

January 30, 2004

Mr. Gary Van Middlesworth  
Acting Site Vice-President  
Point Beach Nuclear Plant  
6610 Nuclear Road  
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2  
NRC INTEGRATED INSPECTION REPORT 05000266/2003009;  
05000301/2003009

Dear Mr. Van Middlesworth:

On December 31, 2003, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Point Beach Nuclear Plant, Units 1 and 2. The enclosed report documents the inspection findings which were discussed on January 6, 2004, with Mr. A. Cayia and members of his staff.

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

Concurrent with this quarterly baseline inspection, the NRC completed an inspection in accordance with Inspection Procedure (IP) 95003, "Supplemental Inspection for Repetitive Degraded Cornerstones, Multiple Degraded Cornerstones, Multiple Yellow Inputs, or One Red Input." The IP 95003 supplemental inspection was conducted as a result of the Red finding related to the potential common mode failure of the auxiliary feedwater system, due to closure of the recirculation valve upon loss of instrument air. The results of the IP 95003 supplemental inspection are currently under review and will be documented in a separate inspection report.

In addition to the routine NRC inspection and assessment activities, and IP 95003 supplemental inspection activities, Point Beach performance is being evaluated quarterly as described in the May 9, 2003, Annual Assessment Follow-Up Letter - Point Beach Nuclear Plant. Consistent with Inspection Manual Chapter (IMC) 0305, plants in the multiple/repetitive degraded cornerstone column of the Action Matrix are given consideration at each quarterly performance

assessment review for (1) declaring plant performance to be unacceptable in accordance with the guidance in IMC 0305; (2) transferring to the IMC 0350 "Oversight of Operating Reactor Facilities in a Shutdown Condition with Performance Problems" process; and (3) taking additional regulatory actions, as appropriate. On November 20, 2003, December 18, 2003, and January 15, 2004, the NRC reviewed Point Beach operational performance, inspection findings, and performance indicators for the fourth quarter of 2003. Based on this review, we concluded that Point Beach performance, while not clearly demonstrating improvements, did not represent unsafe operations. We determined that no additional regulatory actions, beyond the already increased actions and NRC management oversight, are currently warranted. However, we are concerned with the lack of indication that Point Beach performance is improving. As reflected in NRC-identified findings documented in this report regarding the control of combustible material and emergency preparedness training, your staff has failed to consistently demonstrate the ability to implement corrective actions in an effective and timely manner. In addition, several of the findings involve human performance issues where your staff failed to accomplish tasks in accordance with procedural guidance. We are concerned that the performance improvement initiatives implemented during the first half of 2003 have not been fully effective. The NRC will continue to closely monitor Point Beach performance consistent with the guidance in IMC 0305.

Based on the results of this inspection, three NRC-identified findings, three unresolved items, and three self-revealed findings of very low safety significance were identified, four of which involved violations of NRC requirements. However, because these violations were of very low safety significance and because the issues were entered into your corrective action program, the NRC is treating these four findings as Non-Cited Violations consistent with Section VI.A.1 of the NRC Enforcement Policy. Additionally, one licensee-identified violation is listed in Section 4OA7 of this report.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 801 Warrenville Road, Lisle, IL 60532-4351; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Point Beach Nuclear Plant facility.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (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/**

Steven A. Reynolds, Acting Director  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000266/2003009; 05000301/2003009  
w/Attachment: Supplemental Information

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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: 05000266/2003009; 05000301/2003009

Licensee: Nuclear Management Company, LLC

Facility: Point Beach Nuclear Plant, Units 1 and 2

Location: 6610 Nuclear Road  
Two Rivers, WI 54241

Dates: October 1 through December 31, 2003

Inspectors: P. Krohn, Senior Resident Inspector  
M. Morris, Resident Inspector  
J. Cameron, Project Engineer  
P. Higgins, Reactor Engineer  
D. Jones, Reactor Engineer  
R. Langstaff, Reactor Engineer  
T. Ploski, Senior Emergency Preparedness Inspector  
R. Schmitt, Radiation Specialist

Observers: T. Bilik, Reactor Engineer  
K. Brock, Health Physicist, Office of Nuclear Reactor  
Regulation  
B. Jose, Reactor Engineer

Approved by: A. Vogel, Chief  
Branch 7  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000266/2003009, 05000301/2003009; 10/1/2003 - 12/31/2003; Point Beach Nuclear Plant, Units 1 & 2; Fire Protection, Maintenance Risk Assessment and Emergent Work Evaluation, Personnel Performance During Non-Routine Plant Evolutions and Events, Drill Evaluation, Access Control to Radiologically Significant Areas, Radioactive Material Control Program.

This report covers a 3-month period of baseline resident inspection and announced inservice (71111.08), emergency preparedness (71114), and radiation protection (71121) inspections for the Point Beach Nuclear Plant, Units 1 and 2. In addition, the inspectors completed two Temporary Instruction (TI) Inspections, TI 2515/150, Revision 2, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles," and TI 2515/152, "RPV Lower Head Penetration (LHP) Nozzles (NRC Bulletin 2003-02)." The announced inspections were conducted by three regional inspectors. Six Green findings associated with four non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

### **A. Inspector-Identified and Self-Revealing Findings**

#### **Cornerstone: Initiating Events**

- Green. The inspectors identified a Non-Cited Violation involving a finding of very low safety significance concerning the licensee's failure to take effective corrective actions to address the control of transient combustibles. Specifically, the licensee failed to correctly determine the cause (i.e., transient combustibles) of exceeding an NRC Safety Evaluation Report fire loading value for a fire zone. As a result of ineffective corrective actions, the inspectors identified additional instances in which transient combustibles were not appropriately evaluated as required. The primary cause of this finding was related to the cross-cutting area of problem identification and resolution. Despite the escalation of fire loading issues by the licensee's quality assurance organization in October 2002, combustible materials were reintroduced into the same fire zone without prior evaluation by November 2003.

This finding was more than minor because the finding, if uncorrected, could become a more significant safety concern and affect the Initiating Events cornerstone by increasing the likelihood or severity of fire. The finding was of very low safety significance because no fire protection features were affected and no instances were observed where the fire loading could cause either a fire barrier or an installed suppression system to be overwhelmed. This issue was a violation of a license condition which, by reference, invoked the licensee's Fire Protection Evaluation Report (FPER), which required conditions adverse to fire protection, such as uncontrolled combustible material, be promptly identified, reported, and corrected. The FPER also required that in the case of significant or repetitive conditions adverse to fire protection,

the cause of the conditions is to be determined and analyzed and prompt corrective actions taken to preclude recurrence. (Section 1R05.1.b.1)

### **Cornerstone: Mitigating Systems**

- Green. The inspectors identified a finding of very low risk significance concerning an inadequate risk assessment associated with the 26th Unit 2 refueling outage (U2R26). Specifically, personnel utilizing the core cooling key safety function shutdown risk assessment failed to recognize the unavailability and increased risk associated with removing the residual heat removal (RHR) pumps from the shutdown cooling mode of operation while in Mode 4, hot shutdown. The primary cause of this finding was related to the cross-cutting area of human performance in two respects. First, despite reviewing the activity prior to the outage, probabilistic risk assessment and outage planning personnel did not identify entry into the yellow risk category. Second, once relaxed, operations personnel did not increase the performance frequency of shutdown safety assessment checklists during periods of changing plant conditions, so as to have been able to identify the unavailability and increased risk associated with the activity.

The finding was considered more than minor because: (1) failure to recognize the increased risk condition resulted in compensatory risk management actions to protect the remaining reactor decay heat removal paths not being taken, actions intended to prevent entry into an unplanned orange or red risk condition; and (2) if left uncorrected, it would become a more safety significant concern, if elevated reactor decay heat removal risk categories were entered without the required risk management actions in place and subsequent heat removal challenges were to occur. The finding was of very low significance because it was not a design or qualification deficiency, did not represent an actual loss of the safety function, and did not involve internal or external initiating events. The finding was not a violation of regulatory requirements. (Section 1R13.1)

- Green. A Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when inadequate procedure use resulted in starting a Unit 2 RHR pump with the suction valve shut. The primary cause of this finding was related to the cross-cutting area of human performance. Perceived time pressure, concurrent watch turnovers, lack of specific supervisory briefings, operator fatigue, and ineffective peer and self-checking resulted in a licensed senior reactor operator (SRO) and reactor operator not recognizing that the suction path to the 'B' RHR pump was isolated prior to starting the pump.

This finding was considered more than minor because it: 1) affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events, and 2) involved the human performance attribute of the mitigating systems cornerstone. The finding was determined to be of very low risk significance since the inadequate procedure place keeping did not result in a design or qualification deficiency, an actual loss of safety function, or involve internal or external initiating events. (Section 1R14.1)



- To Be Determined. Unit 1. The inspectors identified an Unresolved Item (URI) concerning the installation of a non-safety related worm gear in the 1AF-4000, "1P-29 Auxiliary Feedwater (AFW) Pump Discharge to 'B' Steam Generator," motor-operated valve. Initial hardness testing indicated that the 1AF-4000 worm gear had about one half of the material strength of the intended part. Material and fatigue property analyses to evaluate potential operability impacts had not been completed by the end of this inspection period. The issue did not represent an immediate safety concern since the non-conforming part was replaced with the appropriate safety-related part, and will be considered a URI pending completion of further regulatory review. (Section 1R15.2)
- To Be Determined. The inspectors identified an Unresolved Item (URI) concerning the licensee's failure to install sprinklers in accordance with the applicable fire protection code in the component cooling water pump area. The safety significance of the issue is to be determined. The issue did not represent an immediate safety concern and will be considered a URI pending completion of further regulatory review. (Section 1R05.1.b.2)

#### **Cornerstone: Barrier Integrity**

- To Be Determined. Unit 1. The inspectors identified a URI concerning Framatome NCR [Non-Conformance Report] 6028873-Lack of ultrasonic testing (UT) coverage during Unit 1 refueling outage (U1R27) Reactor Pressure Vessel (RPV) Inspection. The licensee contractor identified that, during the Unit 1 RPV head ultrasonic inspection in September 2002, stalling of the rotating ultrasonic probe head, due to coupling slippage, resulted in partial data acquisition in 10 of the 16 control rod drive mechanism (CRDM) nozzles.

This issue was documented in the licensee's corrective action system as CA053202 and CE012362. Corrective actions to prevent recurrence (redesigned coupling, backup analysts) were implemented during the current Unit 2 outage. The licensee performed an analysis of the coverage limitations and determined that there was sufficient Unit 1 data for the testing results to remain valid. The licensee also planned to conduct an ultrasonic inspection of the CRDM nozzles during the next Unit 1 outage (U1R28). This issue will be a URI pending the inspectors' review of the licensee's analysis and results of the U1R28 nozzle examination. (Section 4OA5.1.c)

#### **Cornerstone: Emergency Preparedness**

- Green. The inspectors identified a finding of very low safety significance when they observed that the licensee failed to use the current revision to safety-related Emergency Plan Implementing Procedure (EPIP) 1.3, "Tools for Dose Assessment," during a licensed operator requalification training class. This was the final scheduled class for this topic and the only one that was taught after the procedure had been revised on November 26, 2003. In addition, the inspectors noted that the training failed to include sheltering as a protective action recommendation option. This occurred despite the procedure having been changed the week before specifically to allow consideration of the sheltering option. The primary cause of this finding was related to the cross-cutting area of human performance in two respects. First, the decision not to train on the sheltering option represented a missed opportunity to train personnel on the full range of

available protective action recommendations. Second, members of Operations management and Emergency Planning supervision failed to stop the training despite having been informed at the beginning of the class that the most current revision would not be used.

The finding was considered more than minor because it: (1) involved the emergency response organization readiness and response organization performance training attributes of the Reactor Safety/Emergency Preparedness cornerstone; and (2) if left uncorrected, it could lead to inadequate performance of protective action recommendations, actions intended to protect the health and safety of the public. The finding was not a violation of regulatory requirements. (Section 1EP6)

### **Cornerstone: Occupational Radiation Safety**

- Green. A self-revealing finding of very low safety significance was identified involving a Non-Cited Violation of 10 CFR 20.1602 concerning the licensee's failure to adequately control access to a Very High Radiation Area (VHRA). The licensee failed to guard the access to the Unit 2 Keyway (a posted VHRA) for approximately 7 hours following identification by licensee personnel that the key to the Keyway lock had been lost (i.e., lack of positive control). The primary cause of this finding was related to the cross-cutting area of human performance, in that, despite adequate station procedures and training of radiation protection personnel for proper VHRA key control and requirements to post and guard VHRAs, the gate was left unguarded for several hours.

This issue was more than minor because both the VHRA key control issue, and the resulting unguarded VHRA gate issue, if left uncorrected, could become a more significant safety concern (i.e., had someone inadvertently accessed the Keyway, while the thimbles had been withdrawn). The finding was of very low safety significance, since the VHRA key was inaccessible to any plant personnel in the containment, as it had been inadvertently left in the pocket of protective clothing that had been transferred to an out-of-state laundry facility. Additionally, the Keyway access gate (which was locked and posted properly) was in the general proximity of a radiation protection work station, with radiation protection technicians generally present at that level of the reactor containment during the time period that the access was not positively controlled. (Section 2OS1.4.b.1)

### **Cornerstone: Public Radiation Safety**

- Green. A self-revealing finding of very low safety significance was identified involving a Non-Cited Violation of 10 CFR 20.1501 and 10 CFR 20.1802 concerning the licensee's failure to adequately survey a valve prior to release from the restricted area and its subsequent shipment offsite to a vendor. Although the external surfaces of the valve were surveyed, the radiation protection technician performing the release survey was not aware that valve 2CV-203 had been exposed to primary reactor coolant and did not evaluate the possible internal contamination. During receipt surveys, the vendor identified the internal contamination prior to performing work on the valve. The primary cause of this finding was related to the cross-cutting area of human performance, in that, despite adequate station procedures and training of radiation protection personnel

for proper determination of materials being evaluated for release or control at the Radiologically Controlled Area (RCA) boundary, an adequate survey was not performed and the valve was released for shipment to the vendor as unrestricted material.

This issue was more than minor because the radioactive material issue, if left uncorrected, could become a more significant safety concern. However, the finding was of very low safety significance since public radiation exposure was not greater than 0.005 Rem and the licensee did not have more than five radioactive material control occurrences in the previous eight quarters. (Section 2PS3)

**B. Licensee-Identified Violations**

Violations of very low significance, which were identified by the licensee, have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program (CAP). These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

## **REPORT DETAILS**

### **Summary of Plant Status**

Unit 1 began the inspection period at full power and remained there for the duration of the assessment period, except for reductions in power to facilitate routine maintenance and testing. In addition, on October 29 through 31, 2003, operators reduced power to 83 percent due to solar magnetic disturbances and the effect on electrical grid stability.

Unit 2 began the inspection period at 78 percent power during an end-of-cycle power reduction. On October 3, 2003, operators began reducing power toward shutdown and the U2R26 outage began on October 4. Startup from the outage began on November 17. The Unit returned to full power operations on November 22 and remained there through the end of the assessment period, with the exception of brief power reductions to facilitate routine testing

### **1. REACTOR SAFETY**

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

##### **1R01 Adverse Weather Protection (71111.01)**

###### **a. Inspection Scope**

The inspectors walked down accessible portions of risk-significant equipment and systems that were susceptible to cold weather freezing. The inspectors also reviewed the licensee's preparation of the facade structures and buildings outside of the power block. The inspectors reviewed the corrective actions and work orders (WOs) written to correct problems that were identified and completion dates to ensure that work would be completed prior to the onset of cold weather. The inspectors also walked down areas that have had freeze problems during the last 4 years. These observations constituted two inspection samples, and included:

- Unit 1 cold weather preparations and facade freeze protection issues
- Unit 2 cold weather preparations and facade freeze protection issues

###### **b. Findings**

No findings of significance were identified.

#### 1R04 Equipment Alignment (71111.04)

##### .1 Partial System Walkdowns

###### a. Inspection Scope

The inspectors performed four partial walkdowns of accessible portions of risk-significant systems to verify the systems were capable of performing the intended function. The inspectors utilized valve and electrical breaker checklists, tank level books, plant drawings, and selected operating procedures to verify that the components were properly positioned and supported the systems as needed. The inspectors also examined the material condition of the components and observed operating equipment parameters to verify that there were no obvious deficiencies. The inspectors reviewed completed WOs and calibration records associated with the systems to verify that those documents did not reveal issues that could affect component or train function. The inspectors used the information in the appropriate sections of the Final Safety Analysis Report (FSAR) to determine the functional requirements of the system. These observations constituted four quarterly inspection samples.

The inspectors verified the alignment of the following systems:

- Unit 1 AFW Electrical Systems;
- Unit 2 AFW Electrical Systems;
- Unit 1 AFW Mechanical Systems; and
- Unit 2 AFW Mechanical Systems.

###### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection (71111.05)

##### .1 Walkdown of Selected Fire Zones

###### a. Inspection Scope

The inspectors performed fire protection walkdowns, which focused on availability, accessibility, and the condition of fire fighting equipment, the control of transient combustibles and ignition sources, and on the condition and operating status of installed fire barriers. The inspectors selected twelve fire areas for inspection based on their overall contribution to internal fire risk, as documented in the Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors used the documents listed in the Attachments to verify that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and that fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The

inspectors verified that minor issues identified during the inspection were entered into the licensee's CAP.

The following areas were inspected by walkdowns:

- Fire Area A19, D105 Battery Room Zone;
- Fire Area 142, Component Cooling Water (CCW) Pump Room;
- Fire Area 151, Safety Injection (SI) Pump Room;
- Fire Area 155, Valve Gallery - Pipe Way 1;
- Fire Area 156, MCC [Motor Control Center] Room - 1B32;
- Fire Area 159, HVAC [Heating, Ventilation and Air Conditioning] Equipment Room;
- Fire Area 162, Valve Gallery - Pipe Way 4;
- Fire Area 166, MCC Room - 2B32;
- Fire Area 187, Monitor Tank Room;
- Fire Area 225, Battery Room - D106;
- Fire Area 226, 125 Volts Direct Current (VDC) Electrical Equipment Room - D04; and
- Fire Area 227, 125 VDC Electrical Equipment Room - D03.

The inspectors' review focused on the control of transient combustibles and ignition sources, the material condition of fire protection equipment, and the material condition and operational status of fire barriers used to prevent fire damage or propagation. Area conditions/configurations were evaluated based on information provided in the licensee's Fire Hazards Analysis Report. The inspectors also walked down the listed areas to verify that fire hoses, sprinklers, and portable fire extinguishers were installed at their designated locations, were in satisfactory physical condition, and were unobstructed, and to verify the physical location and condition of fire detection devices. Additionally, passive features such as fire doors, fire dampers, and mechanical and electrical penetration seals were inspected to verify that they were located in accordance with Fire Hazards Analysis Report requirements and were in acceptable physical condition. These observations constituted twelve quarterly inspection samples.

b. Findings

b.1 Inadequate Corrective Actions for Control of Transient Combustibles

Introduction: The inspectors identified a finding involving the licensee's failure to take adequate corrective actions to control transient combustible materials. This issue was determined to be of very low safety significance and was dispositioned as a Green Non-Cited Violation (NCV).

Description: The inspectors observed materials in the 8 foot elevation of the primary auxiliary building which were not considered as part of the permanent fire loading calculations nor evaluated as transient combustible materials. Specifically, on October 16, 2003, the inspectors observed:

- In Fire Zone 159, HVAC equipment room, staging area having combustible materials including two coils of plastic hoses, storage barrel (55 gallon drum), plastic bucket, and an open large tool chest.
- Also in Fire Zone 159, several large storage cabinets, some of which were labeled as containing flammable materials.
- In Fire Zone 156, MCC room, anti-contamination clothing container and a large waste can; these materials were located approximately 10 feet below cable trays.
- In Fire Zone 142, CCW room, anti-contamination clothing container; the container was located approximately 7 feet below cable trays.

The inspectors were not able to locate a transient combustible control permit on any of the materials identified above. In addition, the inspectors reviewed the transient combustible material control log on October 16, 2003, and did not identify any permits which addressed these materials.

On November 13, 2003, the inspectors observed:

- In Fire Zone 159, HVAC equipment room, welding equipment, including electrical cables and rope.
- In Fire Zone 159, HVAC equipment room, staging area (same area as identified on October 16, 2003) with combustible materials including equipment cart with two coils of plastic hose and a coil of rubber hose, vacuum cleaner, and two canvas bags.

The inspectors did not observe any transient combustible control permits on the materials identified above. In addition, on November 13, 2003, the inspectors identified two large metal cabinets in Fire Zone 187, monitor tank room, containing binders of procedures and plastic hoses, plastic sheets, paper office supplies, and plastic bottles. Based on discussions with the licensee's on-site fire protection engineer and review of informal calculations which had been performed by the engineer, the metal cabinets had been added since the engineer had evaluated the fire loading in the area on October 3, 2002. The engineer stated that his understanding was that the paper (binders of procedures) had been relocated from a nearby operator workstation to the metal cabinet and had been previously evaluated as part of his fire loading calculations for the area. However, the other materials had not been evaluated by the licensee's fire protection engineer. The inspectors were not able to identify any administrative controls which limited the amount of material or the type of material placed in the cabinets.

The inspectors reviewed the calculation for fire loading (Calculation 2002-0039) and noted that the materials identified on October 16, 2003, and November 13, 2003, were

not considered in the fire loading for the applicable fire zones. The inspectors reviewed the licensee's procedure for transient combustible control, Nuclear Plant Procedure (NP) NP 1.9.9, Transient Combustible Control. The inspectors noted that Section 2.1 of the procedure stated that small amounts of combustible materials used for normal plant operation (rubber hose, protective clothing, radiation protection materials, reference materials, ladders, stools, etc.) were considered part of the permanent fire load. The inspectors expressed concern that licensee personnel could apply the above statement to mean that combustible materials used for normal plant operation had been considered as part of the permanent fire load and did not need to be evaluated as a transient combustible. However, based on review of Calculation 2002-0039, the inspectors determined that only minimal quantities of such materials, if at all, were considered as part of the permanent fire loading calculations.

