective Coating Program, Revision 5*,
- IT-536, Leakage Reduction and Preventive Maintenance Program Test of Containment Sump B Suction Line Mode 5, 6, or Defueled Unit 2, Revision 22, QUARANTINED,
- RMP-9314, 1(2) SI-850A/B Maintenance Static Test and Adjustment, Revision 6, and
- NDE-802, Condition Monitoring & Assessment of Containment Coatings, Revision 1.

*Procedures marked with an asterisk should be reviewed again when the NRC completes its testing and analysis to support resolution of chemical issues as part of closure of Generic Safety Issue 191, “Assessment of Debris Accumulation on PWR Sump Performance.” Additionally, all licensee commitments in response to Generic Letter 2004-02, “Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors,” should be reviewed for completion at that time.

b. Findings

No findings of significance were identified.

.2 TI 2515/169 - Mitigating Systems Performance Index Verification

a. Inspection Scope

On June 12, 2006, the NRC issued Regulatory Issue Summary (RIS) 2006-07, "Changes to the Safety System Unavailability Performance Indicators." The purpose of this RIS was to inform licensees that beginning on April 1, 2006, the agency replaced the Safety System Unavailability (SSU) PI with the Mitigating Systems Performance Index (MSPI). The RIS and Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," provided guidance for calculating and submitting MSPI data to the NRC. The NRC inspection program is implemented within the framework of the Reactor Oversight Process (ROP). The performance indicators and inspection findings provide the two major inputs into the assessment of licensee performance under the ROP. The MSPI monitors the unavailability and the unreliability of the same four safety systems that compose the SSU. It also monitors the cooling water support systems for those four safety systems. For pressurized water reactors, these systems include:

- Emergency Alternating Current;
- High Pressure Injection;
- Auxiliary Feedwater;
- Residual Heat Removal; and
- Cooling Water Support (Emergency Service Water and Component Cooling Water).

The objective of TI 2515/169 was to validate the unavailability and unreliability input data and to verify accuracy of the first reporting results through the 2006 2nd quarter. During the week of December 4 and 18, 2006, the inspectors reviewed the licensee's MSPI data and supporting documentation. The results of the inspectors' review included documenting observations and conclusions in response to the questions identified in TI 2515/169.

b. Observations

Summary

The inspectors did not identify any significant discrepancies based upon validation of the unavailability and unreliability input data, and verification of accuracy of the 2006 2nd quarter MSPI results.

Evaluation of Inspection Requirements

In accordance with the requirements of TI 2515/169, the inspectors evaluated and answered the following questions:

1. For the sample selected, did the licensee accurately document the baseline planned unavailability hours for the MSPI systems?

   Yes. The licensee accurately documented the baseline planned unavailability hours for the MSPI systems in accordance with the prescribed method outlined in NEI 99-02, Revision 4. Some minor discrepancies in baseline planned unavailability were identified by the inspectors and the licensee initiated CAP1064770 to correct the specific issues and address any potential extent of condition.

2. For the sample selected, did the licensee accurately document the actual unavailability hours for the MSPI systems?

   Yes. The licensee accurately documented the actual unavailability hours for the MSPI systems in accordance with the prescribed method outlined in NEI 99-02, Revision 4. Some minor discrepancies in actual unavailability were identified by the inspectors and the licensee initiated CAP01067982 and CAP01068584 to correct the specific issues and address any potential extent of condition.

3. For the sample selected, did the licensee accurately document the actual unreliability information for each MSPI monitored component?

   Yes. The licensee accurately documented the actual unreliability information for each MSPI monitored component in accordance with the guidance outlined in NEI 99-02, Revision 4; however, the inspectors noted a lack of adequate information to support the licensee's conclusion regarding a May 2004 failure evaluation for the Unit 1 'B' SI pump. The licensee initiated CAP01065735 to re-evaluate and document this particular equipment failure.

4. Did the inspectors identify significant errors in the reported data, which resulted in a change to the indicated index color? Describe the actual condition and corrective actions taken by the licensee, including the date when the revised PI information was submitted to the NRC.

   No. The inspectors did not identify significant errors in the reported data that resulted in a change to the indicated index color. However, the inspectors did note that approximately 70 percent of the procedures listed in the licensee's MSPI Basis Document for excluded unavailability - operator restoration, may not meet the intent of the guidance contained in NEI 99-02 pertaining to credit for operator restoration and excluded unavailability. The licensee updated and initiated CAP01062180 and CAP01067889, respectively, to evaluate and correct the discrepancies, including unavailability data, if required. At the end of the inspection period, the licensee was still evaluating the issue in accordance with the corrective action program.

5. Did the inspectors identify significant discrepancies in the basis document which resulted in: (1) a change to the system boundary, (2) an addition of a monitored component, or (3) a change in the reported index color? Describe the actual

condition and corrective actions taken by the licensee, including the date of when the bases document was revised.

No. The inspectors did not identify significant discrepancies in the basis document that resulted in either: (1) a change to the system boundary, (2) an addition of a monitored component, or (3) a change in the reported index color. However, the inspectors identified that the licensee had excluded the entire emergency diesel generator ventilation system for emergency diesel generators G-01 and G-02, even though the diesel generator room gravity dampers performed the function of providing combustion air to the emergency diesel generators. The licensee initiated CAP01064743 to address this discrepancy and intended to submit this issue as a frequently asked question.

c. Findings

No findings of significance were identified.

.3 (Closed) Violation (VIO) 05000266/2001017-01; 05000301/2001017-01, Potential Common Mode Failure of Auxiliary Feedwater Pumps Due to Inadequate Procedural Guidance

This licensee-identified issue pertained to the potential loss of all auxiliary feedwater (AFW) pumps upon the loss of the instrument air (IA) system. As indicated in a letter to the licensee dated November 30, 2006 (ADAMS Accession Number ML063350059) closing out Confirmatory Action Letter 3-04-001, Revision 1, the NRC has completed its inspection followup of this issue, which had been categorized as a Red inspection finding for Units 1 and 2.

.4 (Closed) Violation 05000266/2002015-04; 05000301/2002015-04, The Failure to Identify the Root Cause and Implement Corrective Actions for the AFW/IA Issue, a Significant Condition Adverse to Quality, So As to Prevent Recurrence

This violation was identified for the licensee's initial failure to implement adequate corrective actions to effectively address the Red findings discussed above in Section 4OA5.3.

.5 (Closed) Violation 05000301/2002015-03, Apparent Violation of 10 CFR Part 50, Appendix B, Criterion III, for the Failure to Establish the Appropriate Design Control Measures for the Installation of Orifices to the AFW Recirculation Lines

This self-revealed issue pertained to the potential loss of all AFW pumps because of the plugging with debris of a new design flow orifice in the AFW recirculation lines. As indicated in a letter to the licensee dated November 30, 2006 (ADAMS Accession Number ML063350059) closing out Confirmatory Action Letter 3-04-001, Revision 1, the NRC has completed its inspection followup of this issue, which had been categorized as a Red inspection finding for Unit 2.

.6 (Closed) Violation 05000266/2002015-05, Apparent Violation of 10 CFR Part 50, Appendix B, Criterion III, for the Failure to Establish the Appropriate Design Control Measures for the Installation of Orifices to the AFW Recirculation Lines

This self-revealed issue pertained to the potential loss of all AFW pumps because of the plugging with debris of a new design flow orifice in the AFW recirculation lines. As indicated in a letter to the licensee dated November 30, 2006 (ADAMS Accession Number ML063350059) closing out Confirmatory Action Letter 3-04-001, Revision 1, the NRC has completed its inspection followup of this issue, which had been categorized as a Yellow inspection finding for Unit 1.

.7 Confirmatory Order, EA-06-178

In a letter dated January 3, 2007 (ADAMS Accession Number ML063630336), the NRC issued a Confirmatory Order to the licensee as part of a settlement agreement through the NRC's Alternative Dispute Resolution (ADR) process. The NRC investigated an alleged violation of 10 CFR 50.7, "Employee Protection," to determine whether a senior reactor operator was the subject of retaliation for raising a nuclear safety concern in the licensee's corrective action program. This issue was resolved through the NRC's ADR program and will be tracked as Apparent Violation (AV) 05000266/2006013-05; 05000301/2006013-05 pending NRC review of the licensee's completion of items specified in the Confirmatory Order.

4OA6 Meetings

.1 Exit Meetings

On January 3, 2007, the resident inspectors presented the inspection results to Mr. D. Koehl, the Point Beach Site Vice-President, and members of his staff, who acknowledged the findings. The licensee did not identify any information, provided to or reviewed by the inspectors, as proprietary in nature.

.2 Interim Exit Meetings

Interim exit meetings were conducted with Mr. Koehl and other licensee staff for:

- Occupational radiation safety access control to radiologically significant areas ALARA; planning and controls during U2R28 and; the PIs for occupational exposure control effectiveness; radiological effluent occurrences; Unit 1 RCS activity and; Unit 2 RCS activity on December 8, 2006; and
- ISI inspection procedure (IP 71111.08) inspections with Mr. Koehl on October 26, 2006. The inspectors returned proprietary information reviewed during the inspection and the licensee confirmed that none of the potential report input discussed was considered proprietary.

4OA7 Licensee-Identified Violation

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which met the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

Cornerstone: Occupational Radiation Safety

10 CFR 20.1902 states that the licensee shall post each high radiation area with a conspicuous sign or signs bearing radiation symbol and the words "CAUTION, HIGH RADIATION AREA" or "DANGER, HIGH RADIATION AREA". Contrary to this, on October 24, 2006, an area in the Unit 2 containment on elevation 21' on the west side of the fuel transfer tube was found to have accessible area dose rates of greater than 100 millirem/hour at 30 centimeters from the radiation source and the area was posted with the appropriate HRA sign. This incident was identified by, and documented in the licensee's corrective action program as CAP01057857, and immediate corrective actions were taken to correct the area posting and establish appropriate access control. No other inappropriately posted HRAs were identified. The Unit 2 containment was posted as a radiation area during this time. Long-term corrective actions were taken by the licensee to revise the applicable procedure to provide the RP staff with more explicit instruction for containment postings in preparation of fuel moves.