The inspectors determined that the licensee had previously identified concerns with respect to fire loading calculations and materials not considered as part of fire loading calculations. The licensee's review of fire loading issues was a result of an audit (Audit Report A-P-01-19) by the licensee's quality assurance organization. The licensee had specifically identified (as documented by condition report CAP003279) that the fire loading in one fire zone (Fire Zone 187) had exceeded the fire loading value described in an NRC Safety Evaluation Report (SER) for the zone (transmitted by letter dated July 3, 1985). The licensee attributed the cause (as documented by apparent cause evaluation ACE000757) for exceeding the fire loading value to be due to ordinary combustibles located in the area, including an operator work station. However, the licensee failed to identify the lack of administrative controls as a cause for exceeding the SER fire loading value. The inspectors noted that corrective actions for the fire loading in Fire Zone 187 were delayed and the quality assurance organization became involved by addressing the issue with the site vice-president (letter NPM 2002-0521). By October 3, 2002, the licensee had reduced the amount of materials in the area such that the area fire loading was within the SER value. However, as discussed above, additional materials were later introduced to the area which had not been evaluated.

Analysis: The inspectors identified a performance deficiency, in that the licensee failed to take effective corrective actions to address control of transient combustibles. The inspectors determined that continued failure to adequately evaluate and control combustible materials could lead to the fire loading exceeding the amount considered by the NRC as part of the licensing basis. In accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," issued on June 20, 2003, the inspectors determined that the issue was more than minor because the finding, if uncorrected, could become a more significant safety concern. In accordance with IMC 0609, Appendix A, the inspectors performed a SDP Phase 1 screening and determined that the finding affected the Initiating Events cornerstone by increasing the likelihood or severity of fire. The inspectors determined that the finding was of very low safety significance (Green) because no fire protection features were affected and no instances were observed where the fire loading could cause either a fire barrier or an installed suppression system to be overwhelmed.

Enforcement: License condition 3.H requires, in part, that the licensee implement and maintain in effect all provisions of the approved fire protection program as described in the FSAR for the facility. Section 9.10.1 of the FSAR states, in part, that the fire



protection program is outlined in the FPER. Section 3.1.2.2 of the FPER states, in part, that an administrative procedure is maintained to provide guidelines for the appropriate handling and use of transient combustible material within the plant. This procedure is based on the guidance of National Fire Protection Association standards, evaluation of the level of hazard, and an evaluation of the level of protection in specific areas. This is done for both in situ and transient combustible loading. The procedure addresses the storage and handling of combustible materials associated with plant operation and maintenance, flammable and combustible liquids, wood, and plastic (including temporary storage). Section 4.8 of the FPER states, in part, that measures are established to ensure that conditions adverse to fire protection such as failures, malfunctions, deficiencies, deviations, defective components, uncontrolled combustible material, and non-conformances are promptly identified, reported, and corrected as required by the CAP. Section 4.8 of the FPER also stated that in the case of significant or repetitive conditions adverse to fire protection, including fire incidents, the cause of the conditions is determined and analyzed and prompt corrective actions are taken to preclude recurrence. The cause of the condition and the corrective action taken are to be promptly reported to cognizant levels of management for review and assessment. Contrary to this:

- As of November 14, 2003, the licensee failed to correctly determine the cause of exceeding the SER fire loading value in Fire Zone 187, in that administrative controls for combustibles were not addressed and that the requirements of FPER Section 3.1.2.2 were not met; and
- On October 16, 2003, and November 13, 2003, the licensee failed to ensure that combustible materials were adequately controlled, in that combustible materials were identified which were neither evaluated as part of the permanent fire loading calculations nor were evaluated as transient combustibles as required by FPER Section 3.1.2.2.

The licensee's failure to take adequate corrective actions, as described above, is a violation of license condition 3.H. This violation is associated with a finding that is characterized by the SDP as having very low risk significance (Green) and is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy. This violation was entered into the licensee's corrective action program as CAP051177, CAP051838, and CAP051870 (NCV 05000266/2003009-02; 05000301/2003009-02).

## b.2 Sprinkler Head Locations Not In Accordance With Fire Code

Introduction: The inspectors identified that the licensee failed to install sprinklers in accordance with the applicable fire protection code in the CCW pump area. The safety significance of the issue is to be determined and the issue will be treated as a URI pending further NRC review of significance determination.

Description: On October 16, 2003, the inspectors identified that a number of the ceiling sprinkler heads in the CCW pump area (Fire Zone 142) were located at an excessive distance down from the ceiling. The specific observations included that: (1) a sidewall sprinkler located along the north wall of the CCW pump area was approximately 18 inches below the ceiling; (2) two ceiling sprinkler heads in the central part of the

CCW pump area above the CCW pumps were located approximately 24 inches below the ceiling; and (3) three sprinkler heads along the east wall were located more than 24 inches below the ceiling. The sprinkler system was a wet pipe sprinkler system and was required to satisfy the automatic suppression requirements of 10 CFR Part 50, Appendix R, Section III.G.2. The inspectors noted that the ceiling in the CCW pump area was smooth and composed of concrete. Section 4-3.1.1 of the applicable fire protection code for sprinklers, NFPA [National Fire Protection Association] 13-1978, specified that deflectors of sprinklers in bays be located 1 inch to 12 inches below noncombustible smooth ceilings.

The inspectors determined that the licensee had previously identified NFPA code violations concerning the installed sprinkler system on the 8 foot elevation of the primary auxiliary building, the same building and elevation as the CCW pump area. The specific issue identified was that the minimum spacing between sprinkler heads had not been maintained. The inspectors reviewed the corrective action document generated at the time, CAP000769, and noted that one of the recommendations was to perform a walkdown of the sprinkler systems to determine all code violations. Based on discussions with the licensee's on-site fire protection engineer, the inspectors concluded that although a walkdown of the sprinkler system had been performed, the walkdown was ineffective, as evidenced by the licensee's failure to identify the finding that the sprinkler were not properly located.

Analysis: In accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," issued on June 20, 2003, the inspectors determined that the issue was more than minor because the finding was associated with the protection against external factors (i.e., fire) attribute of the Mitigating Systems reactor safety cornerstone and affected the Mitigating Systems objective in that a fire protection feature (i.e., an automatic suppression system) was adversely affected. In accordance with IMC 0609, Appendix A, the inspectors performed an SDP Phase 1 screening and determined that the finding degraded the Fire Protection portion of the Mitigation Systems Cornerstone. As such, screening under IMC 0609, Appendix F, was required. Based on review of IMC 0609, Appendix F, the inspectors determined that the finding required a Phase 2 evaluation since a fire protection feature was affected. The nonconforming location of the sprinkler heads would result in delay in activation of the sprinkler system because it would take a deeper (i.e., increased distance from the ceiling) hot gas layer to activate individual sprinkler heads. As such, the inspectors considered the sprinkler system in the CCW pump area to be degraded. The licensee presented initial information concerning the ignition frequencies for the area and what mitigating equipment would be available in the event of a fire. However, the inspectors determined that additional information would be required to assess the issue under IMC 0609, Appendix F.

Enforcement: License condition 3.H requires, in part, that the licensee implement and maintain in effect all provisions of the approved fire protection program as described in the FSAR for the facility. Section 9.10.1 of the FSAR states, in part, that the fire protection program is outlined in the FPER. Section 6.3.1 of the FPER stated, in part, that NFPA 13 provided dimensional guidance and criteria necessary for installation or evaluation of an existing water suppression system. Section 6.3.3 of the FPER stated, in part, that fixed water extinguishing systems were designed and installed in

accordance with applicable portions of NFPA 13 and NFPA 15. Section 4-3.1.1 of NFPA 13-1978, specified that deflectors of sprinklers in bays shall be located 1 inch to 12 inches below noncombustible smooth ceilings. Contrary to the above, as of October 16, 2003, the inspectors identified six ceiling level sprinkler heads in the CCW pump area which were located in excess of 12 inches below the ceiling. The licensee's failure to install a sprinkler system in accordance with NFPA 13, as described above, is a violation of license condition 3.H. This issue was entered into the licensee's corrective action program as CAP051175. This issue will be considered a URI pending additional engineering review and review of additional information to be provided by the licensee (URI 05000266/2003009-03; 05000301/2003009-03).

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

During the week of November 3, 2003, the inspectors completed one internal flood protection inspection sample by walking down the Unit 1 & 2 Facade Flood Zones to assess the overall readiness of internal flood protection equipment and barriers.

The inspectors evaluated flood protection features, such as flood doors, door gaps, and subsoil drains to verify that they were in satisfactory physical condition, unobstructed, and capable of providing an adequate flood barrier. The inspectors also reviewed design basis documents and risk analyses.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

.1 Resident Inspector Review of Heat Sink Performance

a. Inspection Scope

During the week of October 13, 2003, the inspectors reviewed documents associated with performance testing of spent fuel pool heat exchangers, HX-13A and B, to evaluate thermal performance capabilities and the licensee's corrective action for heat exchanger performance testing and cleaning. The inspectors reviewed the test preparations, system lineups, instrumentation configuration, test performance, and test results for engineering rigor and completeness. The inspectors also interviewed the licensee vendor conducting the test to evaluate vendor experience, verify coordination with Point Beach personnel, and ensure that appropriate acceptance criteria were clearly specified. The inspectors reviewed the test protocol documentation to confirm that the test or inspection methodology was consistent with accepted industry and scientific practices. This observation constituted one inspection sample.

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities (71111.08)

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's ISI program for monitoring degradation of the reactor coolant system (RCS) boundary and the risk significant piping system boundaries. Specifically, the inspectors reviewed records of the following four nondestructive examination activities to evaluate compliance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code requirements and to verify that indications and defects were dispositioned in accordance with the ASME Code:

- Visual examination of the Unit 2 RPV lower head penetration (bottom mounted instrumentation) Nozzles: 8, 17, 26, and 35;
- Ultrasonic examination of Unit 2 SI system weld 11 (SIS-10-SI-2002-11);
- Ultrasonic examination of Unit 2 SI system weld 14 (AC-10-SI-2001-14); and
- Ultrasonic examination of Unit 2 SI system weld 15 (AC-10-SI-2001-15).

These observations constituted two quarterly inspection samples.

The inspectors also reviewed the radiographic examination of a pressurizer spray nozzle safe-end to nozzle weld (indications found to be acceptable per ASME IWB 3514-2) from the previous outage with recordable indications that have been accepted by the licensee for continued service to verify that the acceptance was in accordance with the ASME Code. This review counted as one inspection sample.

The inspectors attempted to review pressure boundary welds for Class 1 or 2 systems which were completed since the beginning of the previous refueling outage, to verify that the welding acceptance (e.g., radiography) and preservice examinations were performed in accordance with ASME Code requirements. However, the licensee had not performed any such welds, therefore, no samples could be selected.

The inspectors reviewed one ASME Section XI Code replacement, involving the removal and replacement of a Code Class 1, Unit 2 RCS valve and section of pipe (WO 0206367) to verify that the replacement met ASME Code requirements. This review counted as one inspection sample.

The inspectors reviewed a sample of ISI related problems documented in the licensee's CAP to assess conformance with 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. In addition, the inspectors verified that the licensee correctly assessed operating experience for applicability to the ISI group.

The inspectors also confirmed that the steam generator (SG) tube eddy current examination (ECT) scope and expansion criteria met Technical Specification (TS) requirements, Electrical Power Research Institute (EPRI) Guidelines, and commitments made to the NRC; confirmed that all areas of potential degradation (based on site-specific experience and industry experience) were inspected, especially areas which are known to represent potential ECT challenges (e.g., top-of-tubesheet, tube support plates, U-bends); confirmed that the ECT probes and equipment were qualified for the

expected types of tube degradation; assessed the site specific qualification of one or more techniques (e.g., equipment, data quality/noise issues, degradation mode); assessed corrective actions for loose parts or foreign material discovered on the secondary side of the SG; and reviewed the following eddy current data because questions arose regarding eddy current data analyses:

- SG 21, row 72, column 73; and
- SG 21, row 44, column 79

This review counted as one inspection sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification (71111.11)

a. Inspection Scope

On December 8, 2003, the inspectors observed an operating crew during a licensed operator requalification training exercise using Emergency Plan Implementing Procedure (EPIP) 10.1, "Emergency Reentry," Revision 22. The inspectors also reviewed some of the changes to the simulator model against modifications made in the plant. This observation constituted one quarterly inspection sample.

The inspectors evaluated crew performance in the areas of:

- clarity and formality of communications;
- understanding of the interactions and function of the operating crew during an emergency;
- prioritization, interpretation, and verification of actions required for personnel movement once emergency response facilities have been activated;
- procedure use during an emergency;
- equipment operations staff will use in the facilities during an emergency;
- oversight and direction from supervisors; and
- group dynamics.

The inspectors compared crew performance in these areas to licensee management expectations and guidelines as presented in NP 2.1.1, "Conduct of Operations," Revision 1. The inspectors verified that the crew completed the critical tasks listed in the emergency facility position guide.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule (MR) Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the implementation of two MR systems to verify that component and equipment failures were identified, entered, and scoped within the MR and that selected systems, structures, and components were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65. The inspectors reviewed station logs, maintenance WOs, action requests, (a)(1) corrective action plans, functional failures, unavailability records, selected surveillance test procedures, and a sample of CAP documents to verify that the licensee was identifying issues related to the MR at an appropriate threshold and that corrective actions were appropriate. The inspectors also walked down portions of systems to examine material condition, ensure the proper implementation of action plans, and to verify that past functional failures had been corrected. The inspectors reviewed the licensee's performance criteria to verify that the criteria adequately reflected equipment performance needs and to verify that licensee changes to performance criteria were reflected in the licensee's probabilistic risk assessment. These observations constituted two quarterly inspection samples. Specific components and systems reviewed were:

- Facade Freeze Protection; and
- Structures.

b. Findings

No findings of significance were identified.

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

.1 Inadequate RA Associated With Removing RHR Pumps From The Shutdown Cooling Mode Of Operation

a. Inspection Scope

During the weeks of November 10 and 24, 2003, the inspectors reviewed the licensee's evaluation of plant risk during U2R26 refueling outage restart efforts to determine if scheduled and emergent work activities had been adequately managed. In particular, the inspectors reviewed the activities associated with transitioning the Unit 2 'A' and 'B' RHR pumps, 2P-10A and 2P-10B, from the shutdown cooling to the SI mode of operation while in Mode 4, hot shutdown. The inspectors focused on the adequacy of the pre-outage 10 CFR 50.65(a)(4) RA and operations performance of shutdown safety assessment checklists to evaluate the adequacy of the licensee's shutdown risk planning and use of risk management tools. In addition, the inspectors interviewed selected operations and probabilistic RA personnel and reviewed selected WOs to determine whether, on November 9, the appropriate risk categories had been entered, whether the licensee had implemented normal work controls or risk management actions (RMAs) in accordance with NP 10.3.6, "Outage Safety Review and Safety Assessment," and whether key safety functions had been preserved. This observation constituted one quarterly inspection sample.

b. Findings

Introduction. The inspectors identified a Green finding concerning an inadequate shutdown RA which failed to recognize the unavailability of the Unit 2 RHR pumps and the increased risk associated with their removal from the shutdown cooling mode of operation while in Mode 4, hot shutdown, on November 9, 2003.

Description. During control board walkdowns on the morning of November 10, 2003, the inspectors identified that the 2P-10A and 2P-10B RHR pumps had been removed from the shutdown cooling mode of operation and placed in the SI configuration over the previous night shift. The activity had been accomplished in accordance with Operating Procedure (OP) 7B, "Removing Residual Heat Removal System From Operation," in preparation for transitioning Unit 2 from Mode 4, hot shutdown, to Mode 3, hot standby. Referencing the most current shutdown safety assessment checklist that the shift technical advisor had completed on November 9 at 2:30 p.m., the inspectors discovered that on the morning of November 10, 2003 the licensee was still taking credit for two trains of RHR being available in the core cooling key safety function area despite RHR shutdown cooling operations having been secured on November 9, 2003. The inspectors questioned the shift technical advisor who performed another shutdown safety assessment checklist on November 10, 2003, at 9:00 a.m. This RA verified that the core cooling key safety function had been in the licensee-defined yellow risk category during the previous night.

The inspectors determined that the RHR pumps had been unavailable for the core cooling function between the time the control switches had been taken to pullout (approximately 5:25 p.m.) and the time the transition to the SI mode of operation had been completed (11:40 p.m.), a period of 7 hours and 15 minutes. In addition, the inspectors noted that on the morning of November 7, 2003 performance of the shutdown safety assessment checklist had been relaxed from once per 12 hours to once per day as permitted by licensee Procedure NP 10.3.6, Step 5.4.1. The result of this decision was that a shutdown safety assessment checklist was not completed prior to removing the RHR pumps from the shutdown cooling mode of operation on the evening of November 9, 2003, an action, had it been performed, would have afforded the opportunity to identify the yellow core cooling risk category that subsequently occurred between 5:25 and 11:40 p.m. The licensee did not resume increased performance of the checklist once Unit 2 plant conditions and configurations began to change on November 9. Finally, the inspectors determined that although the pre-outage RA had considered performance of OP 7B, the assessment had not recognized the unavailability of the RHR pumps to perform the core cooling key safety function when transitioning between the shutdown cooling and SI modes of operation as performed in OP 7B, Steps 5.3 through 5.29.

Licensee Procedure NP 10.3.6, Steps 3.7.1 and 5.5, defined several RMAs to be performed for yellow risk categories. The RMAs included identifying equipment as "protected" so as to create a heightened awareness to maintain the availability of remaining or redundant equipment; prohibiting work on protected equipment; prominently identifying protected equipment or areas containing protected equipment with printed signs; maintaining updated shutdown safety assessment status boards at strategic locations throughout the plant; including a list of protected equipment on the

shutdown safety assessment status boards; communicating the status of key safety functions to the work control center and the shift outage manager for each performance of the shutdown safety assessment checklist; and identifying equipment as protected during operations shift turnovers and plan-of-the-day meetings. Without having identified the core cooling yellow risk condition associated with removing the RHR pumps from the shutdown cooling mode of operation, appropriate RMAs as described in NP 10.3.6 were not implemented on November 9 between 5:25 and 11:40 p.m.

Analysis. The inspectors determined that not implementing RMAs normally required for a yellow shutdown risk condition was a performance deficiency warranting a significance evaluation in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," issued on June 20, 2003. The inspectors determined that the issue was more than minor because: (1) failure to recognize the increased risk condition resulted in compensatory risk management actions to protect the remaining reactor decay heat removal paths not being taken, actions intended to prevent entry into an unplanned orange or red risk condition; and (2) if left uncorrected, it would become a more safety significant concern if elevated reactor decay heat removal risk categories were entered without the required RMAs in place and subsequent heat removal challenges were to occur. Also, the inspectors determined that not implementing RMAs normally required for a yellow shutdown risk condition affected the cross-cutting area of human performance in two respects. First, despite reviewing the activity prior to the outage, probabilistic RA and outage planning personnel did not identify entry into the yellow risk category. Second, operations personnel did not recognize the need to increase the performance frequency of shutdown safety assessment checklists during periods of changing plant conditions.

The inspectors completed a significance determination of the issue using IMC 0609, "Significance Determination Process," dated March 21, 2003, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," dated March 18, 2002. The inspectors determined that the finding was not a design or qualification deficiency, did not represent an actual loss of the safety function, and did not involve internal or external initiating events. Therefore, the finding was considered to be of very low safety significance (Green).

Enforcement. Because transitioning the RHR pumps from the shutdown cooling to the SI mode of operation was associated with a plant configuration change completed for the purposes of normal plant operations rather than a maintenance activity, no violation of regulatory requirements occurred. This issue was considered a finding (FIN) of very low safety significance (FIN 05000301/2003009-04). The licensee entered the issue into its corrective action system as CAP051696, "PBF [Point Beach Form]-1562 SD [Shutdown] Safety Assessment Not Filled Out In A Timely Manner."

## .2 Risk Review of Selected Work Week Activities

### a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk, scheduling, configuration control, and performance of maintenance associated with planned and emergent work



activities to verify that scheduled and emergent work activities were adequately managed. These observations constituted six quarterly inspection samples.

In particular, the inspectors reviewed the following specific activities:

- October 6, 2003. This week was the beginning of the Unit 2 refueling outage. The work included shutdown and cooldown of the Unit.
- October 13, 2003. The work included core offload and effects of schedule delays on the risk profile.
- October 20, 2003. This week included the core reload and mid loop operations.
- November 2, 2003. This week included several outage extensions and the beginning of normal work week activities that were scheduled following the outage.
- November 24, 2003. This week included routine and post-outage activities.
- December 1, 2003. This week included routine work and switchyard relay testing by an off-site organization.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events (71111.14)

.1 Operator Error Results In Starting a RHR Pump With the Suction Valve Shut

a. Inspection Scope

During the weeks of October 20, 2003 and November 17, 2003, the inspectors reviewed the circumstances associated with starting the Unit 2 'B' RHR pump, 2P-10B, on October 19, 2003, with the suction valve shut. The inspectors reviewed the existing plant configuration at the time of the event as well as the human performance, communications, procedure use and adherence, and shift management command and control aspects of the event to determine if operator actions had been conducted in accordance with the licensee's policies, procedures, and expectations. This observation constituted one inspection sample.

b. Findings

Introduction: A Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when inadequate procedure place keeping resulted in starting a RHR pump with the suction valve shut. This issue was considered to be self-revealing because the isolated suction source was promptly indicated by an unexpected system response and rapidly decreasing RHR pump discharge flows.