This issue represents a performance deficiency as defined in IMC 0612 in that the issue is the result of not meeting a requirement where the cause was reasonably within the licensee's ability to foresee and correct, and should have been prevented. This finding is more than minor because it is associated with the cornerstone attribute of program and processes for high radiation area access control and the Occupational Radiation Safety cornerstone objective of for ensuring the adequate protection of the worker health and safety from exposure to radiation. The inspector then screened the finding for significance in accordance with IMC 0609, "Significance Determination Process," Appendix C, "Occupational Radiation Safety SDP," dated December 16, 2003. The finding was of very low safety significance because it did not involve ALARA planning or work controls, there was no overexposure or substantial potential for an overexposure to the worker, nor was the licensee's ability to assess worker dose compromised.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Amundson, Training Supervisor Operations
R. Bardo, Inservice Inspection Coordinator
G. Casadonte, Fire Protection Coordinator
G. Corell, Radiation Protection/Chemistry Manager
F. Flentje, Licensing Supervisor
T. Gemskie, Emergency Preparedness Supervisor
D. Gesch, Chemistry Supervisor
L. Hawki, Engineering Supervisor
C. Hill, Projects
J. Hofstra, BACC Coordinator
B. Jensen, Level III
C. Jilek, Maintenance Rule Coordinator
R. Johnson, Senior Emergency Preparedness Coordinator
K. Kappelman, Emergency Preparedness Instructor
T. Kendall, Engineering Senior Technical Advisor
D. Koehl, Site Vice-President
R. Ladd, Fire Protection Engineer
K. Locke, Regulatory Analyst
G. LeClair, Radwaste Supervisor
M. Lorek, Plant Manager
J. McCarthy, Director of Site Operations
C. Onesti, Senior Health Physicist
G. Packard, Operations Manager
L. Peterson, Design Engineer Manager
M. Ray, Regulatory Affairs Manager
J. Schweitzer, Projects Director
G. Sherwood, Engineering Programs Manager
C. Sizemore, Training Manager
J. Strharsky, Planning and Scheduling Manager
N. Stuart, Maintenance Manager
P. Wild, Design Engineering Projects Supervisor

Nuclear Regulatory Commission Personnel

P. Louden, Chief, Reactor Projects, Branch 5
C. Lyon, Project Manager, NRR

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000266/2006013-01; 05000301/2006013-01	NCV	Inadequate Design Control for a Flooding Barrier During a Plant Modification (Section 1R06.1)
05000266/2006013-02; 05000301/2006013-02	URI	Failure to Have a Basis for Certain Ultrasonic Examinations (Section 1R08.1)
05000301/2006013-03	FIN	Inadequate Contractor Oversight Which Resulted in Damage to a Unit 2 Steam Generator Vent Line (Section 4OA3.1)
05000266/2006013-04; 05000301/2006013-04	NCV	Inadequate Procedural Controls for Manually Operated Breakers Located in Certain Control Panels (Section 4OA3.2)

Open

05000266/2006013-05; 05000301/2006013-05	AV	NRC to Review Items in Confirmatory Order Dated January 3, 2007, for Employment Discrimination Settlement (Section 4OA5.7)

Closed

05000266/2001017-01; 05000301/2001017-01	VIO	Potential Common Failure of Auxiliary Feedwater Pumps Due to Inadequate Procedural Guidance (Section 4OA5.3)
05000266/2002015-04; 05000301/2002015-04	VIO	The Failure to Identify the Root Cause and Implement Corrective Actions for the AFW/IA Issue, a Significant Condition Adverse to Quality, So As to Prevent Recurrence (Section 4OA5.4)
05000301/2002015-03	VIO	Apparent Violation of 10 CFR Part 50, Appendix B, Criterion III, for the Failure to Establish the Appropriate Design Control Measures for the Installation of Orifices to the AFW Recirculation Lines (Section 4OA5.5)
05000266/2002015-05	VIO	Apparent Violation of 10 CFR Part 50, Appendix B, Criterion III, for the Failure to Establish the Appropriate Design Control Measures for the Installation of Orifices to the AFW Recirculation Lines (Section 4OA5.6)

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather

PC 49, Part 5; Cold Weather Checklist: Outside Areas and Miscellaneous; Revision 20
PC 49, Part 4; Auxiliary Building Miscellaneous and Facades; Revision 19
OI 106; Facade Freeze Protection; Revision 21

Section 1R04: Equipment Alignment

OI 129; SI Fill and Vent - performed on October 31, 2006; Revision 12
OP 7A; Placing Residual Heat Removal System In Operation; Revision 44
PB 02 MSIL00000149; P&ID Safety Injection System
PB 02 MSIK00000150; P&ID Safety Injection System
PB 02 MSIK00000245; P&ID Safety Injection System
PB 01 MWSK00000461; P&ID Service Water
Drawing WEST 110E017, Sheet 1; P&ID Safety Injection System
Drawing WEST 110E017, Sheet 2; P&ID Safety Injection System
Drawing WEST 110E017, Sheet 3; P&ID Safety Injection System
System Health Report; Safety Injection System; March 10, 2006

Section 1R05: Fire Protection

Fire Hazards Analysis Report for Applicable Fire Areas Reviewed; December 2005
PC 74; Conducting and Evaluating Fire Drills; Revision 9