Description: During the Unit 2 U2R26 refueling outage the reactor core had been fully off-loaded to the spent fuel pool. Prior to core reload the operators recognized the need to add borated water to the refueling cavity to achieve the proper level required for commencement of refueling activities. On October 18, 2003, operators transferred boric

acid and reactor makeup water to the Unit 2 refueling water storage tank (RWST) to achieve the proper boric acid concentration needed for addition of inventory to the refueling cavity. Operators determined that the best method of mixing the RWST contents was to pump the RWST to the reactor cavity and then pump the cavity back to the RWST to obtain a uniform boron concentration within the refueling pool and both 'A' and 'B' RHR trains.

The operators utilized safety-related Refueling Procedure RP 1C, "Refueling," Revision 49 to perform the transfers. The operators utilized RP 1C, Step 5.12, for the first transfer of the RWST contents to the refueling cavity. Since the 'A' RHR pump, 2P-10A, was used for the transfer, the 'A' RHR pump suction valve from the RWST, 2SI-856A, was opened. In accordance with Step 5.12.2.b, the 'B' RHR pump suction valve from the RWST, 2SI-856B, was shut since the 'B' pump was not being used during the initial transfer. The operators proceeded to use RP 1C, Step 5.13, to perform the second transfer of the refueling cavity contents back to the RWST to continue with the mixing evolution. This second transfer from the cavity to the RWST occurred using both the 'A' and 'B' RHR pumps. Once the required water was transferred to the RWST, the 'B' RHR pump was secured at 6:04 a.m. on October 19, 2003, and the 'A' RHR pump left running. Shortly after securing the 'B' RHR pump, SRO shift turnover commenced. At 6:22 a.m., with 'A' RHR pump still running, RP 1C Step 5.12 was repeated to commence pumping down the RWST to the refueling cavity. Using RP 1C, Attachment F, and with the intent of starting the 'B' RHR pump and securing the 'A' RHR pump to equalize the boron concentration in both trains of RHR, the 'B' RHR pump was started at 6:29 a.m. Over the next 70 seconds, operators noticed abnormal flow indications in that the 'B' RHR pump discharge flow had decreased unexpectedly. Investigation revealed that the 'B' RHR pump suction valve from the RWST, 2SI-856B, had been shut.

The inspectors identified a procedure use error, in that during the first transfer of RWST contents to the refueling cavity in accordance with RP 1C, Step 5.12.2.b, had directed the opening of only one of the RWST to RHR pump suction valves. Since operators had used the 'A' RHR pump for the initial transfer, 2SI-856A was opened and 2SI-856B was shut. The operators failed to recognize this initial configuration when starting the 'B' RHR pump in accordance with RP 1C, Attachment F, Step 5.12, a location in the procedure remote from the initial record of only 2SI-856A having been opened. Failing to reference the first performance of Step 5.12 in the main body of the procedure when starting the 'B' RHR pump resulted in the operators not realizing the suction valve to the 'B' RHR pump, 2SI-856B, had remained shut.

Analysis: The inspectors determined that starting an RHR pump with the suction valve isolated was a performance deficiency warranting a significance evaluation in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on June 20, 2003. The inspectors determined that the finding was more than minor because it: 1) affected the mitigating systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events, and 2) involved the human performance attribute of the mitigating systems cornerstone. The inspectors determined that the issue also affected the cross-cutting area of human performance because perceived time pressure, concurrent watch turnovers, lack of specific supervisory briefings, operator fatigue, and ineffective peer

and self-checking contributed to a licensed SRO and reactor operator not recognizing that the suction path to the RHR pump was isolated prior to starting the pump. The inspectors determined that since a recirculation line from the 'B' RHR pump discharge to the pump suction had been in service when the pump was started with the suction valve shut, subsequent engineering evaluations and inspections determined that the pump had not been damaged, and operators had reacted to promptly secure the pump when abnormal flow indications were noticed, the operability of the RHR pump had not been adversely impacted.

The inspectors completed a significance determination of this issue using IMC 0609, "Significance Determination Process," dated March 21, 2003, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," dated March 18, 2002. The inspectors determined that the finding did not result in a design or qualification deficiency, an actual loss of safety function, or involve internal or external initiating events. Therefore, the finding was considered to be of very low safety significance (Green).

**Enforcement:** Appendix B, Criterion V, of 10 CFR Part 50, "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, procedures, or drawings. Contrary to the above, on October 19, 2003, during attempts to equalize boron concentrations in the Unit 2 RHR trains, inadequate procedure use associated with Refueling Procedure RP 1C, Steps 5.12 and 5.13, Revision 49, resulted in starting the Unit 2 2P-10B RHR pump with the suction path isolated.

This violation was entered into the licensee's corrective action system as CAP051222, "Unit 2 RHR Pump Started On Mini-Recirculation Versus RWST." Because this violation was of very low safety significance and it was entered into the licensee's CAP, this violation is being treated as an NCV consistent with Section VI.A. of the NRC Enforcement Policy. (NCV 05000301/2003009-05)

.2 Low Instrument Air (IA) Header Pressure

a. Inspection Scope

On December 5, 2003, the inspectors observed the response to a low North IA header pressure alarm when an unsoldered pipe joint separated causing the air header pressure to drop to approximately 50 pounds. The inspectors reviewed the resulting Unit 2 plant transient which included complete closure of one main feedwater regulating valve, partial closure of the other regulating valve, and reduced steam generator levels. The inspectors reviewed control room operator action to start the back-up air compressor, operate the main feedwater regulating valves in manual, stabilized the plant, and returned Unit 2 to normal operations. The inspectors also reviewed the timeliness and assessment capabilities of a relief operator who responded to the announcement about low IA header pressure, heard the air venting, followed the sound to the lower level of the North service building, located the break, traced the air line to the nearest isolation valve, and stopped the leak. This observation constituted one inspection sample.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 Unit 1 and 2 Containment Purge Supply and Exhaust Isolation Valve Boot Seals

a. Inspection Scope

During the weeks of November 4, 2003, and 17, 2003, the inspectors reviewed Operability Determination OPR000093, "Unit 1 and Unit 2 Containment Purge, Supply and Exhaust System Supply (VNPSE-3244, -3245) and Exhaust (VNPSE-3212, -3213)," Revisions 0 and 1 and CAP051581, "VNPSE [Ventilation Purge Supply and Exhaust] Valves IST [Inservice Inspection Test] Acceptance Criteria Incorrect Not Conservative," to determine the potential primary containment integrity impacts of relaxed T-ring seals. The inspectors interviewed selected engineering personnel, reviewed past seal leakage data and design basis requirements, evaluated the effects of limited instrument air supplies on Large-Early-Release-Frequency (LERF) risk parameters, and reviewed selected emergency and abnormal operating procedures to determine the ability of the purge supply and exhaust valves to perform the intended safety function. This observation constituted one inspection sample.

b. Findings

The purge supply and exhaust system was used to purge containment atmosphere prior to personnel entry following reactor shutdown. The containment isolation valves associated with this system were normally maintained closed with their control switches locked in the closed position in Modes 1, 2, 3, and 4 to ensure containment boundary integrity was maintained. There were four valves associated with each Unit, two associated with the supply system and two associated with the exhaust system. For each penetration, one valve was located inside containment and one outside containment. Each valve was a 36" diameter butterfly valve that used an elastomer T-ring at the seating surface to achieve a tight seal. The IA system supplied external pressure to the T-ring which forced the ring against the butterfly disc periphery. Without the pneumatic pressure, there was no contact between the valve disc and the T-ring.

All purge supply and exhaust valves had an air accumulator which, in case of IA failure, retained air pressure to the T-ring. In addition to the air accumulators, the Unit 2 VNPSE valves outside containment were equipped with a safety-related nitrogen backup system. Inservice test procedures measured T-ring seal air supply system leakage for each purge supply and exhaust valve with an IA pressure drop acceptance criteria of 5 pounds per square inch gauge/hour. Using abnormal operating Procedure 5B and the vendor recommended minimum pressure to ensure proper operation of the T-ring seal, the seals would be below minimum pressure in 4 hours and containment integrity challenges could occur. Since the licensing basis duration for maintaining containment integrity was 30 days, operator action to re-align the IA system or change nitrogen bottles for Unit 2, would be required to assure that the minimum boot

seal pressure would be maintained for the full 30 days, actions not specifically described or discussed in the FSAR and plant design basis.

Since the IA system was not safety-related and could not be relied upon to mitigate the consequences of an accident, the licensee determined that the containment isolation function was non-conforming to the licensing basis. Although the IA system was not safety-related, it was considered reliable in that the system; 1) was restored early in the emergency operating procedures following a design basis loss-of-coolant accident; 2) observed simulator scenarios had demonstrated that operators would restore IA in approximately 30 minutes; 3) the IA system was supplied with an automatic back-up source of pressure from the service air system; and 4) the IA compressors are powered from the safeguard busses. Based on these attributes, the licensee determined that there was sufficient time to restore the IA system and normal operating pressure to the T-ring seals such that containment integrity would not be challenged.

The inspectors determined that the licensee had not fully understood the primary containment design basis in that the safety-related function of maintaining containment integrity for 30 days following a design basis loss-of-coolant accident had been dependent on a non-safety related system, instrument air. The licensee did not recognize the vulnerability of the instrument air dependency on the boot seal performance and verify that sufficient actions were in place to restore IA prior to containment integrity challenges until VNPSE butterfly valve testing that occurred during the Unit 2 refueling outage. The inspectors determined that leakage of two valves in series could pose a challenge to containment integrity during a design basis accident involving loss of IA and relaxed boot seals. The inspectors reviewed boot seal leakage data from 2000 to the present and identified that between August 14, and October 12, 2002, for the Unit 1 purge exhaust penetration and between May 5 and June 5, 2002, for the Unit 2 supply penetration such a condition had existed.

The inspectors determined that the issue of containment integrity, being dependent on a non-safety system, IA, to perform the intended safety function was more than minor since it affected the reactor safety/barrier integrity cornerstone containment functionality attributes of 1) design control, operational capability; 2) configuration control, preservation of containment boundaries, and 3) barrier performance, containment isolation reliability and availability. The inspectors determined that the issue did not affect core damage frequency but influenced containment LERF.

The Regional Senior Reactor Analyst reviewed the issue for potential LERF significance using MC 0609, Appendix H and NUREG-1765, "Basis Document for Large Early Release Frequency (LERF) Significance Determination Process (SDP)." The issue was determined to be a Type B finding, in that it was unrelated to those structures, systems, and components that are needed to prevent accidents from leading to core damage but had a potentially important implication for the integrity of the containment. NUREG-1765 states that a containment leak rate of about 100 volume percent per day for PWRs appears to constitute an approximate threshold beyond which the release may become significant to LERF. The 100 volume percent per day leakage rate is approximately equivalent to a hole size in containment of 2.5 - 3.0 inches in diameter for Point Beach's large dry containment. The containment purge valve leakage (approximate leakage of a 1/16 inch gap) would represent an area less than that of a

2.5 in diameter hole; and would therefore not be considered a LERF concern. This issue is considered to screen out as an issue of green risk significance using MC 0609, Appendix H. This licensee-identified violation is dispositioned in Section 4OA7.

.2 Non-Safety Related Worm and Worm Gears Used in Safety-Related Motor Operated Valve (MOV) Actuators

a. Inspection Scope

During the weeks of November 8 and December 15, 2003, the inspectors reviewed Operability Determination OPR000092, "Non-QA [Quality Assurance] Worm Used in QA MOV for 1SI-866A," and CAP051530, "Non-QA Worm and Worm Gear Used in QA Application for Limitorque Operator SMB-00," to determine the operability effects of non-safety related parts on six safety-related MOVs. The inspectors interviewed selected engineering personnel and reviewed vendor material strength calculations; MOV force loading calculations; design basis requirements; extent-of-condition assessments; and selected valve actuator timing trends to evaluate the ability of the MOVs to perform the intended safety function. This observation constituted one inspection sample.

b. Findings

During Unit 2 refueling outage work on a turbine-driven AFW pump steam supply MOV, maintenance personnel identified that a non-safety related worm gear had been installed in the actuator during the last refurbishment. A licensee work history search revealed that six other MOVs also contained varying combinations of non-safety worms and worm gears, four Unit 2 MOVs and two Unit 1 MOVs. The Unit 2 non-safety related components were all replaced with safety-related parts during the refueling outage prior to power ascension. One Unit 1 MOV, 1SI-866A, "Cold Leg Injection Line Isolation," remained installed with an operable but non-conforming designation with the justification that, although testing and certification requirements differed, both the safety-related and non-safety related parts had been manufactured by the same original equipment manufacturer (OEM) and had identical design and manufacturing requirements. Hence, the strength and endurance properties of both the safety-related and non-safety related parts were reasoned to be the same and the ability to perform the intended safety-related function was determined to be unaffected. Since the four Unit 2 MOVs had used OEM components, the same argument applied to past operability considerations for those MOVs.

The remaining Unit 1 MOV, 1AF-4000, "1P-29 Auxiliary Feedwater Pump Discharge to 'B' Steam Generator," was declared inoperable at 3:05 p.m. on October 31, 2003, since the installed worm gear had not been manufactured by the original equipment manufacturer and the same argument could not be applied. A safety-related worm gear was subsequently installed and the limiting condition for operation exited at 4:27 p.m. on November 1, 2003. Initial hardness testing indicated that the 1AF-4000 worm gear had about one half of the material strength of the OEM part.

Since an analysis of 1AF-4000 material and fatigue properties had not been finished at the end of this inspection period, the safety significance of the issue is To Be

Determined. The issue did not represent an immediate safety concern and will be considered a URI pending completion of further regulatory review (URI 05000266/2003009-06). The licensee entered this condition as CAP051530, "Non QA Worm and Worm Gear Used in Quality Assurance Application for Limitorque Operator SMB-00."

.3 Through-Wall Pinhole Leak in Service Water (SW) Suction Piping to the 2P-29 AFW Pump

a. Inspection Scope

During the weeks of November 10 and 24, 2003, the inspectors reviewed the operability determination and initial operator actions associated with CAP051703, "Through-Wall Pinhole Type Leak in Service Water Piping to 2P-29 Auxiliary Feedwater Pump," to evaluate the impact of the leak on AFW system operability. The inspectors interviewed selected system engineering and nondestructive evaluation personnel, reviewed the adequacy of SW piping monitoring programs, verified the adequacy of the leak isolation boundaries, reviewed ASME Code classification and NRC guidance concerning evaluation and repair of the piping, evaluated licensed operator understanding and awareness of evaluation requirements and operability bases, and reviewed the timeliness with which operations personnel isolated the pinhole leak to ensure the AFW system remained capable of performing the intended safety function. This observation constituted one inspection sample.

b. Findings

No findings of significance were identified.

.4 Selected Operability Determination Reviews

a. Inspection Scope

The inspectors reviewed three operability determinations the licensee generated that warranted selection on the basis of risk. The inspectors reviewed the following operability determinations:

- prompt operability determination for CAP050815, "FI-4007, P-38A AFW Pump Exhibited Intermittent Flow Indication With P-38B Running," October 8, 2003;
- Operability Determination 000096, "Main Steam Containment Penetrations," November 17, 2003; and
- prompt operability determination for CAP051234, "Unknown Auxiliary Feedwater Indication Has Been Found," October 19, 2003.

The inspectors assessed the accuracy of the evaluations, the use and control of compensatory measures as needed, and compliance with the TSs. The inspectors' review included a verification that the operability determinations were made as specified by NP 5.3.7, "Operability Determinations." The technical adequacy of the determinations were reviewed and compared to the TSs, Technical Requirements Manual, Updated Safety Analysis Report (USAR), and associated design basis

documents. In addition, the inspectors reviewed selected issues that the licensee entered into its corrective action program to verify that identified problems were being entered into the program with the appropriate characterization and significance. This observation constituted three inspection samples.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (OWAs) (71111.16)

a. Inspection Scope

The inspectors reviewed operator workarounds with particular focus on the method by which instructions and contingency actions were communicated and reviewed to on-shift licensed operators.

The inspectors completed three samples by reviewing:

- Electrical power configuration during the Unit 2 refueling outage to accommodate work on three switchyard transformers;
- OWA 0-03-001 FP, Fireworks Fire Detection System; and
- OWA 0-03R-002 RMS, SPING detector alarms due to low background radiation.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (PMT) (71111.19)

a. Inspection Scope

The inspectors reviewed PMT activities associated with the scheduled and emergent work activities listed below to verify that the testing was adequate for the scope of the work performed and the equipment remained capable of performing the intended function. These observations constituted seven quarterly inspection samples.

The inspectors reviewed the following activities:

- PMT on the 2MS-2019 steam supply valve to the Unit 2 turbine-driven AFW pump;
- PMT on 1AF-4000 following worm replacement;
- PMT for Containment Isolation Valve 2SC-966A, after rework for leakage;
- PMT for CCW Pump 1P-11A, after quarterly motor greasing and bearing oil flushing and change;
- PMT for Crossover Steam Dump Valve 1-DV-1, after troubleshooting failure of valve to reseal during a quarterly surveillance test;



- PMT for the Unit 2 main steam dump valve for “B” steam generator, 2-MS-2015, following outage maintenance; and
- PMT for containment spray system suction valves following routine maintenance.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

.1 Routine Refueling Outage Inspection Activities

a. Inspection Scope

The inspectors observed the licensee’s performance during the twenty-sixth Unit 2 refueling outage (U2R26) conducted between October 4 and November 17, 2003. These inspection activities constitute one refueling outage inspection sample.

This inspection consisted of a in-office review of the licensee’s outage schedule, safe shutdown plan and administrative procedures governing the outage, periodic observations of equipment alignment, and plant and control room outage activities. Specifically, the inspectors assessed 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 in-plant observations of the following daily outage activities:

- attended outage management turnover meetings to verify that 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 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 verify that identified problems were being entered into the program with the appropriate characterization and significance.

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

- control room staff performing the Unit 2 shutdown and initial cooldown;
- that RCS cooldown rates were within TS limits;
- control room staff operations during reduced inventory conditions;
- RPV head lift;
- core unloading activities in the reactor containment, spent fuel pool, and control room;
- core reload from the control room;

- core load verification from containment;
- operators aligning the RHR system for shutdown cooling;
- placement of the over-pressure protection system into operation;
- a pre-job briefing for fuel handling evolutions;
- walkdowns of the auxiliary building to verify the placement of clearance orders on the Unit 2 electrical bus, Units 1 and 2 CCW, and the Unit 2 SW systems;
- lifting and transport of the reactor vessel head in preparation for core offload;
- alignment of the spent fuel pool cooling systems;
- walkdown of the control room and turbine building to verify Unit 2 safety-related electrical alignments following battery charger and 4 kilo-volt electrical bus routine maintenance;
- closeout inspection of the Unit 2 containment, including a review of the results of the emergency core cooling sump inspection that had been performed earlier by the licensee. As part of this inspection, the inspectors also verified that all discrepancies noted during the walkdown were recorded and corrected;
- portions of low power physics testing and initial dilution to criticality;
- portions of the plant power ascension;
- reviewed Mode change checklists and verified that selected requirements were met while transitioning from the refueling Mode to full power operations;
- walked down nozzle dam control panels to verify proper indications, installation, removal, and alarms functions;
- steam generator drain plug removal and boroscope inspection for debris in drain hole;
- review of shutdown margin calculations;
- spent fuel pool cooling and SW pump configurations during full core offload;
- inspected and verified reduced inventory level RCS transmitter configurations;
- verified proper alignment and operation of potential-dilution-in-progress alarm; and
- reviewed the evaluation of thimble tube fine debris in new fuel assemblies.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed selected surveillance tests and reviewed test data to verify that risk-significant equipment met the TS, FSAR, and licensee procedural requirements and demonstrated the capability to perform the intended safety functions. The activities were selected based on their importance in verifying mitigating systems capability and barrier integrity. The inspectors used the documents listed in the Attachment to verify that the testing met frequency requirements; that the tests were conducted in accordance with the procedures, including establishing the proper plant conditions and prerequisites; that the test acceptance criteria were met; and that the results of the tests were properly reviewed and recorded. In addition, the inspectors interviewed operations, maintenance and engineering department personnel regarding the tests and test results. These observations constituted eight quarterly observations.

The inspectors completed the following samples by evaluating the following surveillance tests:

- Inservice Test (IT) 545C, Leakage Reduction and Preventative Maintenance Program Test of Containment Spray System Mode 1, 2, or 3, Unit 2;
- IT-65, Containment Isolation Valves Quarterly Test;
- Operations Refueling Test (ORT) 64, RE 211 and 212 Supply Leak Rate Test;
- ORT 3A, Safety Injection Actuation With Loss Of Engineering Safeguards AC, Unit 2 (Trains A&B);
- Unit 1 Containment Tendon Gallery 15 Year ISI;
- IT-4D, Unit 2 Residual Heat Removal Valve Exercise Test for Operations or Shutdown Unit;
- IT 245, Safety Injection Accumulator Valves (Cold Shutdown) Unit 2; and
- ORT 3B, Safety Injection Actuation With Loss Of Engineering Safeguards AC, Unit 2 (Trains A&B).

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors conducted in-plant observations of the physical changes to the equipment and in-office reviews of documentation associated with two temporary modifications. The inspectors reviewed design basis documents and safety evaluation screenings to ensure that the modifications were consistent with documents, drawings and procedures. The inspectors also reviewed the post-installation results to confirm that any impacts of the temporary modifications on permanent and interfacing systems were adequately verified. These observations constituted two inspection samples.

The inspectors reviewed the following temporary modifications:

- Unit 2 Primary Containment Purge Supply and Exhaust System Blank Flange Installation; and
- Unit 2 Steam Generator Nozzle Dam Installation During Refueling Outage.

b. Findings

No findings of significance were identified.

## **Cornerstone: Emergency Preparedness**

### **1EP2 Alert and Notification System (ANS) Testing (71114.02)**

#### **a. Inspection Scope**

The inspector discussed with Emergency Preparedness staff the operation, maintenance, and periodic testing of the ANS in the Manitowoc County portion of the Point Beach Nuclear Plant's Emergency Planning Zone (EPZ). The discussions were to determine whether this ANS equipment was adequately maintained by Wisconsin Public Service Company staff, who remained responsible for the maintenance of the Point Beach Nuclear Plant's and the Kewaunee Nuclear Power Plant's ANS equipment for these plants' overlapping EPZs. The inspector reviewed and discussed the results of periodic ANS tests performed by Manitowoc County officials for the time period from January 2002 through October 2003. The inspector observed a member of the licensee's emergency plan staff while she coordinated with a county official, who initiated a weekly test of the 14 ANS sirens within Manitowoc County. The inspector also reviewed samples of 2002 and 2003 records associated with scheduled and other ANS equipment maintenance activities for the Manitowoc County sirens to verify that adequate corrective actions were taken following test failures and other identified equipment malfunctions. These activities constituted one inspection sample.

#### **b. Findings**

No findings of significance were identified.

### **1EP3 Emergency Response Organization (ERO) Augmentation Testing (71114.03)**

#### **a. Inspection Scope**

The inspector reviewed and discussed aspects of the licensee's provisions for augmenting its onshift ERO, besides those documented in Supplemental Inspection Report 50-266/02-14 and 50-301/02-14 and Supplemental Inspection Report 50-266/03-06 and 50-301/03-06.

Specifically, the inspector reviewed and discussed with emergency plan staff the procedures that included the primary and alternate methods of initiating an ERO activation to augment the onshift ERO, plus provisions for maintaining the ERO call-out roster and for periodically updating the ERO Telephone Directory. The inspector also reviewed critique and CAP records of extra staff augmentation drills that were conducted in Summer 2003 to determine the adequacy of the drills' critiques and associated corrective actions. The inspector observed a portion of an emergency plan overview training course, which was attended by a group of ERO members, to assess the adequacy of the course's information on the licensee's emergency planning commitments, including its onshift ERO augmentation provisions. These activities constituted one inspection sample.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspector reviewed Letters of Agreement, which were maintained onsite, with the offsite support organizations listed in Revisions 21 and 22 of Appendix D of the Emergency Plan to determine whether any changes in any agreement may have decreased the effectiveness of the licensee's emergency planning. The inspector also reviewed the following May 2003 revisions to portions of the Emergency Plan to determine whether any changes reduced the effectiveness of the Plan: Section 1, Section 2, Section 8, and Appendix A. The inspector noted that the May 2003 revisions to Appendices E, F, and G of the Plan were basically references to the State's and counties' emergency plans that were maintained separately by offsite officials. The inspector also noted that the draft Revision 23 to Appendix D included an existing Letter of Agreement that was not listed in the previous two revisions of this Appendix. These activities constituted one inspection sample.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspector reviewed a sample of Nuclear Oversight staff's 2002 and 2003 audits of the emergency plan program to verify that these independent assessments met the requirements of 10CFR 50.54(t). The inspector also reviewed a sample of critiques and corrective action documents that were associated with the 2002 biennial exercise, as well as various emergency plan drills conducted in 2002 and 2003 in order to verify that the licensee fulfilled its drill commitments and to evaluate the licensee's efforts to identify, track, and resolve concerns identified during these activities. The inspector reviewed and discussed recent records associated with the ongoing project to reassess and upgrade the plant's meteorological monitoring equipment. These activities constituted one inspection sample.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

.1 Protective Action Recommendation Training for Licensed Reactor Operators Using an Outdated Procedure

a. Inspection Scope

The inspectors observed the classroom and laboratory protective action recommendation training for licensed operators during the week of December 4, 2003. The training consisted of a classroom discussion of EPIP 1.3, "Dose Assessment and Protective Action Recommendations" Revision 31, and a laboratory section that included several dose assessments and required the operators to make recommendations. The inspectors also reviewed the adequacy of the training associated with EPIP 1.3, Revision 32. The inspection activity constitutes one inspection sample.

b. Findings

Introduction: A Green finding was identified when the inspectors observed that the licensee failed to use a current revision to EPIP 1.3, a safety related procedure, during a licensed operator requalification training class. The finding was not considered a violation of regulatory requirements.

Description: On December 4, 2003, during the "Tools for Dose Assessment" class the instructor did not use the current revision of EPIP 1.3, "Dose Assessment and Protective Action Recommendations," Revision 32. This was the final scheduled class for this topic and the only one that was taught after the procedure had been revised on November 26, 2003. The instructor stated at the beginning of class that the procedure had been changed and that he was using the old revision. The instructor's rationale was that the class objectives were not to train on the specific changes on Revision 32, thus using the previous revision remained acceptable. The inspectors noted that the training failed to include and detail sheltering as an option. This occurred despite the procedure allowing such consideration having been changed the week before. Operators were being trained to an outdated, superseded procedure.

The Assistant Operations Manager, Operations Training Shift Manager, two Shift Managers, and an Emergency Preparedness Supervisor in the classroom recognized that training was being performed from an old revision. However, they did not stop the training and have the instructor obtain the most current revision. They did discuss the need for the current revision during the break between the classroom portion and the practical application portion of the class. The inspector observed the class to see if the new revision of the procedure was brought into the room where the practical application was taught. The inspector noted that the new revision was not used by the students nor was there any mention about the changes during the practical application exercises. The trainees that stayed after the class were given the new revision of the procedure.

The procedure change discussing the addition of sheltering as an option did not occur until after an e-mail was sent to those that were required to perform dose assessment.

The inspectors questioned the emergency plan Supervisor on the effectiveness of the training and whether there has been any follow-up effectiveness review.

Analysis: The inspectors determined that providing training on the wrong revision of the EPIP was a performance deficiency warranting a significance evaluation in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on June 20, 2003. The finding was considered more than minor because it: (1) involved the emergency response organization readiness and response organization performance training attributes of the Reactor Safety/Emergency Preparedness cornerstone; and (2) if left uncorrected, it could lead to inadequate performance of protective action recommendations, actions intended to protect the health and safety of the public. Also, the inspectors determined that not training on the change to the procedure (the inclusion of "sheltering" as an option for the protective action recommendation) affected the cross-cutting area of human performance in two respects. First, the decision not to train on the sheltering option represented a missed opportunity to train personnel on the full range of available protective action recommendations. Second, the Assistant Operations Manager, Operations Training Shift Manager, two Shift Managers, and an Emergency Preparedness Supervisor in the classroom failed to stop the training despite having been informed at the beginning of the class that the most current revision would not be used.

The inspectors completed a significance determination of the issue using IMC 0609, "Significance Determination Process," dated March 21, 2003, Appendix B, "Emergency Preparedness Significance Determination Process," dated March 3, 2003. The inspectors determined that the finding was considered to be of very low safety significance (Green).

Enforcement: The operators were being trained on activities in accordance with a safety-related procedure. The procedure was one required by 10 CFR 50.47(b)(5), and the training was required by 10 CFR 50.47(b)(15). Because the correct revision of the procedures was in the emergency response facilities and the training that was presented did not include any portion of the procedure that had been changed, no violation of regulatory requirements occurred. This issue was considered a finding of very low safety significance (FIN 05000266/2003009-07; 05000301/2003009-07). The licensee entered the event into its corrective action system as CAP052133, "Failure to Use Current Copy of Procedure in Classroom Training," dated December 4, 2003.

## 2. RADIATION SAFETY

### Cornerstone: Occupational Radiation Safety

#### 2OS1 Access Control to Radiologically Significant Areas (71121.01)

##### .1 Review of Licensee Performance Indicator (PI) for the Occupational Exposure Cornerstone

###### a. Inspection Scope

The inspectors reviewed the licensee's occupational exposure control cornerstone PIs to determine whether the conditions surrounding the PIs had been evaluated, and that identified problems had been entered into the CAP for resolution. This represents one sample completed.

###### b. Findings

No findings of significance were identified.

##### .2 Plant Walkdowns and Radiation Work Permit (RWP) Reviews

###### a. Inspection Scope

The inspectors reviewed licensee controls and surveys in the following radiologically significant work areas within radiation areas and high radiation areas (HRAs) in the plant and reviewed work packages which included associated licensee controls and surveys of these areas to determine if radiological controls including surveys, postings and barricades were acceptable:

- Radwaste handling areas;
- Primary Auxiliary Building (PAB);
- Refuel floor/Spent fuel pool area; and
- Unit 2 Containment.

The above inspection activity constitutes one inspection sample.

The inspectors walked down and surveyed (using an NRC survey meter) the above four areas to verify that the prescribed radiological work permit (RWP), procedure, and engineering controls were in place, that licensee surveys and postings were complete and accurate, and that air samplers were properly located. The inspection activity constitutes one inspection sample.

The inspectors reviewed the RWPs and work packages used to access the above four areas and other high radiation work areas to identify the work control instructions and control barriers that had been specified. The inspectors evaluated electronic dosimeter alarm set points for both integrated dose and dose rate for conformity with survey indications and plant policy. The inspectors interviewed workers to verify that they were



aware of the actions required when their electronic dosimeters noticeably malfunctioned or alarmed. The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed five corrective action reports related to access controls and two high radiation area (HRA) radiological incidents when available (non-PIs identified by the licensee in HRAs <1R/hr). The inspectors interviewed staff members and reviewed corrective action documents to verify that 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 NCVs tracked in the corrective action system; and
- Implementation/consideration of risk significant operational experience feedback.

The above inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.4 High Risk Significant, High Dose Rate HRA and VHRA Controls

a. Inspection Scope

The inspectors discussed with Radiation protection supervisors the controls that were in place for special areas that had the potential to become very high radiation areas (VHRAs) during certain plant operations (i.e., spent fuel movements), to determine whether the operations required communication beforehand with the Radiation protection group, so as to allow corresponding timely actions to properly post and control the radiation hazards. The inspection activity constitutes one inspection sample.

The inspectors walked down applicable areas of the plant to verify the posting and locking of entrances to high dose rate HRAs, and VHRAs. The inspection activity constitutes one inspection sample.

b. Findings

b.1 Failure to Control Access to a Very High Radiation Area

Introduction: The inspectors identified a NCV of 10 CFR 20.1602 of very low safety significance (Green), which was identified through a self-revealing event, when the key for the Unit 2 Keyway (i.e., a posted VHRA, which had been established prior to withdrawing the thimbles ) was uncontrolled, and, subsequently, the access to the Keyway was improperly controlled for approximately 7 hours. Despite adequate station procedures and training of Radiation protection personnel for the proper control of VHRA keys and posted VHRAs, the Keyway access was improperly controlled by the licensee.

Description: On October 9, 2003, a radiation protection technician (RPT) locked and posted the Unit 2 Keyway as a VHRA. This was in preparation for withdrawing the thimbles into the Keyway. The key, which was required to be administratively controlled at all times for the VHRA lock, was left in the protective clothing that had been worn during the close-out tour of the Keyway. The protective clothing was then deposited in the "used" clothing bags. The key would have normally been stored in the Field Operations VHRA lock box. Licensee personnel discovered that the key was missing approximately 7 hours later. The licensee's immediate actions included the installation of another VHRA lock on the access to the Unit 2 Keyway and to contact the laundry vendor. The inspectors determined that the Keyway access was not immediately guarded between the time when licensee personnel discovered the key to be missing and the time that the new VHRA lock was installed. Additionally, during the period that the access was not properly guarded, the thimbles had been withdrawn into the Keyway. The event was self-revealing when the RPT realized that the key was not being properly controlled (i.e., under administrative control, in the Field Operations VHRA key locker).

Analysis: The inspectors determined that the issue was associated with the "Program and Process" and "Human Performance" attributes of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation from radioactive material. The cornerstone objective was affected because both cases (the VHRA key control issue and the resulting unguarded VHRA gate issue) could, if left uncorrected, have become a more significant safety concern if someone inadvertently accessed the Keyway while the thimbles had been withdrawn. Therefore, the issue was considered to be more than minor.

The inspectors determined that the RPT's failure to properly control the VHRA key and then the subsequent failure of the licensee to post guards at the Keyway access during the time the key was improperly controlled constituted a violation of station procedures and personnel training requirements. The inspectors evaluated the finding using IMC 0609, Appendix C, "Occupational Radiation Safety SDP." Since the finding did not involve as low as is reasonably achievable (ALARA)/work controls; did not result in an overexposure, nor was there a substantial potential for an overexposure; and the licensee's ability to assess dose was not compromised, the inspectors concluded that the finding was of very low safety significance (Green).

Enforcement: Title 10 CFR 20.1602 requires, in part, that in addition to the requirements of 10 CFR 20.1601 (i.e., control of access to HRAs) that licensees institute additional measures to ensure that an individual is not able to gain unauthorized or inadvertent access to areas in which radiation levels could be encountered at 500 rads or more in 1 hour at one meter. The licensee's failure to guard the access to the Keyway during the period when licensee personnel recognized that the VHRA key was missing and the new lock was applied to the Keyway access is a violation of 10 CFR 20.1602. The licensee entered the issue into its corrective action program (CAP050962). Because this violation was of very low safety significance and it was entered into the licensee's CAP, this violation is being treated as an NCV consistent with Section VI.A. of the NRC Enforcement Policy. (NCV 05000301/2003009-08).

## 2OS2 ALARA Planning And Controls (71121.02)

### .1 Inspection Planning

#### a. Inspection Scope

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

The inspectors reviewed the outage work scheduled during the inspection period and associated work activity exposure estimates for the following five work activities which were likely to result in the highest personnel collective exposures:

- UT inspection under reactor head;
- Reactor vessel bottom mounted instrumentation inspection;
- Install/Remove scaffolding;
- SG eddy current testing (ECT); and
- Remove/Replace SG Handhole covers, Sludge lance and foreign object search and retrieval inspections.

The above inspection activity constitutes one inspection sample.

The inspectors determined site specific trends in collective exposures and source-term measurements. The inspection activity constitutes one inspection sample.

The inspectors reviewed procedures associated with maintaining occupational exposures ALARA and processes used to estimate and track work activity specific exposures. The inspection activity constitutes one inspection sample.

#### 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 in progress and reviewed the following five work activities of highest exposure significance:

- UT inspection under reactor head;
- Reactor vessel bottom mounted instrumentation inspection;
- Install/Remove scaffolding;
- SG ECT; and
- Remove/Replace SG Handhole covers, Sludge lance and foreign object search and retrieval inspections.

The above inspection activity constitutes one inspection sample.

For these five activities, the inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements in order to verify that the licensee had established procedures, and engineering and work controls that were based on sound Radiation protection principles in order to achieve occupational exposures that were ALARA. This also involved verifying that the licensee had grouped the radiological work into reasonable work activities, based on historical precedence, industry norms, and/or special circumstances. The inspection activity constitutes one inspection sample.

### b. Findings

No findings of significance were identified.

## .3 Verification of Dose Estimates and Exposure Tracking Systems

### a. Inspection Scope

The inspectors reviewed the assumptions and bases for the current annual collective dose estimate, including procedures used, to evaluate the licensee's methodology for estimating work activity-specific exposures and the intended dose outcome. The inspectors evaluated the dose rate and man-hour estimates for accuracy. The inspection activity constitutes one inspection sample.

The inspectors evaluated the licensee's process for adjusting exposure estimates or re-planning work due to unexpected changes in scope, emergent work or higher than anticipated radiation levels. This included verifying that adjustments to estimated exposure (intended dose) were based on sound Radiation protection and ALARA principles and not adjusted to account for failures to control the work. The inspectors reviewed the frequency of these adjustments to evaluate the adequacy of the original ALARA planning process. The inspection activity constitutes one inspection sample.

The inspectors evaluated the licensee's exposure tracking system to determine whether the level of exposure tracking detail, exposure report timeliness, and exposure report distribution was sufficient to support control of collective exposures. The inspectors reviewed radiation work permits to determine if they covered a manageable number of work activities to allow work activity-specific exposure trends to be detected and controlled. During the conduct of exposure significant work, the inspectors evaluated whether licensee management maintained awareness of the collective dose associated with the work and would intervene if dose trends increased beyond the original estimates. The inspection activity constitutes 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 three jobs that were being performed in radiation areas, airborne radioactivity areas, or HRAs for observation of work activities that presented the greatest radiological risk to workers:

- Destructive removal of reactor head "O" rings;
- Dispositioning of Tri-Nuke filters (from reactor cavity pool to Radwaste area); and
- Reactor re-assembly/Refuel floor activities.

The above inspection activity constitutes one inspection sample.

For these work activities, the inspectors evaluated the licensee's use of ALARA controls. The inspectors evaluated engineering controls to achieve dose reductions to verify that procedures and controls were consistent with the licensee's ALARA reviews, that adequate shielding of radiation sources was provided, and that the dose expended to install/remove the shielding did not exceed the dose reduction benefits afforded by the shielding. The inspection activity constitutes 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 determine the historical trends and current status of tracked plant source terms and to determine if the licensee was making allowances and had developed contingency plans for expected changes in the source term due to changes in plant fuel performance issues or changes in plant primary chemistry. The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.6 Radiation Worker Performance

a. Inspection Scope

The inspectors observed radiation worker and RPT performance during work activities performed in radiation areas, airborne radioactivity areas, and HRAs that presented the most significant potential for radiological risk to workers. The inspectors evaluated whether workers demonstrated adherence to the ALARA philosophy in practice by their familiarity with the work activity scope and tools to be used, by utilizing low dose waiting areas, and by implementing prescribed work activity controls. Also, the inspectors reviewed radiation worker training and skill levels to determine whether they were sufficient relative to the radiological hazards and the work involved. The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.7 Declared Pregnant Workers

a. Inspection Scope

The inspectors reviewed dose records of a declared pregnant worker for the current assessment period to verify that the exposure results and monitoring controls employed by the licensee complied with the requirements of 10 CFR Part 20. The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.8 Problem Identification and Resolutions

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 Cornerstone met the requirements of 10CFR 20.1101(c). The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03)

.1 Rescue Capabilities During Use of One-Piece Atmosphere Supplying Respiratory Protection Devices

a. Inspection Scope

The inspectors evaluated the licensee's respiratory protection program and the use of respiratory protection equipment to limit the intake of radioactive material. The inspectors examined the licensee's procedures, lesson plans, and related respiratory protection qualification training materials and discussed their implementation relative to the requirements of 10 CFR 20.1703(f) for standby rescue persons whenever one-piece atmosphere supplying suits, or any combination of respiratory protection and personnel protective equipment were used, in which the wearer may have difficulty removing. Specifically, the inspectors reviewed the licensee's work planning process and implementing practices, and interviewed Radiation protection staff and a member of the licensee's confined space rescue team regarding the following aspects of 10 CFR 20.1703(f):

- designation of an adequate number of standby rescue workers and their training/instruction;
- presence of equipment staged at the work site for the safety of the rescuer and for extrication of the respiratory equipment user;
- practices for continuous communication between standby rescuer(s) and the respiratory protection user(s); and
- provisions for immediate availability of the standby rescuer.

The inspectors interviewed Radiation protection management regarding their proposal for enhancing the RWP and ALARA planning processes and for developing safety plans for those jobs (i.e., not performed in confined space atmospheres, but where limiting the intake of radioactive materials is desirable) to formally address work provisions for standby rescuers.

b. Findings

No findings of significance were identified.

**Cornerstone: Public Radiation Safety**

2PS2 Radioactive Material Processing and Transportation (71122.02)

.1 Radioactive Waste System

a. Inspection Scope

The inspectors reviewed the liquid and solid radioactive waste system description in the USAR for information on the types and amounts of radioactive waste (radwaste) generated and disposed. The inspectors reviewed the scope of the licensee's audit

program with regard to radioactive material processing and transportation programs to verify that it met the requirements of 10 CFR 20.1101(c). The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.2 Radioactive Waste System Walkdowns

a. Inspection Scope

The inspectors walked down the liquid and solid radwaste processing systems to verify that the systems agreed with the descriptions in the USAR and the Process Control Program, and to assess the material condition and operability of the systems. The inspectors reviewed the status of radioactive waste process equipment that was not operational and/or was abandoned in place. The inspectors reviewed the licensee's administrative and physical controls to ensure that the equipment would not contribute to an unmonitored release path or be a source of unnecessary personnel exposure.

The inspectors reviewed changes to the waste processing system to verify that the changes were reviewed and documented in accordance with 10 CFR 50.59 and to assess the impact of the changes on radiation dose to members of the public. The inspectors reviewed the current processes for transferring waste resin into shipping containers to determine if appropriate waste stream mixing and/or sampling procedures were utilized. The inspectors also reviewed the methodologies for waste concentration averaging to determine if representative samples of the waste product were provided for the purposes of waste classification in 10 CFR 61.55. The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.3 Waste Characterization and Classification

a. Inspection Scope

The inspectors reviewed the licensee's radiochemical sample analysis results for each of the licensee's waste streams, including dry active waste, spent primary resins, blowdown evaporator bottoms, and process stream filters. The inspectors reviewed the licensee's use of scaling factors to quantify difficult-to-measure radionuclides (e.g., pure alpha or beta emitting radionuclides) to assure compliance with 10 CFR 61.55 and 10 CFR 61.56. The inspectors also reviewed the licensee's waste characterization and classification program to ensure that the waste stream composition data accounted for changing operational parameters and thus remained valid between the annual sample analysis updates. The inspection activity constitutes one inspection sample.



b. Findings

No findings of significance were identified.

.4 Shipment Preparation

a. Inspection Scope

The inspectors reviewed packaging, surveys, labeling, marking, placarding, vehicle checks, emergency instructions, disposal manifest, shipping papers, and licensee verification of shipment readiness for the following shipments:

- Shipment 2001-051, Resin for processing;
- Shipment 2001-070, Blowdown Evaporator Bottoms;
- Shipment 2002-027, Repair Equipment;
- Shipment 2003-017, Resin for volume reduction; and
- Shipment 2003-066, Contaminated Laundry for Processing.