Section 1R06: Flood Protection Measures

CAP01059753; Mod Design Procedure May Not Clearly Address Interim Configuration
CAP01059755; FSAR Table A.7-1 Does Not List U2 Facade Flooding Features
CAP01052315; Conduits Had No FME or Fire Covers
CAP01059748; Tendon Gallery Access Doors Not Clearly a Flooding Barrier
CAP01059757; RWST/RMWT Overfill Possible Flooding Concern
Letter from Wisconsin Electric to NRC; February 17, 1975
NRC letter to Wisconsin Electric with Enclosed Safety Evaluation; November 20, 1975
DBD-T-41, Hazards - Internal and External Flooding (Module A); Revision 4
NEPB-87-250; Evaluation of Internal Flooding of Power Plant Buildings

Section 1R07: Heat Sink Performance

ID00191495-01; HX-15A1, Open CFC Coil and Perform Internal Inspection and Cleaning
ID00219412-01; HX-15C3, CFC Coil Internal Inspection and Cleaning
CAP01057995; Ineffective Use of Management Observation Program; October 26, 2006

Section 1R08: Inservice Inspection Activities

Ultrasonic Data Sheet; SG-A-Inlet Nozzle-IRSR1, Primary Inlet Nozzle Inner Radius; October 25, 2006

Ultrasonic Data Sheet; SG-A-Outlet Nozzle-IRSR1, Primary Outlet Nozzle Inner Radius; October 25, 2006
Visual, VT-3; Examination Data Sheet 2006VT-013, EB-10-H27; October 22, 2006
Visual Examination Data Sheet 06U2-760E001, 2CP-116; October 18, 2006
Visual Examination Data Sheet 06U2-760E002, 2CP-127; October 18, 2006
Visual Examination Data Sheet 06U2-760E003, 2CP-128, October 18, 2006
Indication Disposition Report 06U2-E001, 2CP-116, 127,128

Personnel Certifications

Williams, S.M., LMT; September 21, 2006
Carraher, T.G, LMT; September 12, 2006
Halling, D.A., LMT; September 21, 2006
Heikkila, J.C., Great Lakes Testing; September 16, 2004 (Radiography)
O'Neal, J.C., LMT; October 14, 2006

Documents Related to Code Pressure Boundary Welding

Work Order 0501455, CS-00221 valve replacement, 2 inch valve in Feedwater Leakage Check Test Line; April 25, 2005
Repair/Replacement Form, 2004-0017
PT Data sheets for Welds SW-1, SW-2 and SW-3; August 29, 2005
Work Order 0203351, CC-00777A Valve Replacement, 2-inch Valve on 2T-12 CC Surge Tank 2LIT-618 Lower Root Valve; October 18, 2005
Repair/Replacement Form, 2004-0049
PT Data Sheets for Welds FW-1 and FW-2; September 16, 2005
Welding Procedure WP-1, Revision 8
Welder Qualification JR Klumpp; July 6, 2000
Welder Qualification PG Hirst; April 6, 2005
Welder Qualification H Todd; May 29, 1998
Welder Qualification DD Ducat; January 17, 1991

Documents Associated with Boric Acid Corrosion Program

BALCM Program; Revision 3; Boric Acid Leakage and Corrosion Monitoring Program
Procedure NP 7.4.14, Revision 3, Boric Acid Leakage and Corrosion Monitoring
BALCM Program Appendix B; Revision 2; Boric Acid Examination Guidelines
BALCM Program Appendix C; Revision 3; Boric Acid Indication Evaluation
CAP063634; Boric Acid Found Coming From the Insulation of the CV Line; April 6, 2006
CAP063237; 2SC-953 Pressurizer Liquid Space Packing Leaks; April 2, 2006
CAP033924; 2LT-495 and 497 Valve Manifold Boric Acid Leaks; April 5, 2006
Boric Acid Indication and Evaluation 05-0118; R-1 RV Head Vent Line Low Point Drain; July 6, 2005
Boric Acid Indication and Evaluation 05-0086; Letdown Orifice C - Outlet Control; July 6, 2005
Boric Acid Indication and Evaluation 05-0056; P-1B RCP Upper Oil Cooler CC Inlet; April 3, 2005
Boric Acid Indication and Evaluation 05-0027; T-34B SI Accumulator Fill from Cold Leg SI; April 3, 2005
Work Order 0216320; Reactor Coolant System (RCS) Pressure Test - Outage U2R26; Performed November 11, 2003

Work Order 0403573; Reactor Coolant System (RCS) Pressure Test - Outage U2R27; Performed July 5, 2005
U2R28 As-Found Indication Disposition Summary; October 15, 2006

Documents Associated with Nondestructive Testing Procedures

NDE-171; Manual Ultrasonic Examination of Nozzle Inside Radius Sections; Revision 11
NDE-173; PDI Generic Procedure for the Ultrasonic Examination of Austenitic Piping Welds; Revision 9
NDE-760; VT-1 and VT-3 Visual Examinations of IWE Boundary Components (Metal Containment and Metallic Liners of Concrete Containment); Revision 3
NDE-754; Visual Examination (VT-3) of Nuclear Power Plant Components; Revision 14