The inspectors verified that the requirements of applicable transport cask Certificate of Compliance were met for each shipment and verified that the recipient was authorized to receive the packages. The inspectors verified that the licensee's procedures for cask loading and closure were consistent with the vendor's approved procedures. The inspectors observed radiation worker practices to verify that the workers demonstrated adequate skills to accomplish each task and to determine if the shippers were knowledgeable of the shipping regulations and whether shipping personnel demonstrated adequate skills to accomplish the package preparation requirements for public transport with respect to NRC Bulletin 79-19 and 49 CFR Part 172 Subpart H. The inspectors reviewed the records of training provided to personnel responsible for the conduct of radioactive waste processing and radioactive shipment preparation activities to verify that the licensee provided training consistent with NRC and Department of Transportation requirements. The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.5 Shipping Records

a. Inspection Scope

The inspectors reviewed five non-excepted package shipment manifests/documents completed in 2001 through 2003 to verify compliance with NRC and Department of Transportation requirements (i.e., 10 CFR Parts 20 and 71, and 49 CFR Parts 172 and 173). The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

.6 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed condition reports, audits and self assessments that addressed radioactive waste and radioactive materials shipping program deficiencies since the last inspection, to verify that the licensee had effectively implemented the CAP and that problems were identified, characterized, prioritized and corrected. The inspectors also verified that the licensee's self-assessment program was capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors reviewed corrective action reports from the radioactive material and shipping programs initiated since the previous inspection, interviewed staff and reviewed other associated documents to determine whether the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- 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 NCVs tracked in corrective action system(s); and
- Implementation/consideration of risk significant operational experience feedback.

The inspection activity constitutes one inspection sample.

b. Findings

No findings of significance were identified.

2PS3 Radioactive Material Control Program (71122.03)

.1 Failure to Perform Adequate Surveys and Maintain Control of Licensed Radioactive Material

a. Inspection Scope

The inspectors reviewed the circumstances associated with the unrestricted release of shipment 2CV-203 (approximately 5,000 disintegrations per minute (dpm) internal contamination on the inlet side of the valve) that occurred on October 13, 2003, upon receipt of the valve at the vendor repair facility. Specifically, the inspectors reviewed the licensee's initial Action Request, investigative documents (including worker statements

and a time line of the event), survey data, and discussed the incident with the radiation protection manager and several members of the Radiation protection staff.

b. Findings

Introduction: The inspectors identified a NCV of 10 CFR 20.1501 which led to a subsequent violation of 10 CFR 20.1802. The issue had very low safety significance (Green) and was identified through a self-revealing event, when a valve was shipped from Point Beach Nuclear Plant without being identified as containing radioactive material. An inadequate survey of 2CV-203 was performed prior to the valve's release, since the survey did not evaluate the concentrations or quantities of radioactive materials inside the valve. Licensed radioactive material was found inside the valve by the vendor at its repair facility prior to performing work on the valve. Despite adequate station procedures and training of Radiation protection personnel for proper determination of materials being evaluated for release or control at the RCA boundary, the valve was inadequately surveyed and released for shipment to the vendor, as unrestricted material.

Description: On October 11, 2003, an RPT evaluated a primary relief valve (2CV-203) for release for unrestricted handling. It was a new valve that had been installed for approximately 20 hours in the plant's primary (contaminated) system and then had been removed. The ends of the valve were capped for Foreign Material Exclusion purposes and then the valve was moved to the RCA access point. The information relating to the specific circumstances of the history of the valve was not known to the evaluating RPT. The RPT considered the valve to be "new," with no history of exposure to contaminated fluids. The exterior surfaces of the valve (and foreign material exclusion caps) were surveyed and found to be "<[MDA less than minimal detectable activity]" via contamination smears, and then the valve was then released from the RCA for unrestricted handling. The valve was shipped as unrestricted material to a vendor that was out of state. Upon receipt at the vendor repair facility, the valve was surveyed by direct frisk on the inlet side and found to have around 5,000 disintegrations per minute fixed and approximately 200 counts per minute loose surface contamination. The valve was controlled as radioactive material, and the licensee was notified. The shipping container was surveyed, as well as the transporting vehicle, and both were found to have no detectable contamination in them. The licensee then initiated an action request and an apparent cause evaluation. The event was self-revealing when the vendor discovered licensed radioactive material in the valve that was released by the Point Beach Nuclear Plant for unrestricted handling.

Analysis: The inspectors determined that the issue was associated with the "Program and Process" and "Human Performance" attributes of the Public Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain. Also, the issue involved an occurrence in the licensee's radioactive material control program that is contrary to both NRC regulations and licensee procedures. Therefore, the issue was considered to be more than minor.

The inspectors determined that the RPT's lack of knowledge, as to the radiological history of the valve in question, led to the unrestricted release of licensed radioactive

material into the public domain outside the owner controlled area. Transportation was not a consideration in the assessment of the significance of the finding. Although the valve was transported, it was not a radioactive material shipment classified as Schedule 5-11. As such, the inspectors utilized Manual Chapter 0609, Appendix D, "Public Radiation Safety SDP," to assess the significance of the finding. Since public radiation exposure was not greater than 0.005 rem (5 millirem) and the licensee did not have more than five radioactive material control occurrences in the previous 8 quarters, the inspectors concluded that the finding was of very low safety significance (Green).

Enforcement: Title 10 CFR 20.1501 requires that the licensee perform reasonable and necessary surveys to comply with the regulations in 10 CFR Part 20, and to evaluate the concentrations or quantities of radioactive material. Title 10 CFR 20.1802 requires that licensees control and maintain constant surveillance of licensed material that is in a controlled or unrestricted area and that is not in storage. On October 11, 2003, the licensee failed to perform reasonable and necessary surveys of primary plant components that had been exposed to, and contaminated by primary reactor coolant (5,000 disintegrations per minute fixed and approximately 200 counts per minute loose surface contamination). As a result, the licensee failed to control and maintain constant surveillance of licensed material (contamination within the component internals) that was in a controlled or unrestricted area and that was not in storage. These failures constitute violations of 10 CFR 20.1501 and 10 CFR 20.1802, respectively. The licensee entered the issue into its corrective action program (CAP 051000). Because the violations were of very low safety significance and were entered into the licensee's CAP, the violations are being treated as an NCV consistent with Section VI.A. of the NRC Enforcement Policy. (NCV 05000301/2003009-09).

#### **4. OTHER ACTIVITIES**

##### **4OA1 Performance Indicator (PI) Verification (71151)**

##### **Cornerstones: Mitigating Systems, Emergency Preparedness**

###### **a. Inspection Scope**

The inspectors sampled the licensee's submittal for the PIs and periods listed below. The inspectors used PI definitions and guidance contained in Revision 2 of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline" to verify the accuracy of the PI data. The inspectors reviewed selected applicable conditions and data from logs, licensee event reports, and CAP documents from January 2002 through September 2003 for the RHR System Unavailability PI, and July 2002 through September 2003 for the Heat Removal and Emergency AC Power Systems Unavailability PIs. The inspectors independently performed calculations where applicable. The inspectors compared that information to the information required for each PI definition in the guideline, to ensure that the licensee reported the data accurately.

For the Dual Unit PIs, the inspectors reviewed licensee records associated with PI data reported to the NRC for the period January 2002 through September 2003, with the exception of records associated with a drill conducted on August 1, 2002, which were

related to Unresolved Item (URI) 50-266/02-10-04 and 50-301/02-10-04. Reviewed records included: revised procedural guidance on identifying key ERO positions; assessments of drill and exercise performance opportunities during pre-designated Control Room Simulator training sessions, the 2002 biennial exercise, and drills; and revisions of the roster of personnel assigned to key ERO positions. The inspectors also reviewed records of the results of periodic ANS operability tests.

These observations constituted nine inspection samples. The following PIs were reviewed:

#### Unit 1

- Heat Removal System Unavailability
- RHR System Unavailability
- Emergency Air Conditioning Power Systems Unavailability

#### Unit 2

- Heat Removal System Unavailability
- RHR System Unavailability
- Emergency Air Conditioning Power Systems Unavailability

#### Dual Unit

- ERO Drill Participation
- Drill/Exercise
- Alert and Notification System

#### b. Findings

No findings of significance were identified.

#### 4OA3 Event Follow-up (71153)

##### .1 Manipulator Crane Cable Entanglement

##### a. Inspection Scope

During the week of October 18, 2003, the inspectors reviewed the licensee's response to the Unit 2 refueling manipulator crane gripper interlock cable becoming entangled with the hoist lift cable during spent fuel movements in support of core off-loading activities. The inspectors observed and evaluated licensee actions to recover a suspended fuel assembly, untangle the gripper interlock and hoist cables, and place the system in a safe condition. During troubleshooting and recovery efforts, the inspectors reviewed the adequacy and application of configuration control and the design change processes. This observation constituted one inspection sample.

b. Findings

No findings of significance were identified.

.2 Solar Magnetic Disturbance Affects on Electrical Grid Stability

a. Inspection Scope

During the week of November 1, 2003, the inspectors reviewed the licensee's response to grid instabilities caused by solar magnetic disturbances. The inspectors reviewed the impact of the disturbances on both Units and the decision to reduce Unit 1 power to 83 percent as a result of grid stability concerns. The inspectors verified that the disturbances had ended prior to returning Unit 1 to full power operations. This observation constituted one inspection sample.

b. Findings

No findings of significance were identified.

.3 (Closed) Licensee Event Report (LER) 50-266/301/2002-003-01: Possible Common Mode Failure of AFW Due to Partial Clogging of Recirculation Orifices

Licensee Event Report 50-266/301/2002-003-01 supplemented LER 50-266/301/2002-003-00, which was previously discussed in NRC Special Inspection Report 50-266/2002-15; 50-301/2002-15, Section 5.2; NRC 95003 Supplemental Inspection Report 50-266/2003-07; 50-301/2003-07; and NRC Final Significance Determination Letter, dated December 11, 2003. The supplemental LER discussed the apparent causes and human performance factors associated with the possible common mode failure of AFW due to partial clogging of recirculation orifices.

The inspectors reviewed the supplemental LER and did not identify any findings of significance. The licensee documented the failure to identify the degraded condition of the AFW recirculation orifice flow in CAP029908. This supplemental LER is closed.

4OA4 Cross-Cutting Aspects of Findings

1. A finding discussed in Section 1R05.b.1 of this report had, as its primary cause, a problem identification and resolution deficiency, in that corrective actions for combustible loading concerns in Fire Zone 187 had initially been successful following the licensee's quality assurance organization escalation of the issue in October 2002. Despite this level of attention, the inspectors identified in November 2003 that plastic hoses, plastic sheets, paper office supplies, and plastic bottles had been reintroduced to the zone without prior evaluation.
- .2 A finding discussed in Section 1R13.1 of this report had, as its primary cause, two human performance deficiencies concerning the RA associated with removing RHR pumps from the shutdown cooling mode of operation. First, despite reviewing the activity prior to the outage, probabilistic RA and outage planning personnel did not

identify entry into the yellow risk category. Second, once relaxed, operations personnel did not increase the performance frequency of shutdown safety assessment checklists during periods of changing plant conditions so as to have been able to identify the unavailability and increased risk associated with the activity.

- .3 A finding discussed in Section 1R14.1 of this report had, as its primary cause, a human performance deficiency, in that perceived time pressure, concurrent watch turnovers, lack of specific supervisory briefings, operator fatigue, and ineffective peer and self-checking resulted in a licensed senior reactor operator and reactor operator not recognizing that the suction path to the 'B' RHR pump was isolated prior to starting the pump.
- .4 A finding discussed in Section 1EP6 of this report, as its primary cause, a human performance deficiency in two respects. First, the decision not to train on the sheltering option represented a missed opportunity to train personnel on the full range of available protective action recommendations. Second, the Assistant Operations Manager, Operations Training Shift Manager, two Shift Managers, and an Emergency Preparedness Supervisor in the classroom failed to stop the training despite having been informed at the beginning of the class that the most current revision would not be used.
- .5 A finding discussed in Section 2OS1.4.b.1 of this report had, as its primary cause, a human performance deficiency, in that despite adequate station procedures and training for radiation protection personnel concerning VHRA key control, posting, and guarding requirements, the gate to the Unit 2 under-reactor vessel area was left unguarded for several hours.
- .6 A finding discussed in Section 2PS3 of this report had, as its primary cause, a human performance deficiency, in that despite adequate station procedures and training of Radiation protection personnel for proper determination of materials being evaluated for release or control at the RCA boundary, a valve was inadequately surveyed and released for shipment to the vendor, as unrestricted material.

#### 4OA5 Other Activities

##### **Cornerstone: Barrier Integrity**

#### .1 RPV Head and Vessel Head Penetration Nozzles (Temporary Instruction (TI) 2515/150, Revision 2)

##### a. Inspection Scope

The inspectors reviewed the licensee's activities in response to the requirements of Order EA-03-009, "Issuance of Order Establishing Interim Inspection Requirements for Reactor Pressure Vessel Heads at Pressurized Water Reactors," (NRC ADAMS Accession Number ML030410402), issued on February 11, 2003. To support the evaluation of licensees' activities implemented in accordance with Order EA-03-009, NRC staff issued TI 2515/150, Revision 2, "Reactor Pressure Vessel Head and Vessel Head Penetration Nozzles (NRC Order EA-03-009)," on August 4, 2003.

For Unit 2, the licensee's effective degradation years calculation of 16.6 placed the Unit in the primary water stress corrosion cracking susceptibility category of "High" (plants with a calculated effective degradation years value greater than 12). Based on the "High" category the licensee performed a bare metal visual examination of 100 percent of the RPV head surface (Top of Vessel Head Visual Examinations) and UT of each RPV head penetration nozzle (Under-Head Examinations) during this refueling outage.

### Summary

The licensee did not identify any leaking vessel head penetration nozzles.

#### b. Evaluation of Inspection Requirements

In accordance with requirements of TI 2515/150, Revision 2, the inspectors evaluated and answered the following questions:

For each of the examination methods used during the outage, was the examination:

1. Performed by qualified and knowledgeable personnel?

#### Top of Vessel Head Visual Examinations

Yes. The inspectors verified that the visual examination of the head was performed by qualified and knowledgeable Level II and Level III VT-2 examiners. In addition to the requirements for ASME VT-2 examiners, examination personnel received instruction in the type of RPV leakage discovered in the industry prior to performing examinations.

#### Under-Head Examinations

Yes. The ultrasonic, and head vent line dye penetrant examinations were performed by qualified and knowledgeable Level II and III personnel.

2. Performed in accordance with demonstrated procedures?

#### Top of Vessel Head Visual Examinations

Yes. The bare metal remote visual examinations were conducted in accordance with Nondestructive Examination Procedure NDE-757, "Visual Examination For Leakage of Reactor Pressure Vessel Penetrations," Revision 2. Lighting and resolution capabilities were demonstrated by the ability to resolve lower case character height of 0.158 inches at a maximum distance of 6 feet with a minimum illumination of 15 foot candles.

#### Under-Head Examinations

Yes. The ultrasonic inspections were performed in accordance with Framatome ANP Nondestructive Examination Procedure 54-ISI-100-09, "Remote Ultrasonic Examination of Reactor Head Penetrations," dated September 9, 2002. The equipment demonstrated the ability to detect cracking in control rod drive mechanism (CRDM)



penetration tubes removed from the Oconee Nuclear Power Station and Electric Power Research Institute/Modification Rework Package Mockup G.

3. Able to identify, disposition, and resolve deficiencies?

#### Top of Vessel Head Visual Examinations

Yes. The inspectors concluded from the review of the documentation that the licensee had sufficient access to perform a remote visual examination of 100 percent of the bare metal of the reactor head as well as 360 degree coverage of each penetration. No evidence of penetration leakage or boric acid accumulation was identified.

#### Under- Head Examination

Yes. The UT examinations were conducted from the inside of the vessel head penetration (VHP). The procedure provided for documentation of equipment setup; calibration; detection; location; and characterization of axial, circumferential, and off-axis inside diameter and outside diameter initiated flaws in the CRDM nozzle base metal. Complete procedural coverage was obtained on all VHPs. No flaws were identified.

4. Capable of identifying the primary water stress corrosion cracking (PWSCC) and/or RPV head corrosion phenomena described in Order EA-03-009?

#### Top of Vessel Head Visual Examinations

Yes. The inspectors determined through interviews with inspection personnel, and reviews of the documentation that the licensee's efforts were capable of detecting and characterizing PWSCC and/or RPV head corrosion phenomena described in NRC Order EA-03-009. The inspectors determined that the inspection personnel had access for remote visual examination of the 49 head penetrations, plus the 3/4 inch head vent, with no obstructions or interferences.

#### Under-Head Examinations

Yes. The inspectors determined through interviews with inspection personnel, reviews of the documentation that the licensee's efforts were capable of detecting and characterizing PWSCC and/or RPV head corrosion phenomena described in NRC Order EA-03-009. The examinations consisted of scanning for axial and circumferential flaws within the nozzle base metal using either the rotating or blade probe. The rotating probe, consisting of a transducer head with multiple search units, was used for open bore nozzles that did not contain thermal sleeves. The blade probe was used for nozzles that contained thermal sleeves. The circumferential blade probe was designed to emit ultrasound along the long axis of the nozzle using an angle beam transducer. The axial blade probe was designed to emit ultrasound circumferentially around the nozzle and also used an angle beam transducer.

5. What was the condition of the reactor head (debris, insulation, dirt, boron from other sources, physical layout, viewing obstructions)?

#### Top of Vessel Head Visual Examinations

The Unit 2 RPV head insulation consisted of mirror panels with six viewing ports cut into the insulation. This insulation replaced the 3-inch thick block contoured asbestos insulation removed in the last outage. Through discussions with inspection personnel and viewing of the videotape, the inspectors determined that the as-found pressure vessel head condition was relatively clean with no examination viewing obstructions. A small amount of debris in the form of mastic particles from the previous asbestos insulation installation was noted; however, these did not obstruct the exam. The inspection personnel fully examined the 49 VHPs, including the 3/4 inch head vent. No boric acid deposits were observed on the reactor vessel head.

#### Under-Head Examinations

The surface of the inner bore of the CRDM penetrations was sufficiently smooth for the UT examinations.

6. Could small boron deposits, as described in Bulletin 01-01, be identified and characterized?

#### Top of Vessel Head Visual Examinations

Yes. The inspectors determined through interviews with inspection personnel, reviews of procedures and inspection reports, and reviews of videotape documentation that small boron deposits, as described in the Bulletin, could be identified and characterized. The inspectors noted that no boric acid deposits were found on the 49 VHPs, including the 3/4 inch head vent.

7. What material deficiencies (i.e., cracks, corrosion, etc.) were identified that required repair?

None. The surface and volumetric inspections did not identify any material deficiencies that required repair associated with the 49 VHPs, including the 3/4 inch head vent.

8. What, if any, impediments to effective examinations, for each of the applied methods, were identified (e.g., centering rings, insulation, thermal sleeves, instrumentation, nozzle distortion)?

#### Top of Vessel Head Visual Examinations

None. The inspectors verified that there were no impediments to the remote visual examinations. The new RPV head insulation had six viewing ports to aid inspections of the head and to reduce dose associated with insulation removal.

### Under-Head Examinations

The inspectors verified that there were no impediments to the examinations.

9. What was the basis for the temperatures used in the susceptibility ranking calculation, were they plant-specific measurements, generic calculations (e.g., thermal hydraulic modeling, instrument uncertainties), etc.?

The basis for the RPV head temperature of 592 degrees F. used in the susceptibility ranking calculation is the published value in MRP-48, "PWR Materials Reliability Program Response to NRC Bulletin 2001-01," dated August 2001.

10. During non-visual examinations, was the disposition of indications consistent with the guidance provided in Appendix D of this TI? If not, was a more restrictive flaw evaluation guidance used?

No indications were identified by the non-visual (ultrasonic) examinations.

11. Did procedures exist to identify potential boric acid leaks from pressure-retaining components above the RPV head?

Yes. The inspectors verified that visual examinations to detect potential boric acid leaks from pressure-retaining components above the RPV head were conducted in accordance with Nondestructive Examination Procedure NDE-757, "Visual Examination For Leakage of Reactor Pressure Vessel Penetrations," Revision 2.

12. Did the licensee perform appropriate follow-on examinations for indications of boric acid leaks from pressure-retaining components above the RPV head?

There was no evidence of leakage above the RPV head.

### c. Findings

Partial Data Acquisition Due To Coupling Slippage.

On September 16, 2003, the licensee contractor identified (Framatome NCR 6028873- Lack of UT Coverage During U1R27 RPV Inspection) that, during the Unit 1 RPV head ultrasonic inspection in September 2002, stalling of the rotating ultrasonic probe head due to coupling slippage resulted in partial data acquisition in 10 of the 16 CRDM nozzles.

This issue was documented in the licensee's corrective action system as CA053202 and CE012362. Corrective actions to prevent recurrence (redesigned coupling, backup analysts) were implemented during the current Unit 2 outage. The licensee also performed an analysis of the coverage limitations and determined that there was sufficient Unit 1 data for the testing results to remain valid. The licensee also planned to conduct an ultrasonic inspection of the CRDM nozzles during the next Unit 1 outage (U1R28). This issue will be a URI pending the inspectors' review of the licensee's analysis and results of the U1R28 nozzle examination (URI 05000266/2003009-01).

.2 RPV Lower Head Penetration (LHP) Nozzles (NRC Bulletin 2003-02) (TI 2515/152)

a. Inspection Scope

The inspectors reviewed the licensee's activities in response to Bulletin 2003-02, which was issued on August 21, 2003. To support the evaluation of the licensees' activities implemented in accordance with Bulletin 2003-02, NRC staff issued TI 2515/152, "Reactor Pressure Vessel Lower Head Penetration Nozzles (NRC Bulletin 2003-02)," on September 5, 2003.