Documents Associated with Disposition of Relevant Indications

CAP062342; ISI Exams Find Indications on Support AC-601R-3-2H14, Spring Indicator Found Low; February 25, 2005
VT-3 Data Sheet 754-0005, for AC-601R-3-2H14; February 23, 2005
CAP062338; ISI Exams Find Indications on Support AC-601R-3-2H6, Gaps Found at Baseplate; February 25, 2005
VT-3 Data Sheet 7540003, for AC-601R-3-2H6; February 23, 2005
CAP062335; ISI Exams Find Indications on Support AC-601R-3-2H8, Gaps Found at Baseplate; February 25, 2005
VT-3 Data Sheet 754-0004, for AC-601R-3-2H8; February 23, 2005
CAP063558, ISI Exams Find Indications on Support HB-19-2R181, Gaps Found at Shim; April 10, 2005
VT-3 Data Sheet 754-0027; for HB-19-2R181; April 4, 2005
CAP062761, ISI Exams Find Indications on Support SI-301R-1-S873, Gaps Found at Shim; March 15, 2005
VT-3 Data Sheet 754-0015, for SI-301R-1-S873; March 7, 2005

Corrective Action Documents As A Result of NRC Inspection

AR01056773; Boric Acid on Containment Liner Plates; October 19, 2006
AR01056932; Visual Exam Indication Criteria for NDE 760; October 20, 2006
AR01057422; NRC Question on Skew Angles for Inside Radius Exams; October 24, 2006
AR01057447; Boric Acid Evaluation Form records not consistent; October 24, 2006
AR01057630; Documentation of ISI Indications Questions by NRC; October 25, 2006
AR01057686; Deficiencies Identified with Boric Acid Indications and Evaluations; October 25, 2006
AR01058248; NRC Questions Evaluation of Support Indication; October 27, 2006

Section 1R11: Licensed Operator Requalification

AR01033599; SEP-2.1; Unit 2; Revision 12; Step 12 - Resp. Not Obtained - Revise “20" per EOP STPT M.9;
AR01039477; MR 05-018 New ECCS Sump Screen; Evaluate for Applicability to the Operations Training Groups Including the Simulator

TRRA 01033290 15; ECA 1.3; Unit 2; Containment Sump Blockage; Revision 3
TRRA 01038267 15; BG ECA 1.3; Unit 2; Revision 2

Section 1R12: Maintenance Effectiveness

Performance Criteria Assessments for NIS Since July 1, 2004
Maintenance Rule Unavailability Data Sheet; Unit 1 & Unit 2; System NIS; Data between July 1, 2004, and July 1, 2006
Function List for Nuclear Instrumentation (NIS) Sorted for Maintenance Rule
Maintenance Rule (a)(1) System Action Plan Checklist and Approval; System NIS; August 8, 2005
Function List for FH Fuel Handling Sorted for Maintenance Rule
Documentation for Maintenance Rule Performance Criteria - FH
AR 01020947; MRE Needed for N#1 False HFAS Alarm; March 28, 2006
AR 01031595; Z-17-W Does Not Indicate Properly; May 22, 2006

Section 1R13: Maintenance Risk Assessment and Emergent Work Evaluation

Safety Monitor Calculation Reports Units 1 and 2 for Applicable Work Weeks
Work Week Execution Schedules for the Applicable Weeks
Operator Logs for the Applicable Work Weeks

Section 1R15: Operability Evaluations

GNP-11.08.03; Operability Determination; Revision C; October 10, 2003
OPR 1032378-01; Issues with Inside Containment HELB-Related Calculations; May 25, 2006
OPR000096; U2 MS Line Containment Penetration Concrete Temperature Above FSAR Specified Allowable;
CAP066084; Concrete Temperature Around MS Penetrations Still Above FSAR Limits
ACE001912; Concrete Temperature Around MS Penetrations Still Above FSAR Limits; September 1, 2005
Automated Engineering Services Corp; Operability Determination of Unit 2 MS Containment penetration Concrete for Observed Elevated Temperatures; November 14, 2003.
GNP-11.08.03; Operability Determination; Revision C; October 10, 2003

Section 1R19: Post-Maintenance Testing

CAP01058285; Drawing Discrepancy, Conductors x1 and U of Cable 2Y0504A at 2E02
AR01060291; During ORT3A G02 EDG Output Breaker 2A52-67 Breaker Failed; November 8, 2006
PBTP-147; 2B-40 MCC Vital to Non-Vital Tie Breaker Test; November 11, 2006
CAP067156; IT-530 LRPM Seat Leakage Test Unsat
CAP062018; Boric Acid Contacting Mounting Bolts for 2SI-878D, P15A SI Pump Loop A Injection
WO221269-02; 120V Vital Instrument Panel Y05 PMT
RMP 9374-2; Molded Case Circuit Breaker (MOB/PANEL) Maintenance; Revision 2
IT-215; SI Valves (Cold Shutdown) Unit 2; Revision 18, Performed November 1, 2006
IWP 01-128*K-BR; Partial for Operability Verification for 2SI-851A; Performed November 1, 2006
ORT 60; Train B Spray System CIV Leakage Test Unit 2

MR 01-128K; MCC 2B32 Bus Bar Bracing Installation
WO0185071-03; Bus Bar Bracing Installation
PBPT 147; 2B-40 MCC Vital to Non-Vital Tie Breaker Test; Revision 0
RMP 9314; 1(2) SI-850A/B Maintenance, Static Test and Adjustment