Summary

The licensee did not identify any signs of leakage from the RPV LHP nozzles, or degradation of the RPV lower head.

b. Evaluation of Inspection Requirements

In accordance with requirements of TI 2515/152, the inspectors evaluated and answered the following questions:

For each of the examination methods used during the outage, was the examination:

1. Performed by qualified and knowledgeable personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

Yes. The inspectors verified that the examination was performed by four qualified and certified ASME VT-2 examiners. In addition to the requirements for ASME VT-2 examiners, examination personnel received instruction in the type of RPV leakage discovered in the industry prior to performing examinations.

2. Performed in accordance with demonstrated procedures?

Yes. The bare metal direct visual examinations were conducted in accordance with Nondestructive Examination Procedure NDE-757, "Visual Examination For Leakage of Reactor Pressure Vessel Penetrations," Revision 2. Lighting and resolution capabilities were demonstrated by the ability to resolve lower case character height of 0.158 inch at a maximum distance of 6 feet with a minimum illumination of 15 foot candles.

3. Able to identify, disposition, and resolve deficiencies?

Yes. The bare metal direct visual examinations were conducted in accordance with Nondestructive Examination Procedure NDE-757, "Visual Examination For Leakage of Reactor Pressure Vessel Penetrations," Revision 2, which provides for indication recording, evaluation and disposition.

4. Capable of identifying pressure boundary leakage as described in the bulletin and/or RPV lower head corrosion?

Yes. The inspectors verified that the bare metal visual examinations of the 36 bottom mounted instrumentation nozzles were conducted in accordance with Nondestructive Examination Procedure NDE-757, "Visual Examination For Leakage of Reactor Pressure Vessel Penetrations," Revision 2. The examinations were performed directly, with lighting provided by flood lights, fluorescent drop lights and hand held flashlights.

5. What was the physical condition of the RPV lower head (e.g., debris, insulation, dirt, boric acid deposits from other sources, physical layout, viewing obstructions)?

The inspectors verified through direct inspection that the bottom head insulation had been completely removed, thereby exposing the 36 LHP nozzles with no viewing obstructions. Surrounding each LHP nozzle was an inconel weld pad. The reactor vessel bottom coating (silver paint) was in good condition with areas of red/brown staining attributed to reactor cavity seal leakage. The silver coating was not applied to the weld pad or nozzles.

6. Could small boric acid deposits, as described in the Bulletin 2003-02, be identified and characterized?

Yes. The inspectors verified that each of the 36 LHP nozzles were examined 360 degrees around their circumference, as well as bare metal for at least 6-12 inches above the highest LHP. All nozzles were examined with no evidence of leakage, (i.e., small boric acid deposits), from the LHP nozzle interface region.

7. What material deficiencies (i.e., cracks, corrosion, etc.) were identified that required repair?

None. The visual inspections did not identify any material deficiencies that required repair associated with the 36 LHP nozzles.

8. What, if any, impediments to effective examinations, for each of the applied nondestructive examination methods, were identified (e.g., insulation, instrumentation, nozzle distortion)?

The inspectors verified through direct observation of the lower head that there were no impediments to the direct visual examinations. The RPV bottom head insulation was completely removed to provide access to the LHP nozzle interface.

9. Did the licensee perform appropriate follow-on examinations for indications of boric acid leaks from pressure-retaining components above the RPV lower head?

Yes. As noted above, there were no boric acid deposits on the RPV bottom head. The inspectors verified that the red/brown staining was appropriately attributed to reactor cavity seal leakage. The leakage appeared to have run down the side of the reactor

from the cavity seal area picking up trace amounts of iron oxide and depositing it on the coated bottom head area in the form of red/brown stains.

c. Findings

No findings of significance were identified.

- .3 (Closed) URI 50-266/03-02-02; 50-301/03-02-02: This URI encompassed the following: the licensee's 50.59 process did not refer emergency planning issues to its 50.54(q) process for further screening; there was a lack of instructions, procedures, or drawings to help communications technicians assess problems in the Emergency Operations Facility (EOF); equipment in the EOF or Joint Public Information Center (JPIC) could be placed out of service or replaced by non-licensee personnel without licensee knowledge; and the capability to remotely monitor Emergency Notification System (ENS) operability was degraded since January 17, 2003.

The inspectors completed a walkdown of the EOF, which was located in the Site Boundary Control Center building, and discussed associated emergency preparedness-related equipment maintenance and configuration control matters with emergency preparedness staff. The inspectors also reviewed and discussed a white paper on EOF equipment configuration control, the minutes of an early August Plant Health Committee meeting, and records of external and internal correspondence addressing EOF equipment configuration control matters. The inspectors reviewed the October 2003 draft revision of the licensee's emergency planning excellence plan regarding equipment configuration control issues. The inspectors concluded that adequate actions were either completed or were underway and being adequately tracked to ensure that emergency planning-related equipment in the Site Boundary Control Center would not undergo preventive or non-scheduled maintenance without the prior approval of the Emergency Preparedness Manager or the work control center's management. The inspectors also concluded that adequate measures were in place to alert telecommunications specialists of a degrade to ENS telephone equipment and to help technicians diagnose ENS equipment problems.

The inspectors also reviewed and discussed the current letter of agreement between the licensee and Wisconsin Public Service Corporation regarding the use of the latter's facilities in Green Bay, Wisconsin, as an alternate EOF and a JPIC. The inspectors concluded that the current agreement included adequate provisions for notifying relevant Point Beach personnel of planned emergency equipment-related changes prior to implementation of such changes. No violations of NRC requirements were identified. This URI is considered closed.

4OA6 Meetings

.1 Exit Meeting

On January 6, 2003, the resident inspectors presented the inspection results to Mr. A. Cayia and other 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 exits were conducted for:

- Inservice Inspection (IP 71111.08), Temporary Instruction TI 2515/150, Revision 2, and Temporary Instruction TI 2515/152, with Mr. A. Cayia on October 17, 2003.
- Radiation Protection Inspection with Mr. A. Cayia, on November 7, 2003.
- Radiation Protection Inspection with Ms. R. Milner, on October 24, 2003.
- Emergency Preparedness program and performance indicators inspection meeting with Mr. A. Cayia on October 31, 2003.
- Fire Protection with Mr. D. Schoon and Mr. D. Fadel on November 14, 2003.

4OA7 Licensee-Identified Violations

The following violation of very low significance was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600, for being dispositioned as a NCV.

**Cornerstone: Mitigating Systems**

- Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that applicable regulatory requirements and design basis are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, prior to November 2003, the licensee had not recognized that the 30-day primary containment integrity function of the Unit 1 and 2 purge supply and exhaust system penetration isolation valves was dependent on instrument air, a non-safety system that could not be relied upon to mitigate the consequences of a design basis accident. Specifically, the licensee had not verified that adequate emergency and abnormal operating procedures were in place such that IA system restoration and maintenance of the purge supply and exhaust valve boot seals was assured prior to the loss of containment integrity function. The licensee entered the condition into its corrective action program as CAP051581, "VNPSE [Ventilation Purge Supply and Exhaust] Valves IST [Inservice Inspection Test] Acceptance Criteria Incorrect Not Conservative."

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

A. Cayia, Site Vice-President  
J. McCarthy, Director of Site Operations  
J. Jensen, Plant Manager  
T. Breene, Site Assessment Manager  
J. Boesch, Maintenance Manager  
J. Connolly, Regulatory Affairs Manager  
G. Casadonte, Fire Protection Coordinator  
D. Fadel, Site Engineering Director  
F. Flentje, Senior Regulatory Compliance Specialist  
M. Holzmann, Nuclear Oversight Supervisor  
N. Hoefert, Engineering Programs Manager  
R. Hopkins, Internal Assessment Supervisor  
B. Jensen, Level III  
C. Jilek, Maintenance Rule Coordinator  
T. Kendall, Program Engineering  
B. Kopetsky, Security Coordinator, Point Beach  
C. Krause, Senior Regulatory Compliance Engineer  
R. Ladd, Fire Protection Engineer  
K. Locke, Regulatory Compliance  
R. Milner, Emergency Planning Manager  
T. Petrowsky, Design Engineer Manager  
D. Schoon, Plant Manager (Acting) and Operations Manager  
M. Schug, Assistant Operations Manager  
R. Scott, Regulatory Affairs Manager (Acting)  
P. Schwartz, Emergency Preparedness Supervisor  
J. Schweitzer, Site Engineering Director and Production Planning Manager  
D. Shannon, Radiation Protection Manager (Acting)  
C. Sizemore, Training Manager  
P. Smith, Operations Training Supervisor  
A. Spaulding, Emergency Planning Specialist  
J. Strharsky, Planning and Scheduling Manager  
R. Turner, Inservice Inspection Coordinator  
S. Thomas, Radiation Protection Manager

#### Nuclear Regulatory Commission

P. Loudon, Chief, Reactor Projects Branch 5  
A. Vogel, Chief, Reactor Projects Branch 7  
D. Spaulding, Point Beach Project Manager, NRR



## ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened

05000266/2003009-01	URI	Partial Data Acquisition Due To Coupling Slippage
05000266/2003009-02 05000301/2003009-02	NCV	Inadequate Corrective Actions for Control of Transient Combustibles
05000266/2003009-03 05000301/2003009-03	URI	Sprinkler Head Locations Not In Accordance With Fire Code
05000301/2003009-04	FIN	Inadequate Risk Assessment Associated With Removing RHR Pumps From The Shutdown Cooling Mode Of Operation
05000301/2003009-05	NCV	Operator Error Results In Starting a Residual Heat Removal Pump With the Suction Valve Shut
05000266/2003009-06	URI	Non-Safety Related Worm and Worm Gears Used in Safety-Related Motor Operated Valve Actuators
05000266/2003009-07 05000301/2003009-07	FIN	Protective Action Recommendation Training for Licensed Reactor Operators Using an Outdated Procedure
05000301/2003009-08	NCV	Failure to Control Access to a Very High Radiation Area
05000301/2003009-09	NCV	Failure to Perform Adequate Surveys and Maintain Control of Licensed Radioactive Material.

### Closed

05000266/2003009-02 05000301/2003009-02	NCV	Inadequate Corrective Actions for Control of Transient Combustibles
05000301/2003009-04	FIN	Inadequate Risk Assessment Associated With Removing RHR Pumps From The Shutdown Cooling Mode Of Operation
05000301/2003009-05	NCV	Operator Error Results In Starting a Residual Heat Removal Pump With the Suction Valve Shut
05000266/2003009-07 05000301/2003009-07	FIN	Protective Action Recommendation Training for Licensed Reactor Operators Using an Outdated Procedure
05000301/2003009-08	NCV	Failure to Control Access to a Very High Radiation Area

05000301/2003009-09	NCV	Failure to Perform Adequate Surveys and Maintain Control of Licensed Radioactive Material.
50-266/03-02-02 50-301/03-02-02	URI	Licensee's 50.59 Process Did Not Refer Emergency Planning Issues to Its 50.54(q) Process for Screening
50-266/301/2002-003-01	LER	Possible Common Mode Failure of AFW Due to Partial Clogging of Recirculation Orifices

Discussed

None.

## LIST OF DOCUMENTS REVIEWED

### 1R01 Adverse Weather Protection

CAP049852; Cold Weather Issue Work Package Still Status 21 at E-2; dated September 4, 2003

CAP051514; Cold Weather Preparations Not Completed by October 1, 2003; dated October 29, 2003

PC [Periodic Checklist] 49 Part 1; Turbine Hall Ventilation Unit 1; Revision 7

PC 49 Part 2; Turbine Hall Ventilation Unit 2; Revision 9

PC 49 Part 3; Auxiliary Building Ventilation, Revision 10

PC 49 Part 4, Auxiliary Building Miscellaneous and Facades; Revision 15

PC 49 Part 5; Cold Weather Checklist: Outside Areas and Miscellaneous; Revision 15

PC 49 Part 6; Securing From Cold Weather; Revision 13

RCE 000192; Cold Weather Preparations; Revision 1

Weekly Plant Managers Cold Weather Report, dated October 17, 2003

CAP051529; Reactor Makeup Water Cold Weather Preparations Questioned; dated October 29, 2003 (NRC-identified issue)

CAP051635; Cold Weather Concern With Condensate Drain Lines; November 5, 2003; (NRC-identified issue)

### 1R04 Equipment Alignment

Bechtel Drawing BECH 6118 M-201 Sheet 1; Main & Reheat Steam System Point Beach N.P. [Nuclear Plant] Unit 1; Revision 44

Bechtel Drawing BECH 6118 M-217 Sheet 1; Auxiliary Feedwater System Point Beach N.P.; Revision 66

Bechtel Drawing BECH 6118 M-200; Piping and Instrument Legend Point Beach N.P.; Revision 17

CL [Checklist] 13E Part 2; Auxiliary Feedwater Valve Lineup Motor Driven; Revision 36

CL 13E Part 1; Auxiliary Feedwater Valve Lineup Turbine-Driven Unit 1; Revision 32

CL 13E Part 1; Auxiliary Feedwater Valve Lineup Turbine-Driven Unit 2; Revision 18

Master Data Book (MDB) 3.2.21; Main Control Board Breakers; Revision 34

Safety Evaluation Screening SCR 2003-0098; MR 03-005, Repower Turbine-Driven AFW Pump Recirculation Valves 1AF-4002 & 2AF-4002; dated May 8, 2003

S&L [Sargent & Lundy] Specification Number A-4728; 125 VDC Fused Distribution Panels; Revision 0

1R05    Fire Protection

ACE000757; Combustible Loading in FZ [Fire Zone] 187 (Central 26' PAB) Exceeds Appendix R Exemption Limit; dated May 14, 2002

A-P-01-19; Fire Protection (Appendix R Safe Shutdown Analysis and Conventional Fire Protection/Loss Prevention); dated September 10, 2001

CAP000769; NFPA-13 Code Violations; dated June 14, 2001

CAP001682; Fire Protection Combustible Loading Analysis Is Not Traceable; dated February 27, 2002

CAP003279; Combustible Loading in FZ 187 (Central 26' PAB) Exceeds Appendix R Exemption Limit; dated May 13, 2002

CAP050848; Combustible Load in Station Battery Rooms Not Consistently Identified; dated October 8, 2003

Fire Hazards Analysis Report; Revision 1

Fire Hazard Analysis Report Fire Area A19; D105 Battery Room; January 2003

Fire Protection Evaluation Report; Revision 2

Letter to C. W. Fay, Wisconsin Electric Power Company, from Edward J. Butcher, NRC; dated July 3, 1985

NFPA 13; Standard for the Installation of Sprinkler Systems; dated 1978

Nuclear Procedure (NP) 1.9.9; Transient Combustible Control; Revision 6

Point Beach Calculation 2002-0039; Fire Loading Calculation; Revision 0

Point Beach Letter NPM 2002-0521; Escalation for Nuclear Oversight Significant Assessment Finding CAP001682; Fire Protection Combustible Loading Analysis is Not Traceable; dated October 3, 2002

Point Beach Letter NPM 2002-0550; Escalation for Nuclear Oversight Significant Assessment Finding CAP001682; Fire Protection Combustible Loading Analysis is Not Traceable; dated October 15, 2002

Transient Combustible Control Form 2287; 8' PAB CCW Pumps; dated June 11, 2003

Transient Combustible Control Form 2331; 8' - U1 Charging Pump area; dated August 8, 2003

Transient Combustible Control Form 2360; 8' AFP Ventilation Room (north); dated September 26, 2003

Transient Combustible Control Form 2364; PAB Unit 2 8' by Short Rail Track; dated October 1, 2003

Transient Combustible Control Form 2366; U2 8' PAB MCC-B32; dated October 4, 2003

Transient Combustible Control Form 2373; U2 SI Pump Area; dated October 4, 2003

Transient Combustible Control Forms 2375 and 2376; PAB U-2 EI 8' (2 areas); dated October 5, 2003

Transient Combustible Control Form 2379; P.A.B./ 8' CCW Pump Area; dated October 12, 2003

Transient Combustible Control Form 2383; 8' PAB - North - Sump Area; dated October 14, 2003

Transient Combustible Control Form 2386; No 8' PAB Unit 2 JB-02 Line; dated October 16, 2003

CAP051111; Hot Work Area Had Unprotected Flammable Materials Within 35' Radius; dated October 15, 2003 (NRC-identified issue)

CAP051175; CCW Pump Room Ceiling Level Sprinklers Potentially Non-Compliant with NFPA 13; dated October 17, 2003 (NRC-identified issue)

CAP051177; Fire Loading Calculation Requires Review and Updated; dated October 7, 2003 (NRC-identified issue)

CAP051828; NRC Identified NFPA Code Conformance Issue Not Identified in Self Assessment; dated November 14, 2003 (NRC-identified issue)

CAP051838; Adequacy of Plant Control of Transient Combustible Materials Questioned; dated November 14, 2003 (NRC-identified issue)

CAP051870; Inadequate Corrective Action-Combustible Material Loading in Central 26' PAB; dated November 17, 2003 (NRC-identified issue)

1R06 Flood Protection Measures

NP 8.4.17; Point Beach Nuclear Plant Flooding Barrier Control; Revision 2

1R07 Heat Sink Performance

CAP031246; Macro-Fouling Expected on Shell Side of SFP H/Xs Based on SW Flow Data, dated February 20, 2003

EPRI NP-7552; Heat Exchanger Performance Monitoring Guidelines; December 1991

EPRI TR-107397; Service Water Heat Exchanger Testing Guidelines; March 1998

OPR000046; GL 89-13 Fouling Issues with HX-105A & B - PAB Battery Room Coolers; dated February 24, 2003

Test Protocol No. 2002-1606, Point Beach Nuclear Plant, SFP Heat Exchangers; November 2003

1R08 Inservice Inspection

CAP032290; Inservice Inspection Limited Examinations; dated April 17, 2003

OE029754; Review the Industry "Lessons Learned" OE16015 - Safety Injection Tank Leak; dated May 12, 2003

OE032027; Evaluate Spring Can Supports Against OE 12988; dated July 14, 2003

1R11 Licensed Operator Qualifications

EPI-02-LP005; Emergency Facilities; Revision 0

EPIP [Emergency Plan Implementing Procedure] 4.2; Operations Support Center (OSC) Activation and Evacuation; Revision 16

EPIP 5.1; Personnel Emergency Dose Authorization; Revision 14

EPIP 10.1; Emergency Reentry; Revision 22

CAP051340; NRC Training Observation Comment; dated October 22, 2003 (NRC-identified issue)

1R12 Maintenance Rule Implementation

CAP reports for Freeze Protection and structural deficiencies; October 1, 2001 to October 1, 2003

Maintenance Rule Records from Database MRLIN2; Maintenance Rule Unavailability Sheet for Facade Freeze Protection Unit 1&2; October 1, 2001 to October 1, 2003

Maintenance Rule Records from Database MRLIN2; Maintenance Rule Unavailability Sheet for Plant Structures Unit 1&2; October 1, 2001 to October 1, 2003

NP 7.7.9; Facilities Monitoring Program; Revision 3

Point Beach Flow Diagrams FF-M 510, 511, 517, 520 Facade Freeze Protection on Safety Related Systems

Point Beach Maintenance Rule Performance Criteria for Risk Significant Systems and Structures

Operations log entries for freeze protection Unit 1&2; October 1, 2001 to October 1, 2003

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

ACE001500; 2Y-02 Tag-out Concern and Recommendation for Improvement; dated October 18, 2003

E-1 Report; Work Week Schedule for Week of October 5, 2003

E-1 Report; Work Week Schedule for Week of October 13, 2003

E-1 Report; Work Week Schedule for Week of October 20, 2003

E-1 Report; Work Week Schedule for Week of November 2, 2003

E-1 Report; Work Week Schedule for Week of November 10, 2003

E-1 Report; Work Week Schedule for Week of November 24, 2003

E-1 Report; Work Week Schedule for Week of December 1, 2003

NP 10.3.6; Outage Safety Review and Safety Assessment; Revision 11

NP 10.3.7; On-Line Safety Assessment; Revision 8

Outage Risk Assessment and Fire Condition Checklist for the Week of October 5, 2003

Outage Risk Assessment and Fire Condition Checklist for the Week of October 13, 2003

Outage Risk Assessment and Fire Condition Checklist for the Week of October 20, 2003

Outage Risk Assessment and Fire Condition Checklist for the Week of October 27, 2003

OP 7B; Removing Residual Heat Removal System From Operation; Revision 33

PBF-1562; PBNP [Point Beach Nuclear Plant] Shutdown Safety Assessment and Fire Condition Checklist; dated November 9, 2003, 2:30 p.m.

PBF-1562; PBNP Shutdown Safety Assessment and Fire Condition Checklist; dated November 10, 2003, 9:00 a.m.