Section 1R20: Refueling and Other Outage Activities

CL 2A; Defueled to Mode 6 Checklist; October 29, 2006
CL 2B; Mode 6 to Mode 5 Checklist; October 29, 2006
CL 2C; Mode 5 to Mode 4 Checklist; November 4, 2006
CL-2D; Mode 4 to Mode 3 Checklist; November 12, 2006
CL 20; Post Outage Containment Closeout Inspection; Unit 2; November 11, 2006
OP 1B; Appendix A; Estimated Critical Position Calculation; Revision 12
OP 1B; Reactor Startup; Revision 54
Focused Self Assessment Report Template; U2R28 Shutdown Safety Review; August 15-17, 2006

Section 1R22: Surveillance Testing

ORT 26; Letdown Line Unit 2; Revision 15, Performed October 31, 2006
IT-535C; Leakage Reduction and Preventive maintenance Program Train "A" HHSI and RHR "Piggyback" Test (Refueling) Unit 2; Revision 8
ORT-3A; A Train ESFAS with Loss of AC
ORT-3B; B Train ESFAS with Loss of AC
IT-95A; Atmospheric Steam Dump Valves Operability Test Unit 2; Revision 7
IT-315; Main Steam Line Isolation Valves (Cold Shutdown) Unit 2; Revision 16
TS-40; Main Steam Isolation Valves Operability Test Unit 2; Revision 13
IT-45B; Safety Injection Valves (Shutdown) (U-2); Revision 3

Section 1R23: Temporary Plant Modifications

2005-017; Unit 2, 2MS-89 Leak Repair Clamp; Performed Last Quarter Also
EC8551, Unit 1, Temporarily Replace Failing 1TE-36 with 1TE-37

Section 2OS1: Access Control to Radiologically Significant Areas

FP-RP-RWP-01; Radiation Work Permit; Revision 05
HP 2.6; Locked and Very High Radiation Area Key Control; Revision 27
HP 2.14; Containment Keyway Personnel Access; Revision 12
HP 2.17; Very High Radiation Area Personnel Access; Revision 06
HP 3.2; Radiological Labeling, Posting and Barricading Requirements; Revision 43
HP 3.2.8; Posting Requirements for Areas Affected by Fuel Movement; Revision 12
HP 9.1; Monitoring of Radiography; Revision 19
HPIP 1.64; Control of Underwater Diving in Radiologically Hazardous Areas; Revision 05
HPIP 1.66; Dosimetry Placement for Extremity and Multiple Whole Body Locations and Extremity Dose Determination; Revision 11
HPIP 1.68; Calculation of Committed Dose Equivalent; Revision 03
HPIP 3.70; Refueling Cavity - Spent Fuel Pit Hydrazine Usage; Revision 0

HPIP 4.40; TEDE ALARA Evaluations; Revision 02
NP1.1.4; Use and Adherence of Procedures and Work Plans; Revision 17
NP1.6.10; Pre and Post Job Briefs; Revision 05
NP 4.2.9; Radiation Protection; Revision 03
NP 4.2.12; Requirements for Radiologically Controlled Area Entry; Revision 17
NP 4.2.14; Administrative Dose Levels/Dose Level Extension Procedure; Revision 06
RWP 2006-399; Reactor Coolant Pump (RCP) "B" Motor Replacement; Revision 0 (WO219445)
RWP 2006-475; RCP "B" Seal Replacement; Revision 0 (WO219445)
RWP 2006-430; Sump "B" Strainer Modification; Revision 0 (WO222370)
RWP 2006-486; Replacing the Diaphragm 2CV205B; Revision 0 (WO220492)
RWP 2006-655; Fuel Moves
RWP 2006-683; Reactor Head Lift (WO219241)
CAP01056498; Keyway U2Ct Grating Hooks at Bottom of Ladder Not Latched; October 19, 2006
CAP01056989; LHRA Sign (U-2 Regen HX) Obscured with Door Open; October 20, 2006
CAP01057290; Barricade Not Installed for HRA Posting; October 23, 2006
CAP01057706; Fleet HRA/LHRA Self-Assessment; October 25, 2006
CAP01057857; Unexpected Dose Rates Found During U2 Fuel Movement; October 24, 2006
CAP01058370; EAD Alarm While Removing Insulation; October 28, 2006
CAP01059600; HRA Set-Up Not Sufficient; November 3, 2006
CAP01060060; Radiation Protection Posting Partially Covered; November 07, 2006

Section 2OS2: ALARA Planning And Controls

FP-RP-JPP-01; RP Job Planning; Revision 02
HP 3.1; Radiological Surveys and Records; Revision 12
HP 3.2.9; Hot Spot/Hot Line Tracking, Trending and Mitigation; Revision 0
NP 4.2.1; ALARA Program; Revision 16
NP 4.2.15; Fetal Protection Policy Implementation; Revision 04
NP 4.2.26; Installation of Temporary Shielding; Revision 1
NP 4.2.29; Source Term Reduction Program; Revision 08
CAP01056303; ALARA Reviews Not Logged as Required; October 18, 2006
CAP01056957; RWPs Contain Requirements Beyond Users' Level of Knowledge; October 20, 2006
CAP01056971; ALARA Reviews Not Completed in Accordance with Procedure; October 20, 2006
CAP01057290; Barricade Not Installed for HRA Posting; October 23, 2006
Historical Outage Exposure Performance Data (undated)
Refueling Outage (R28) Dose Estimates and Daily Exposure Reports; Various Dates Outage Work Schedules; Various dates