WO 0207277; Unit Auxiliary Transformer 2X-02, Inspect Calibration and Set as Needed per PBF-9239J; dated October 1, 2003

WO 0210151; Inservice Test IT-06, 2P-14A/B Containment Spray Pumps and Valves; dated October 29, 2003

WO 0304863; Z-27-4 Traveling Screen Wash Inlet Strainer; dated October 30, 2003

WO 0309698; Electrical Generator, Pull Rotor to Replace Broken Bolt; dated October 26, 2003

WO 9950259; Traveling Water Screen, Install Rubber Seals; dated October 25, 2003

CAP051696; PBF-1562 SD [Shutdown] Safety Assessment Not Filled Out In A Timely Manner; dated November 10, 2003, (NRC-identified issue)

#### 1R14 Non-Routine Evolutions

Apparent Cause Evaluation 1506; Unit 2 RHR Pump Started On Mini-Recirculation Versus RWST; dated October 21, 2003

CAP051222; Unit 2 RHR Pump Started On Mini-Recirculation Versus RWST; dated October 19, 2003

CAP052152; Instrument Air Line Separated; dated December 5, 2003

CAP052158; Unit 2 Feedwater Transient As a Result of Loss of Instrument Air; dated December 5, 2003

CAP052167; Instrument Air Rupture; dated December 5, 2003

CAP052170; Instrument Air Header Failure in Water Treatment; dated December 5, 2003

CAP052174; Four Instrument Air Soldered fittings in Water Treatment Have Active Leaks; dated December 5, 2003

CAP052179; Feed Regulating Valve Response to Lowering Instrument Air Pressure; dated December 7, 2003

Refueling Procedure RP 1C; Refueling; Revision 49



1R15   Operability Evaluations

American Society of Mechanical Engineers RA-S-2002; Standard for Probabilistic Risk Assessment for Nuclear Power Plant Applications

Anchor/Darling Valve Company Calculation Order No. E-A437-1; Maximum and Required Thrust Analysis, 4-Inch No. S200W ASA Series 900 Welding Ends Double Disk Gate Valve With SMB-00 Limitorque Motor Operator; dated September 19, 1987

Apparent Cause Evaluation (ACE) 001530; Non QA Worm and Worm Gear Used in QA Application for Limitorque Operator SMB-00; dated November 10, 2003

Bechtel Drawing C-124; Containment Structure Penetration Details; Revision 9

Bechtel Drawing C-211; Thermocouples for Steamline Penetration Elevation & Section; Revision 1

Bechtel Drawing C-347; Main Steam and Feedwater Pipe Restraints Outside Containment Point Beach Nuclear Plant Unit 1; Revision E

Bechtel Drawing M-83; Penetration Details Main Steam and Feedwater; Revision 5

Bechtel Drawing 6118 M-207 Sheet 1; Service Water Point Beach Nuclear Plant Unit 1; Revision E

Bechtel Drawing 6118 M-207 Sheet 1A; Service Water Point Beach Nuclear Plant Unit 1; Revision E

Calculation 2003-0014; MOV [Motor Operated Valve] Operating Parameters; Revision 1

Calculation 2003-0014; MOV Operating Parameters; Revision 0

CA053809; Through Wall Pin-Hole Type Leak in SW Piping To 2P-29 AFW - NDE [Nondestructive Evaluation] Inspections; dated November 12, 2003

CAP030572; Indications in Main Feedwater Piping Discovered During Steam Generator Replacement; dated October 19, 2003

CAP050815; FI-4007, P-38A AFW Pump Exhibited Intermittent Flow Indication With P-38B Running; October 8, 2003

CAP051234; Unknown Auxiliary Feedwater Indication Has Been Found; dated October 19, 2003

CAP051362; Issues Regarding Auxiliary Feed Piping Video Probe examination; dated October 23, 2003

CAP051530; Non QA Worm and Worm Gear Used in QA Application for Limitorque Operator SMB-00; dated October 29, 2003

CAP051579; 2VNSE-3212 Air system leakage Delays Critical Path During U2R26; dated November 2, 2003

CAP051581; VNPSE [Ventilation Purge Supply and Exhaust] Valves IST [Inservice Inspection Test] Acceptance Criteria Incorrect Not Conservative; dated November 3, 2003

CAP051703; Through Wall Pin-Hole Type Leak in SW [Service Water] Piping To 2P-29 AFW [Auxiliary Feedwater Pump]; dated November 10, 2003

CAP051802; PBNP Processes May Allow for Inadvertent Impact on SSC [System, Structure or Component] SR [Safety-Related] Qualification; dated November 14, 2003

CAP051854; N2 MS [Main Steam] Line Containment Penetration Concrete Temperature Above FSAR Specified Allowable; dated November 15, 2003

CAP051856; Unit 1 MS Line Containment Penetration Concrete Temperature; dated November 15, 2003

CAP051879; Need Improved Understanding of GL [Generic Letter] 90-05 requirements for SW Piping Leaks; dated November 18, 2003

Design Basis Document 33, Section 4.4.7; Containment Mechanical Penetrations; Revision 0

IT 385; Purge Valve Air System Check Valve (Quarterly/Cold Shutdown) Unit 2; Revision 16

Liquid Penetration Examination Record 0303491/451100; Piping EB-09, 16" x 3" Weldlet; dated October 22, 2003

OI 58; Leak Testing of Containment Isolation Valves - Unit 1 and 2 General Instructions and Information; Revision 22

OPR [Operability Determination] 000092; Non-QA Worm Used in QA MOV for 1SI-0866A; dated October 31, 2003

OPR00093; Unit 1 and Unit 2 Containment Purge, Supply and Exhaust System Supply (VNPSE-3244, -3245) and Exhaust (VNPSE-3212, -3213); Revision 0

OPR000093; Unit 1 and Unit 2 Containment Purge, Supply and Exhaust System Supply (VNPSE-3244, -3245) and Exhaust (VNPSE-3212, -3213); Revision 1

OPR000096; Main Steam Containment Penetrations; dated November 17, 2003

Point Beach Design Basis Document (DBD) 11; Safety Injection and Containment Spray System, Section 3.16; Revision 0

Point Beach Drawing SGR-95-058\*0-037; SG B Feedwater Line Installation; Revision 1

Point Beach Nuclear Plant In-Service Inspection Manual; Service Water In-Service Inspection Program; Revision 1

Point Beach Unit 1 and 2 Purge Valve IST Leakage Data; October 2000 to December 2003

Research Project TR-105396 3200-12; PSA Applications Guide, Final Report; August 1995

Tag Series 0-SW-Piping-HB-19-MM Rev0-1; Service Water to Engineering Safeguards SW; dated November 12, 2003

Temporary Modification 03-036; Install Blank Flanges At U2 CV-3212 and 3244; November 2003

TS 35; Local Leak Rate Test of Containment Purge Valves Unit 1; Revision 24

Valve Test Data for 1AF-4000 and 1SI-866A; February 1990 to December 2003

WE Energies Drawing M-215 Sheet 1; QA [Quality Assurance] Classification Diagram Heating & Ventilation System, Point Beach Nuclear Plant Unit 1; Revision E

WE Energies Drawing M-2215 Sheet 1; QA Classification Diagram Heating & Ventilation System, Point Beach Nuclear Plant Unit 1 & 2; Revision E

WE Energies Drawing PBM-332; QA Classification Diagram Instrument Air Containment Purge Valve Pneumatic Control Scheme Point Beach Nuclear Plant Unit 1; Revision E

WE Energies Drawing PBM-2332; QA Classification Diagram Instrument Air Containment Purge Valve Pneumatic Control Scheme Point Beach Nuclear Plant Unit 2; Revision E

WO 0309563, Addendum 1; Main Steam System; dated November 14, 2003

WO 0310113; Service Water to Engineering Safeguards; dated November 11, 2003

WO 0306491; Feedwater Containment Isolation Valves to Steam Generators; Revision 1

#### 1R16 Operator Workarounds

PNBP Electrical Power Distribution, Schematic Dated 05/12/03.

Tagout Series 2-345kv-2f52-142-APS-Rev1-1; Turbine Generator Output Breaker and Switchyard Tag Series; dated October 7, 2003

1R19    Post-Maintenance Testing

CAP052058; 1DPS-05934 Failed; dated November 30, 2003

IT-09A; Cold Start Of Turbine-Driven Auxiliary Feedwater Pump and Valve Test; Revision 33

IT-12; Component Cooling Water Pumps and Valves (Quarterly) Unit 1; Revision 27

IT-775; Spray System RWST [Refueling Water Storage Tank] Suction Valve Leakage Test (Refueling) Unit 2; Revision 7

Routine Maintenance Procedure (RMP) 9376-6; Limitorque Motor Operator Model SMB-00 Disassembly, Inspection, Repair, and Re-assembly; Revision 4

WO0309985; 1AF-040000 Unit 1 Turbine Driven AFW Pump Discharge Isolation Motor Operated Valve; dated October 31, 2003

WO0310428; MOV-2 Failed to Open During 1-PT-MS-003, dated November 30, 2003

CAP052069; Use of CC [Component Cooling] Pump Oil Level Sight Glass; dated December 1, 2003 (NRC-identified issue)

1R20    Refueling and Outage Activities

2RMP 9096; Reactor Vessel Head Removal and Installation; Revision 23

10 CFR 50.59 Screening 2003-0329; Steam Generator Nozzle Dams; dated September 22, 2003

CAP051065; Foreign Material Found in HP [High Pressure] Turbine Nozzle Block; dated October 15, 2003

CAP051346; Unit 2 "B" Containment Fan Cooler Started Without Proper Close-out Inspection; dated October 22, 2003

CAP051433; U2R26 Orange path Contingency Plan Protected Equipment List Possible Omission; dated October 26, 2003

CAP051523; Possible Through Leakage on 2SI-841B During Accumulator Recovery; dated October 29, 2003

CAP051717; 2MS-2015 Failed 50% Open; dated November 11, 2003

CL 4C; Low Temperature Overpressure Protection Unit 2; Revision 10

CL 2B; Mode 6 to Mode 5 Checklist; Revision 4

CL 2C; Mode 5 to Mode 4 Checklist; Revision 3

CL 2D; Mode 4 to Mode 3 Checklist, Completed November 10, 2003; Revision 2

CL 2E; Mode 3 to Mode 2 Checklist, Completed November 17, 2003; Revision 5

CL 2F; Mode 2 to Mode 1 Checklist, Completed November 17, 2003; Revision 4

NP 10.3.6; Outage Safety Review Plan & Safety Assessment; Revision 11

Operating Procedure (OP) 7A; Placing Residual Heat Removal System In Operation; Revision 42

OP 3C; Hot Standby to Cold Shutdown; Revision 90

OP 1B; Reactor Startup; Revision 49

OP 1C; Startup to Power Operation Unit 2; Revision 0

Operating Instruction (OI) 105; RCS [Reactor Coolant System] Heat-up/Cooldown Plotting; Revision 9

Point Beach Letter NPM 2003-0530; U2R26 Outage Safety Review Results; July 24, 2003

TRM 2.1; Core Operating Limits Report, Unit 2 Cycle 27; Revision 5

U2R26 Outage Risk Plan; dated July 17, 2003

Westinghouse Letter PPE-03-254; Evaluation of Thimble Tube Fine Debris at Point Beach Unit 2 Fresh Assemblies; dated October 15, 2003

Westinghouse Letter LTR-RCPL-03-76; Evaluation of Loose Parts in RCS [Reactor Coolant System] Primary Side at Point Beach Unit 2 Fresh Assemblies; dated October 27, 2003

CAP050890; Question on Scaffold in Safe Shutdown Area; dated October 10, 2003 (NRC-identified issue)

CAP051079; Sump B Availability While Refilling Cavity Flooded/Fuel in Containment; dated October 15, 2003; (NRC-identified issue)

CAP051129; SEP-1.1 Entry Conditions Should be Enhanced; dated October 16, 2003; (NRC-identified issue)

CAP051277; Stationary (Secondary) Door on Door 228 Found To Be Open; dated October 21, 2003 (NRC-identified issue)

CAP051799; Evaluation of RCP [Reactor Coolant Pump] Shaft Lift Rig in Unit 2 Containment; dated November 13, 2003 (NRC-identified issue)

1R22    Surveillance Testing

CAP051628; Concrete Condition on Unit 1 Containment Buttress B; dated November 5, 2003

DBD 10; Residual heat removal System, Section 3.3.13 Stroke Time; Revision 1

DBD 11; Safety Injection and Containment Spray System, Section 3.11, Service; Revision 0

IT 65; Containment Isolation Valves (Quarterly) Unit 2; Revision 31

IT 4D; RHR Valve Exercise Test for Operation or Shutdown Unit 2; Revision 16

IT 245; Safety Injection Accumulator Valves (Cold Shutdown) Unit 2; Revision 15

IT 545C; Leakage Reduction and Preventive Maintenance Program Test of Containment Spray System Mode 1, 2, or 3, Unit 2; Revision 4

ORT 3A&3B Safety Injection Actuation With Loss Of Engineering Safeguards AC (Trains A&B)

ORT 64; RE-211 and 212 Supply Unit 2 Testing; Revision 16

OI 58; Leak Testing of Containment Isolation Valves - Unit 1 and 2 General Instructions and Information; Revision 22

Westinghouse Drawing 110E035, Sheet 1; Safety Injection System Point Beach Nuclear Plant Unit 2; Revision E

Westinghouse Drawing 110E035, Sheet 2; Safety Injection System Point Beach Nuclear Plant Unit 2; Revision E

1R23    Temporary Plant Modifications

CAP051694; IT-365 Stroke Test 2VNPSE-3212 Not Reviewed by IST Engineer Within 96 Hours; dated November 10, 2003

CAP051681; Drawing Discrepancy Discovered During Performance of WO 0310055; dated November 8, 2003

CAP051685; Restraints Needed To Ensure TS Bases Changed Prior To Unit 2 Entering Mode 6; dated November 8, 2003

CAP051707; Deficiencies in Implementation of TM 03-036; dated November 10, 2003

NP 10.3.6; Outage Safety Review and Safety Assessment; Revision 11

OI-11; Steam Generator Nozzle Dam Operation Guide; Revision 6

Safety Evaluation (SER) 2003-0329; Steam Generator Nozzle Dams; dated September 22, 2003

SER 86-047; Steam Generator Nozzle Dams; dated July 21, 1986

BG SEP-2; Shutdown LOCA [Loss-of-Coolant-Accident] Analysis; Revision 3

SEP-2.3; Cold Shutdown LOCA; Revision 9

Temporary Modification 03-36 Install Blank Flanges At CV-3212 and 3244; November 2003

CAP050613; Possible Deficiency in NP 5.1.8; dated October 2, 2003 (NRC-identified issue)

#### 1EP2 Alert and Notification System (ANS) Testing

ACE 001269; Press Release Accuracy and Coordination Concerns; dated April 9, 2003

CA 003503; Revise Preventive Maintenance Procedure 44-02 to Clarify What Corrective Actions Were Taken; dated January 15, 2002

CA 027537; Repair of Backup Encoder at Sheriff's Office; dated February 3, 2003

CA 029044; Assess Usefulness of Battery Packs as a Backup Power Supply for Sirens; dated April 8, 2003

CAP 030580; Backup Siren Encoder Is Inoperable at Manitowoc County Sheriff's Office; dated December 30, 2002

CAP 032030; Siren Failures Due to Loss of Power Caused by Ice Storm; dated April 4, 2003

CAP 032059; Inaccurate Press Release on Loss of Siren Coverage Due to Ice Storm; dated April 7, 2003

CAP 033949; False Failure Indication During Siren Test; dated July 8, 2003

CAP 034104; Determine Need for Prior Federal Emergency Management Agency Approval of ANS Equipment Changes; dated July 16, 2003

CAP 034262; Siren P008 Failed During Weekly Test; dated July 23, 2003

CAP 034436; Power Failure to Siren P011; dated July 30, 2003

CAP 034465; Power Failure to Siren P010; dated July 31, 2003

CAP 034849; Sirens failed in Kewaunee County Portion of EPZ During Test; dated August 20, 2003

CAP 035123; Safety Concern on Doing Maintenance on Siren P003; dated August 26, 2003

CAP 035134; Determine Need to Change Annual Preventive Maintenance Procedure 44-02 Due to Suspension of Three Unit Site Concept; dated August 26, 2003

CE 012220; No Need to Revise Maintenance Procedure 44-02; dated August 28, 2003

EPMP 6.0; Alert and Notification System; Revision 1

KNPP Preventive Maintenance Procedure 44-02; ANS Annual Preventive Maintenance; Revision C

Records of 2002 and 2003 Annual Preventive Maintenance on Each Siren Within the Manitowoc County Portion of the Point Beach Plant's EPZ

1EP3 Emergency Response Organization (ERO) Augmentation Testing

CA 032556; Pager Codes for Actual Events Included All Expected Responders; Error in July 2003 Drill's Code

CA 052015; Issue "ERO Expectations" Newsletter to Summarize Pager and Fitness-for-Duty Expectations

CA 052041; Address Site Access Badge Availability in "ERO Expectations" Newsletter

CAP 034021; ERO Notification System Uncertainties

CAP 034119; Inadvertent ERO Pagers Activation by Vendor in July 2003

CAP 034486; One Responder's Pager Did Not Activate in July 2003 Drill

CAP 034517; Joint Public Information Center (JPIC) Staff and Fitness-for-Duty

CAP 034532; Pager Code for July 2003 Drill Did Not Include Some Technicians

CAP 034590; Assess Site Access Badge Carrying Expectations for ERO Members

CAP 050903; Some Designated 30-minute ERO Responders Cannot Respond From Residences Within 30 Minutes

CE 012033; Evaluation of One Pager Activation Problem in July 2003 Drill

CE 012043; JPIC Staff and Fitness-for-Duty

CE 012545; Perform an Evaluation of the Concern Documented in CAP 050903

EPMP 2.2; Routine Check and Maintenance of the Emergency Telephone Directory; Revision 10



EPMP 7.0; ERO Notification System; Revision 1

Memorandum; ERO Shift Augmentation Drill - February 20, 2003; dated March 4, 2003

Memorandum; ERO Staff Augmentation Drill - July 8, 2003; dated August 2, 2003

Memorandum; July 31, 2003 Emergency Preparedness Facility Activation Drill

Internal Newsletter; ERO Expectations; dated September 2003

Training Handout; Emergency Plan Overview - Lesson Plan 2300

1EP4 Emergency Action Level and Emergency Plan Changes

CAP 050900; Add Letter of Agreement to Appendix D on Alternate Providers of Chemistry Sample Analysis Services

Point Beach Emergency Plan Section 1; Introduction; Revision 26

Point Beach Emergency Plan Section 2; Abbreviations; Revision 39

Point Beach Emergency Plan Section 8; Maintaining Emergency Preparedness; Revision 45

Point Beach Emergency Plan Appendix A; ERO Positions' Functions and Responsibilities; Revision 22

Point Beach Emergency Plan Appendix D; Letters of Agreement; Revisions 21, 22, and (Draft) 23

Point Beach Emergency Plan Appendix E; State Emergency Plan; Revision 6

Point Beach Emergency Plan Appendix F; Manitowoc County Emergency Plan; Revision 9

Point Beach Emergency Plan Appendix G; Kewaunee County Emergency Plan; Revision 9

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

ACE 0013336; Emergency Event Mis-classified During June 2003 Drill

CA 031958, 031960, 031961; Corrective Actions on Emergency Event Mis-classification During June 2003 Drill

CA 031931; Streamline Implementing Procedure 1.1 to Allow More Timely ERO Notification Following Emergency Declaration

CA 053238, 052339; Procedural and Training Corrective Actions Related to CE 012165

CAP 033333; Emergency Event Mis-classified During June 2003 Drill

CAP 0338875; Radiation Monitoring System Knowledge Concern Identified During June 2003 Drill

CAP 033954; Delay in Notifying ERO During June 2003 Drill

CAP 033956; Contamination Control Concern Identified During June 2003 Drill

CAP 034862; Untimely Emergency Notification of KNPP Control Room During June 2003 Drill

CAP 034958; Operations Support Center Performance Concerns During August 2003 Drill

CAP 034969; Offsite Survey Team Did Not Obtain Air Sample During August 2003 Drill

CAP 050822; Implementing Procedure Comments From August 2003 Drill

CAP 050594; Concern on Timeliness of Notifying Simulated NRC Official During August 2003 Drill

CAP 050817; Critiques of Emergency Planning Classroom Training Sessions Not Always Performed

CAP 050897; Inconsistent Quality of Documenting Critiques of Post Accident Sampling System Drills

CAP 050900; Nuclear Oversight Assessment of Samples of Emergency Plan Sections and Implementing Procedures

CAP 050904; Offsite Agency Training Enhancements

CAP 051243; County Emergency Directors Request to be Kept Better Informed of Changes to Plant Emergency Planning Staff

CAP 051288; Meet with State and County Officials to Add a Sheltering Protective Action Recommendation Option to Plant's Emergency Plan and Implementing Procedures

CAP 051329; [Emergency Preparedness] Staff Were Accidentally Removed From Distribution List for Revisions of Manitowoc County and Kewaunee County Emergency Plans

CE 012165; Assess Implementing Procedures on Notification of KNPP Control Room Following Emergency Declarations

Emergency Planning CAP Evaluation for Third Quarter 2003; undated

Inspection Report for Meteorological Monitoring Towers at Point Beach Plant; dated September 9, 2003

Internal Memorandum; Meteorological Towers Upgrade Project; dated October 28, 2003

Internal Memorandum; Critique Report for June 5, 2003 Drill; dated July 8, 2003

Internal Memorandum; Critique Report for August 14, 2003 Drill; dated October 24, 2003

Internal Memorandum; 2002 Post Accident Sampling System Reactor Coolant System Drills; dated October 14, 2002

Internal Memorandum; 2002 Post Accident Sampling System Containment Atmosphere Sampling Drills; dated October 16, 2002

Nuclear Oversight Observation Report 2002-001-3-009; Observe Bimonthly Inspection of Meteorological Monitoring Equipment; dated January 2002

Nuclear Oversight Observation Report 2002-001-3-018; Tour of Emergency Response Facilities and Review of Emergency Equipment Inventory Records; dated February 2002

Nuclear Oversight Observation Report 2002-001-3-019; Observation of February 2002 Exercise; dated March 2002

Nuclear Oversight Observation Report 2002-001-3-059; Interviews With State and County Officials and Review Of Letters of Agreement; dated April 2002

Nuclear Oversight Observation Report 2002-002-3-015; Review of ANS and ERO Performance Indicator Records; dated July 2002

Nuclear Oversight Observation Report 2002-004-3-011; Observation of November 2002 Drill and Drill Critiques; dated December 2002

Nuclear Oversight Observation Report 2003-004-3-005; Annual Review of Emergency Preparedness Program; dated October 2003

1EP6   Drill Evaluation

CAP052133; Failure to Use Current Copy of Procedure in Classroom training; dated December 12, 2003

Email for BR-03-237; EPIP 1.3 Sheltering Recommendations, dated December 12, 2003

EPIP 1.3; Dose Assessment and Protective Action Recommendations; dated August 29, 2003, Revision 31

EPIP 1.3; Dose Assessment and Protective Action Recommendations; dated November 26, 2003, Revision 32

FP-T-SAT-10, QF-1010-01A; Needs Assessment Work Sheet; For CAP 052245/RFT11052 Question on EPIP 1.3 Revision

FP-T-SAT-10, QF-1060-02; Document of Information Sharing for SROs and STAs; BR-03-237 EPIP 1.3 Sheltering Recommendations to Stated and Counties; dated December 12, 2003

FP-T-SAY-60; SAT Overview Procedure; Revision 2

LP3021; Tools for Dose Assessment Lesson Plan; dated January 10, 2002, Revision 2

Operating Experience; Training-Classroom Lecture with Practical Exercise; dated December 5, 2003

PBP-0-26g; Document Review and Approval; EPIP 1.3; dated November 21, 2003

## 2OS1 Access Control to Radiologically Significant Areas

CAP 050962; Loss of Control of Very High Radiation Area Key; dated October 11, 2003

CAP 051236; Inadequate Preparations for U2 Steam Generator Nozzle Dam Installations; dated October 19, 2003

HP 2.14; Containment Keyway Personnel Access; Revision 10; dated September 28, 2001

HP 2.14; Containment Keyway Personnel Access; TCN 2003-0717; dated October 31, 2003

HP 2.17; Very High Radiation Area Personnel Access; Revision 4

HP 2.5; Radiation Work Permit; Revision 30

HP 2.6; Locked and Very High Radiation Area Key Control; Revision 23

HP 3.2; Radiological Labeling, Posting and Barricading Requirements; Revision 38

RWP 03-222; Replace Rx Head O-Rings; Revision 0

RWP 03-231; Remove "B" RCP Motor, Inspect/Replace Mechanical Seals, Reinstall Motor

RWP 03-247; U2 CTMT Upper Cavity and GHLDA; Revision 0

RWP 03-249; RVG Head UT Inspection (Under head); Revision 0

RWP 03-256; U2 Containment NDE & ISI; Revision 0

RWP 03-257; Install and Remove Scaffolding; Revision 0

RWP 03-268; S/G Sludge Lance Activities; Revision 0

RWP 03-269; S/G Hand Hole Covers/Remove and Replace; Revision 0

RWP 03-276; Nozzle Dam Removal/Installation; Revision 0

RWP 03-277; BMI Inspection; Revision 0

RWP Log; dated October 19, 2002

2RMP 9032; Steam Generator Handhole and Inspection Port Cover Removal and Installation Unit 2; Revision 10

Plan of the Day; dated October 21, 2003

Point Beach Nuclear Plant Radiation Exposure Report; dated October 19, 2003

Radiation Protection Outage Work Schedule, Week of October 20 - 24, 2003

U2R26 Outage, Daily Newsletter; dated October 23, 2003

## 2OS2 As Low As Is Reasonably Achievable (ALARA) Planning And Controls

ALARA Plan; Framatome/Point Beach Nuclear Plant, Unit #2, RVHP Nozzle Inspection/Repair; Revision 0

ALARA Review Log

ALARA Review Number 2003-010, Remove "B" RCP Motor, Inspect/Replace Mechanical Seals, Reinstall Motor; dated October 17, 2003

ALARA Review Number 2003-013, Level 3 Post-Job, UT Inspection Under Reactor Head; dated October 19, 2003

ALARA Review Number 2003-015, In-Progress Review, NDE/In-Service Inspections; dated October 19, 2003

ALARA Review Number 2003-016, Install and Remove Scaffold; dated October 17, 2003

ALARA Review Number 2003-019, Pre-Job ALARA Review, Steam Generator Eddy Current Testing and tube Plugging; dated October 2, 2003

ALARA Review Number 2003-0020, In-Progress Review, Remove and Replace Handhole covers, Sludge Lance and FOSAR Inspection; dated October 19, 2003

ALARA Review Number 2003-023, Pre-Job ALARA Review, Install Insulation; dated September 22, 2003

ALARA Review Number 2003-023, In-Progress Review, Install Insulation; dated October 19, 2003

ALARA Review Number 2003-024, In-Progress Review, Install and Remove S/G Nozzle Dams; dated October 15, 2003

ALARA Review Number 2003-025, In-Progress Review, Reactor Vessel Head Inspection; dated October 15, 2003

CAP 034983; Activity Found on Valve Removed from Turbine Hall Component; dated August 19, 2003

CAP 050069; Post Job ALARA Review Not Performed for Work on 1RC-504; dated September 9, 2003

CAP 050965; Personnel Contamination Event Greater than 5,000 cpm; dated October 11, 2003

CAP 051020; Radioactive Contamination Found in the Unit 1 Turbine Building; dated October 14, 2003

CE 012552; Personnel Contamination Event Greater than 5,000 cpm; dated October 14, 2003

Check Point 2 Day Report; dated October 21, 2003

Graphic on U2R26 Dose Goal; dated October 16, 2003

Graphic on Point Beach 3 Year Rolling Average, 1976 to 2002 U2R26 Dose Goal; dated October 16, 2003

Graphic on Point Beach, Supporting Operational Excellence, Annual Collective Dose, Personal Contamination Events, Unintended Dose Events, ALARA Effectiveness, and Radiological Events; dated September 2003

HPIP 1.66; Dosimetry Placement for Extremity and Multiple Whole Body Locations and Extremity Dose Determination; Revision 9

HPIP 1.60; Calculating Shallow and Deep Dose Rates Due to Skin Contamination; Revision 9

HPIP 2.1.2; Personnel Contamination Monitoring, Decontamination and Documentation; Revision 16

HPIP 3.52; Airborne Radioactivity Surveys; Revision 30

HPIP 4.40; TEDE ALARA Evaluation; Revision 0

Job File 121; Reactor Vessel Head O-Ring Replacement; Revision June 2000

NP 4.2.15; Fetal Protection Policy Implementation; Revision 3

NP 4.2.29; Source Term Reduction Program; Revision 4

NP4.2.1; ALARA Program; Revision 10

NX-1049; Undervessel Work Controls at Farley, Nuclear Plant and South Texas Project Electric Generating Station, Lessons Learned Packet; dated August 2003

PBF-4039a; Personnel Contamination Event (PCE) Report, PCE # 03-03-013; dated September 25, 2003

PBF-4076a; Employee Pregnancy Declaration form; dated May 15, 2003

U2R26 PCE Details Listing, All PCEs Greater Than 100 ncpm; dated October 4-19, 2003

U2R26 PCE Details Listing, All PCEs Greater Than 5,000 ncpm; dated October 5-19, 2003

U2R26 RWP Listing with Outage Dose Estimates, per Work Evolution

U2R26 Refueling Outage Handbook, dated October, 2003

2003-004-3-013; Nuclear Oversight Observation Report, Refuel/Outage Activities, October 10-14, 2003; dated October 21, 2003

### 2OS3 Radiation Monitoring Instrumentation and Protective Equipment

CAP 051358; Training Materials Not in Compliance With 10CFR20.1703(f); dated October 23, 2003

HPI-02-LP003; Change Tracking Form, Respiratory Protection; dated October 23, 2003

HPI-02-LP013; Update Log Form, Direct Radiation Protection Job Coverage, Emergency Response Expectations; dated October 23, 2003

HPIP 4.51.3; Air Line Respiratory Equipment; Revision 7

HPIP 4.51.4; Scott Self-Contained Breathing Apparatus; Revision 8

HPIP 4.57; Respirator Selection; Revision 7

HPC-03-LP302; Radiation Protection Continuing Training; Revision 0

HPK-02-LP001; Radiation Protection Contractor Procedures Review, Emergency Response Expectations, dated October 23, 2003

ISC-04-LPRPT; Respiratory Protection Lesson Plan; Revision 0

ISC-04-LPRPT; Change Tracking Form, Respiratory Protection; dated October 23, 2003

NP 4.2.32; Respiratory Protection Program; Revision 2

Training Roster, Review of OE 13365, Two Separate Incidents Where Loss of Breathing Air to Air-Supplied Respirators (Bubble hoods) Occurred; dated September 22, 2003

2PS2   Radioactive Material Processing and Transportation

Apparent Cause Evaluation Manual; Revision 0

CA000922; Records Storage; dated June 12, 2001

CAP000382; Records Storage; dated January 12, 2001

CAP014237; Lack of Knowledge on Receipt of Radioactive Material by Warehouse Personnel; dated August 1, 2001

CAP001892; Free Released Container was About to Leave Site with Radioactive Markings; dated January 16, 2002

CAP002930; Process Improvement to the Rad Material Processing and Transportation Program; dated April 19, 2002

CAP002933; Radioactive Transportation Records Not Temporarily Stored per NP 1.3.1; dated April 19, 2002

CAP028286; Incore Detector Received Without Reactor Engineering Notification; dated May 22, 2002

CAP031107; Change Form of Resin in BAE Feed Demins 1U12A and 1U12B; dated February 12, 2003

CAP031489; Base of Radioactive Shipment Trailer Not Posted IAW HP 3.2; dated March 7, 2003

CAP034718; Abandoned in Place Configuration Deficiencies; dated August 8, 2003

CAP03957; Lessons Learned for Resin HIC Transfer to Cask; dated January 31, 2003

CAP050761; Item of Radwaste Contained Liquid When Placed in Shipping Container; dated October 6, 2003



CAP0516448; Radioactive Material Package was Received at Warehouse in a Wetted Condition; dated November 11, 2003

CAP; Evaluate if Abandoned Equipment Meets the Requirements of NP 7.1.5

FO-OP-002; Operating Guidelines for Use of Polyethylene High Integrity Containers, for Duratek; Revision 19

FO-OP-023; Bead Resin/Activated Carbon Dewatering Procedure for Duratek 14-215 or Smaller Liner; Revision 19

Graphics (slides) of 49 CFR Regulatory Awareness Training for Radiation Protection

HPI-02-LP015; Radiation Protection Technologist Training Program, Basic Radiological Protection; Revision 1

NP 1.3.1; Records Management Program; Revision 13

NP 5.3.1; Action Request Process; Revision 22

NP 7.1.5; Abandoned Equipment; Revision 1

NP 9.9.1; Warehouse Receiving; Revision 1

Nuclear Oversight Observation Report; 2002-002-3-033; dated June 30, 2002

OI 21; Mixed Bed (HOH) Demineralizer Resin Flush and Recharge, 1U1A(B) and 2U1A(B); Revision 18

PBF-4024; Non-routine Radiological Analysis (U-1 Containment Cavity, U-1 Sample Sink, BDE Bottoms, Truck Access Resin HIC); dated September 29, 2003, January 29, 2003, and January 6, 2003

PBF-4902b; Carrier/Drivers Instructions for Maintenance of Exclusive Use Shipments; dated March 17, 2003

PBF-4952; Point Beach Nuclear Plant, Bill of Lading Assignment and Radioactive Material Shipment Record, Calendar Years 2001-2003

PBF-4980; Resin Transfer to Truckbay HIC Checklist; dated February 15, 2002

PCP; Process Control Program; Revision 4

Plan of the Day Meeting Package; dated November 6, 2003

Radwaste/Rad Support Outage Schedule and Expectations

Radwaste Training Roster, Point Beach Radiation Protection Technicians; dated October 31, 2003

Radioactive Waste Packaging, Transportation, and Disposal Refresher Training (Duratek), Course Completion Certificate for Point Beach Nuclear Plant Radwaste Manager; dated August 18, 2003

RDW Index; Revision 90

RDW 11.0; Radioactive Material Handling Program; Revision 5

RDW 13.0; Receipt of Radioactive Material; Revision 4

RDW 13.1; Receipt of A Type of Type B Quantity Radioactive Material; Revision 4

RDW 13.2; Receipt of New Fuel; Revision 6

RDW 13.3; Receipt of Radioactive Material, Excepted Packages; Revision 5

RDW 13.11; Receipt of Radioactive Material Shipped via Exclusive Use Vehicles; Revision 4

RDW 14.2; Use of Vacuum Cleaners in Radiologically Controlled Areas; Revision 3

RDW 14.3; Steam Generator Storage Facility Low-level Radioactive Waste Storage Requirements; Revision 2

RDW 14.4; Requirements for the Storage of Container in Outside Areas; Revision 2

RDW 15.0; Radioactive Material Shipping; Revision 5

RDW 15.1; Determining Shipment Type and Packaging Requirements; Revision 7

RDW 15.2.3; Packaging Type A Quantity Material for Shipment; Revision 5

RDW 15.2.4; Packaging Type B Quantity Material for Shipment; Revision 5

RDW 15.3; Radioactive Material (Greater Than Limited Quantity) Shipment via Non-Exclusive Use Vehicle; Revision 5

RDW 15.6; Reportable Quantity; Revision 2

RDW 15.15; Exempt Quantity Shipments; Revision 1

RDW 15.16; Packaging and Shipping of LSA and SCO Material via an Exclusive Use Vehicle; Revision 0

RDW 15.17; Packaging and Shipping of Radioactive Material Excepted Package, Limited Quantities; Revision 0

RDW 15.18; Hazardous Material Transportation Security Plan; Revision 0

RDW 16.1; Preparation, Transport and Storage of Radwaste; Revision 4

RDW 16.7; Dry Active Waste Processing for Transport in Sea Land Vans; Revision 4

RDW 16.16; Processing Non-compactible Radwaste by Encapsulation; Revision 6

RDW 17.0; Liquid Radwaste Processing; Revision 2

RDW 17.1; Scheduling and Setup for Liquid Waste Processing; Revision 2

RDW 17.3; Processing Bead Resin by Dewatering; Revision 6

RDW 17.4; Processing Evaporator Bottoms by Solidification; Revision 4

RDW 17.7; Processing Aqueous Solutions by Solidification; Revision 3

RDW 17.8; Processing Evaporator Bottoms by Drying; Revision 2

RDW 18.1; Determining Activity and Radionuclide Content of Radwaste and Radioactive Material Packages; Revision 6

RDW 18.1.1; 10 CFR 61 Sampling Program; Revision 3

RDW 18.2; Radwaste Classification Shipment Type and Waste Stability Determination; Revision 2

RDW 18.3; Advance Notification; Revision 0

RDW 18.4; Verifying Compliance with Radwaste Package Thermal Limits; Revision 0

RDW 18.14; Reporting Mishaps Involving LLW forms Prepared for Shipment; Revision 1

Report of Analysis (Vendor), Login # LI5554, Project ID # WI744-3PPointBeach (Analysis of Smears, BDE Bottoms, TA Resin HIC); dated June 29, 2001

Report of Analysis/Certificate of Conformance (Vendor), LIMS # LI8085, Project ID # WI744-3PPointBeach (Analysis of HCL Resin/Caustic); dated June 24, 2002

Report of Analysis/Certificate of Conformance (Vendor), LIMS # 20472, Project ID # WI744-3PPointBeach (Analysis of Smears, BDE Bottoms, TA Resin HIC); dated March 27, 2003

RWP 03-033; Resin Shipment; Revision 0

Sample Data (DAW Sample From 4/5/2000) Set Validation (Independent Laboratory Data Values Versus In-House Lab Data Values); dated January 24, 2003

Sample Data (Liquid [Evaporator Bottoms] Sample From 1/16/2002) Set Validation (Independent Laboratory Data Values Versus In-House Lab Data Values); dated January 24, 2003

Sample Data (Resin sample From 1/25/2002) Set Validation (Independent Laboratory Data Values Versus In-House Lab Data Values); dated January 24, 2003

Shipping Package #2001-051, From Point Beach Nuclear Plant to Studsvik Processing Facility, Resin for Processing ; dated July 25, 2001

Shipping Package #2001-070, From Point Beach Nuclear Plant to ATG Catalytics, Blowdown Evaporator Bottoms in Liner Cask ; dated October 26, 2001

Shipping Package #2002-027, From Point Beach Nuclear Plant to Framatome, Reactor Head Repair Equipment; dated April 26, 2002

Shipping Package #2003-017, From Point Beach Nuclear Plant to Studsvik Processing Facility, Resin for Processing; dated March 17, 2003

Shipping Package #2003-049, From Point Beach Nuclear Plant to Wyle Laboratories, Contaminated Stop Valves (2CV-203 and 2RC-434) for Repair; dated November 3, 2003

Shipping Package #2003-066, From Point Beach Nuclear Plant to Unitech Services Group, Contaminated Laundry for Processing; dated November 3, 2003

Shipping Package #2003-067, From Point Beach Nuclear Plant to Environmental Inc. Midwest Laboratory, Liquid Composite Samples for Analysis; dated November 4, 2003

U2R26 Outage, Point Beach Daily Report; dated November 5, 2003

Vendor Shipping Package From Imaging & Sensing Technology to Point Beach Nuclear Plant, WL-23630 Moveable In-Core Detector; dated October 31, 2003

### 2PS3    Radioactive Material Control Program

CAP 051000; Valve Shipped From PBNP Without Being Identified as Radioactive; dated October 13, 2003

Human Performance Event Investigation Tool, 2CV-203, October 14-15, 2003, Kewaunee/Point Beach Nuclear; Revision July 31, 2002

PBF-4141; Log Sheet of Material or Equipment Unconditional Release; dated October 11-12, 2003

#### 4AO1 Performance Indicator Verification

CAP 034547; Failed DEP Indicator Opportunity; dated August 4, 2003  
Procedure NP 5.2.16, Attachment B; NRC Performance Indicators - Emergency  
Preparedness Cornerstone; Revision 8; dated September 24, 2003

Records of Bi-monthly ANS Operability Tests Conducted by Manitowoc County  
Officials; January 2002 Through September 2003

Records of DEP Opportunities During Pre-designated Drills, an Exercise, and Licensed  
Operator Training Sessions; January 2002 Through September 2003

Revised Records of Key ERO Members' Drill and Exercise Participation; January 2002  
Through September 2003

CAP051636; Incorrect Unavailability Data Submitted to NRC for RHR [Residual Heat  
Removal] System in 1Q2002; dated November 5, 2003 (NRC-identified issue)

CAP051645; Unavailability form for AFW System contained incorrect unavailability  
data; dated November 6, 2003 (NRC-identified issue)

CAP051646; Corrected AFW Unavailability Form contained additional errors; dated  
November 6, 2003 (NRC-identified issue)

#### 4OA3 Event Follow-up

CAP05128; SMD [Solar Magnetic Disturbance] Causes Power Reduction; dated  
October 29, 2003

CAP05098; Manipulator Crane Reel Failure; dated October 12, 2003

#### 4OA5 Other Activities

CA053202; Framatome NCR 6028873-Lack of UT Coverage During U1R27 RPV  
Inspection; dated October 15, 2003

CE012362; Framatome NCR 6028873-Lack of UT Coverage During U1R27 RPV  
Inspection; dated September 18, 2003

Current Letter of Agreement With Wisconsin Public Service Corporation

Excerpts of Draft Revision of Excellence Plan; dated October 2003

Internal Memorandum; Protocol for Hardware and Software Changes Affecting ERO  
Infrastructure; dated August 4, 2003

Internal Memorandum; Plant Health Committee Meeting Minutes - August 1, 2003;  
dated August 4, 2003

54-ISI-240-41; Visible Solvent Removable Liquid Penetrant Examination Procedure;  
dated February 10, 2003

Letter to Telecommunications Services Provider; Protocol for Telecommunications and  
Pager Infrastructure Changes; dated August 4, 2003

NDE-757; Visual Examination For Leakage of Reactor Pressure Vessel Penetrations;  
dated September 24, 2003

White Paper on Configuration Management of the Emergency Operations facility in the  
Site Boundary Control Center; undated

### **LIST OF ACRONYMS USED**

ADAMS	NRC's Document System
AFW	Auxiliary Feedwater
ALARA	As Low As Is Reasonably Achievable
ANS	Alert and Notification System
ASME	American Society of Mechanical Engineers
CAP	Corrective Action Program
CCW	Component Cooling Water
CFR	Code of Federal Regulations
CRDM	Control Rod Drive Mechanism
ECT	Eddy Current Testing
ENS	Emergency Notification System
EOF	Emergency Operations Facility
EPIP	Emergency Plan Implementing Procedure
EPRI	Electrical Power Research Institute
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
FIN	Finding
FPER	Fire Protection Evaluation Report
FSAR	Final Safety Analysis Report
HRA	High Radiation Area
HVAC	Heating, Ventilation and Air Conditioning
IA	Instrument Air
IMC	Inspection Manual Chapter
IP	Inspection Procedure
ISI	Inservice Inspection
JPIC	Joint Public Information Center
LER	Licensee Event Report
LERF	Large-Early-Release-Frequency
LHP	Lower Head Penetration
MCC	Motor Control Center
MOV	Motor-Operated Valve
MR	Maintenance Rule
NCV	Non-Cited Violation
NFPA	National Fire Protection Association

NP	Nuclear Plant Procedure
NRC	Nuclear Regulatory Commission
OEM	Original Equipment Manufacturer
OWA	Operator Workaround
PI	Performance Indicator
PMT	Post-Maintenance Testing
PWSCC	Primary Water Stress Corrosion Cracking
RA	Risk Assessment
RCA	Radiologically Controlled Area
RCS	Reactor Coolant System
RHR	Residual Heat Removal
RMA	Risk Management Action
RP	Refueling Procedure
RPT	Radiation Protection Technician
RPV	Reactor Pressure Vessel
RWP	Radiological Work Permit
RWST	Refueling Water Storage Tank
SDP	Significance Determination Process
SER	Safety Evaluation Report
SG	Steam Generator
SI	Safety Injection
SRO	Senior Reactor Operator
SW	Service Water
TI	Temporary Instruction
TS	Technical Specification
URI	Unresolved item
USAR	Updated Safety Analysis Report
UT	Ultrasonic Testing
VDC	Volt Direct Current
VHP	Vessel Head Penetration
VHRA	Very High Radiation Area
VNPSE	Ventilation Purge Supply and Exhaust
WO	Work Order