Section 4OA1: Performance Indicator Verification

CAMP-044; Fuel Integrity Monitoring Guideline; Revision 00
CAMP-410; Determination of Radioactive Iodine and Iodine 131 Equivalents in Reactor Coolant; Revision 06
CAMP-600; Primary Side Sampling Procedures: Primary Sample Panel Operation Guidelines; Revision 28
CAMP-600.3; Primary Side Sampling Procedures: Hot Leg Liquid sampling-Depressurized Liquid; Revision 03

Corrective Action Program Database Listing for Selected Keyword Searches for July 2005 through November 2006
HP 1.1; Personnel Dose Determination and Reporting; Revision 09
Monthly Data Elements for RETS/ODCM Radiological Effluent Reports; July 2005 through November 2006
NP 3.2.2; Primary Water Chemistry Monitoring Program; Revision 17
NP 5.2.16; NRC Performance Indicators; Revision 11
Various Dosimetry Egress Transactions, and Personal Contamination Reports, for July 2005 through November 2006

Section 4OA2: Identification and Resolution of Problems

Equipment OOS Log; November 27, 2006
Operator Work Around Aggregate Impact; November 28, 2006
Operator Work Around Review and Approval; July 22, 2002
Operator Work Around Review and Approval; November 26, 2002
Operator Work Around Review and Approval; June 28, 2004
Operator Work Around Review and Approval; August 31, 2005
Operator Work Around Review and Approval; August 31, 2006
Operator Work Around Summary - Priority 3; November 27, 2006
Point Beach Nuclear Plant Drum Summary Report; 3rd Quarter 2006
Point Beach Operational Excellence Operator Burden Summary; October 2006
Point Beach Operations Department Total Operator Burden Summary; October 2006

Section 4OA3: Followup of Events and Notices of Enforcement Discretion

CAP01055988
CAP01061577; 2Z-013 Main Hoist Hook Contacted “B” S/G Vent Line
DG M10, Design Installation Guidelines; Revision 2
AR01061577; Preliminary Root Cause Evaluation for Unit 2 Polar Crane Main Hoist Hook Contacted the Unit 2 “B” Steam Generator Vent Line during Crane Modification Process
AR01055988-01; Root Cause Evaluation for Unit 2 Unusual Event - RCS Identified Leakage > 25 GPM
ACE001810, Apparent Cause Evaluation for MCCB Maintenance Not in Accordance With Industry Standards
CA064846; Corrective Action NRC Identified ACE Weaknesses
WO182505; Test and Installation of New MOB Breaker
OPR 113,Attachment 1; PBNP Preventive Maintenance Program, Revision 2

Section 4OA5: Other Activities

For Temporary Instruction 2515/166, documents reviewed were included in the section writeup

For Temporary Instruction 2515/169, documents reviewed are listed below:

MSPI Derivation Report for Units 1 and 2, Planned and Unplanned Unavailability Data from October 2003 through September 2006
CAP056322; 1P-15B, Safety Injection Pump, Inboard Seal Leakage During IT-530D; May 2, 2004

CAP056434; U1R28 Unit 1 P-15B Inboard Seal Wear and Shaft Sleeve key Issues; May 6, 2004
2ICP 04.019A; Instrumentation for Operations Inservice Test Support Train A; Revision 8
IT 02; High Head Safety Injection Pumps and Valves (Quarterly) Unit 2; Revision 54
IT 04; Low Head Safety Injection Pumps and Valves (Quarterly) Unit 2; Revision 56
IT 08A; Cold Start of Turbine-Driven Auxiliary Feed Pump and Valve Test (Quarterly) Unit 1; Revision 43
IT 10; Test of Electrically-Driven Auxiliary Feed Pumps and Valves (Quarterly); Revision 57
IT 10A; Test of Electrically-Driven Auxiliary Feed Pumps and Valves with Flow to Unit 1 Steam Generators (Quarterly); Revision 21
IT 12; Component Cooling Water Pumps and Valves (Quarterly); Unit 1; Revision 33
IT 40; Safety Injection Valves (Quarterly) Unit 1; Revision 47
IT 45; Safety Injection Valves (Quarterly) Unit 2; Revision 47
IT 530B; Leakage Reduction and Preventive Maintenance Program Seat leakage Test of the Train B RHR System (Refueling); Unit 1; Revision 15
MRE 214-1P-15B; Inboard Seal Leakage
MSPI Derivation Report; Consolidated Data Entry 3.0; December 13, 2006
MSPI Margin Evaluation for Point Beach Emergency AC
MSPI Margin Evaluation for Point Beach Heat Removal Systems
MSPI Margin Evaluation for Point Beach Support Cooling Systems
NMC Mitigating System Performance Index
OI 35A; Standby Emergency Power Alignment; Revision 11
OM 3.26; Use of Dedicated Operators; Revision 9
1-TS-ECCS-002; Safeguards System Venting (Monthly) Unit 1; Revision 6
TS 84; Emergency Diesel Generator G-04 Monthly; Revision 22; April 17, 2006
Functional Failures and MPFFs for January 1, 2002 - January 1, 2006
Point Beach MSPI Failure Review; 2003-2006
SnapShot Report; Implementation of NRC Mitigating System Performance Index; October 31, 2005 - November 16, 2006
Maintenance Rule Unavailability Data Sheet, Data from January 2005 through September 2006 for Units 1 and 2:

- Component Cooling System,
- Service Water System,
- Emergency Diesel Generators G01, G02, G03, & G04,
- Auxiliary Feed Water System,
- Residual Heat Removal System and,
- Safety Injection System

Operator Logs, Data from January 2005 through September 2006 for Units 1 and 2 Filtered for the Following Systems:

- Component Cooling System,
- Service Water System,
- Emergency Diesel Generators G01, G02, G03, & G04,
- Auxiliary Feed Water System,
- Residual Heat Removal System and,
- Safety Injection System

NRC-Identified Issues

CAP01057422; NRC Question on Skew Angle; October 24, 2006
CAP01058888; FME in Refueling Cavity; October 31, 2006
CAP01058248; NRC Questions Evaluation of Support; October 27, 2006
CAP01059859; HX-099 Belt Guard; November 5, 2006
CAP01056773; BA on Containment Liner Plates; October 19, 2006
CAP01059690; Flood Program Licensing Basis; November 3, 2006
CAP01059755; FSAR Table A.7-1; November 3, 2006
CAP01059757; RWST/RMWT Overfill Possible Flooding; November 3, 2006
CAP01061553; U1 Facade Tent Installed; November 14, 2006
CAP01067889; NEI Guidance for MSPI; December 15, 2006
CAP01060967; Safety Injection P&ID Errors; November 10, 2006
CAP01059748; Tendon Gallery Access Doors; November 3, 2006
CAP01061686; U2 RX Cavity Top Hat Locations; November 14, 2006
CAP01059753; Mod Design Procedure; November 3, 2006
CAP01065735; NRC Question on IP-15B; December 5, 2006
CAP01056932; Visual Exam Indication Criteria; October 20, 2006
CAP01057447; Boric Acid Evaluation Form Records; October 24, 2006
CAP01057630; Documentation of Indication; October 25, 2006
CAP01067612; Review OPS Operability Call for G04; December 14, 2006
CAP01067613; G03 Removed from Service; December 14, 2006
CAP01067982; MSPI Data Discrepancies Noted in CD; December 15, 2006
CAP01068084; Foxboro Controller Issue Noted; December 16, 2006
CAP01068584; Data Discrepancies for MSPI Data; December 20, 2006
CAP01055714; CFR 50.59 - Aluminum Inventory; October 14, 2006
CAP01064381; Clarification Needed for OI-100; November 29, 2006
CAP01057775; Incorrect ISI Support; October 26, 2006
CAP01064898; NRC RAI Regarding LAR 245; December 1, 2006
CAP01064770; MSPI Basis Document Baseline Data; November 30, 2006
CAP01061638; Material Condition Issues in Unit 2; November 14, 2006
CAP01064743; NRC Question on EDG Component; November 30, 2006
CAP01054794; Support Qualification Issues - RWST; October 10, 2006

LIST OF ACRONYMS USED

ALARA	As-Low-As-Is-Reasonably-Achievable
AFW	Auxiliary Feedwater
ASME	American Society of Mechanical Engineers
AV	Apparent Violation
BACC	Boric Acid Corrosion Control
CAP	Corrective Action Program Document
CFR	Code of Federal Regulations
CS	Containment Spray
DBD	Design Basis Document
DEI	Dose Equivalent Iodine
DRS	Division of Reactor Safety
EOP	Emergency Operating Procedure
EPRI	Electric Power Research Institute
FIN	Finding
FSAR	Final Safety Analysis Report
HRA	High Radiation Area
IA	Instrument Air
IMC	Inspection Manual Chapter
IP	Inspection Procedure
ISI	Inservice Inspection
LHRA	Locked High Radiation Area
MOB	Manually Operated Breaker
MSPI	Mitigating Systems Performance Index
NCV	Non-Cited Violation
NDE	Non-Destructive Examination
NEI	Nuclear Energy Institute
NP	Nuclear Plant Procedures Manual
NRC	Nuclear Regulatory Commission
OPR	Operability Recommendation (Operability Evaluation)
PAB	Primary Auxiliary Building
PBNP	Point Beach Nuclear Plant
PI	Performance Indicator
PORV	Power-Operated Relief Valve
PWR	Pressurized Water Reactor
RCS	Reactor Coolant System
RCE	Root Cause Evaluation
RFO	Refueling Outage
RHR	Residual Heat Removal
RIS	Regulatory Issue Summary
RMP	Routine Maintenance Procedure
ROP	Reactor Oversight Process
RP	Radiation Protection
RWP	Radiation Work Permit
SDP	Significance Determination Process
SG	Steam Generator

SI	Safety Injection
SSU	Safety System Unavailability
TEDE	Total Effective Dose Equivalent
TI	Temporary Instruction
TS	Technical Specification
U2R28	Unit 2 Cycle 28 Refueling Outage
URI	Unresolved Item
UT	Ultrasonic
VFD	Variable Frequency Drive
VHRA	Very High Radiation Area
VIO	Violation
WO	Work Order