November 7, 2006

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

SUBJECT: POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2, NRC INTEGRATED INSPECTION REPORTS 05000266/2006005; 05000301/2006005

Dear Mr. Koehl:

On September 30, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Point Beach Nuclear Plant, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on October 4, 2006, with you and members of your staff.

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

Based on the results of this inspection, three findings of very low safety significance associated with violations of NRC requirements were identified. Additionally, a licensee-identified violation which was determined to be of very low safety significance is listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector at the Point Beach Nuclear Plant.

In addition to the routine NRC inspection and assessment activities, Point Beach performance is being evaluated quarterly as described in the Annual Assessment Letter - Point Beach Nuclear Plant, dated March 2, 2006. Consistent with Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program," 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. During this inspection period, the NRC reviewed Point Beach operational performance, inspection findings, and performance indicators. Based on this review, we concluded that Point Beach is operating safely. We determined that no additional regulatory actions, beyond the already increased inspection activities and management oversight, are currently warranted.

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

Sincerely,

/RA/

Mark A. Satorius, Director
Division of Reactor Projects

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

Enclosure:
Inspection Reports 05000266/2006005; 05000301/2006005
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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. During this inspection period, the NRC reviewed Point Beach operational performance, inspection findings, and performance indicators. Based on this review, we concluded that Point Beach is operating safely. We determined that no additional regulatory actions, beyond the already increased inspection activities and management oversight, are currently warranted.

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-266; 50-301; 72-005
License Nos:	DPR-24; DPR-27
Report No:	05000266/2006005; 05000301/2006005
Licensee:	Nuclear Management Company, LLC
Facility:	Point Beach Nuclear Plant, Units 1 and 2
Location:	Two Rivers, Wisconsin
Dates:	July 1, 2006, through September 30, 2006
Inspectors:	R. Krsek, Senior Resident Inspector G. Gibbs, Resident Inspector M. Kunowski, Project Engineer A. Klett, Reactor Inspector M. Kurth, Resident Inspector, Quad Cities M. Phalen, Health Physicist T. Ploski, Senior Emergency Preparedness Inspector S. Burgess, Senior Reactor Analyst C. Moore, Operator License Examiner M. Pohida, Office of Nuclear Reactor Regulation, Senior Reactor Analyst
Approved by:	P. Louden, Chief Branch 5 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000266/2006005, 05000301/2006005; 07/01/2006 - 09/30/2006; Point Beach Nuclear Plant, Units 1 and 2; Radiological Environmental Monitoring and Radioactive Material Control Program; and Identification and Resolution of Problems.

This report covers a 3-month period of inspections by resident inspectors and regional specialists. A regional radiation specialist conducted a baseline inspection, and regional specialists and a senior reactor analyst from the Office of Nuclear Reactor Regulation (NRR), conducted a review using Temporary Instruction (TI) 2515/167, “Guidelines for Industry Actions to Assess Shutdown Management.” The baseline inspection for the emergency preparedness portion was conducted by a regional emergency preparedness inspector. Three Green findings with associated non-cited violations 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-Revealed Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance when the licensee did not correctly interpret the results of calculations of the head available to drive flow across the emergency core cooling system (ECCS) sump screens and also did not identify and did not analyze for a postulated sump plugging condition as it affected net positive suction head (NPSH) for the residual heat removal (RHR) pumps. As a result, the licensee failed to maintain design margins for ECCS sump flow. The licensee completed a causal evaluation and developed corrective actions, including the implementation of compensatory measures to ensure sump outlet flow was limited to eliminate flashing and to ensure that adequate NSPH was available.

  The inspectors concluded the finding is greater than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This design control deficiency was confirmed not to result in loss of operability per “Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment.” Hence, the finding screened as of very low risk significance. The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. The lack of engineering rigor associated with review of this calculation involved the cross-cutting component of resources in that personnel, procedures, and supervisory resources were not adequate to assure nuclear safety, and the cross-cutting aspect of maintaining long-term plant safety by maintenance of design margins specified in calculations. The licensee did not maintain adequate NPSH margin or preclude air intrusion, as the ECCS sump flow parameter

(RHR pump flow during phase 2 recirculation following a postulated loss of coolant accident was not appropriately limited in the emergency operating procedures. (Section 4OA2.3)

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance when the licensee failed to assure that the limits of unqualified and degraded coatings within the containment sump zone of influence, as documented in the 1999 analyses of record, were correctly translated into specifications and plant procedures and that deviations since 1999 were appropriately controlled. Subsequently, the inspectors identified that the licensee had exceeded the design analysis limits associated with the quantities of degraded and unqualified coatings in containment. The licensee completed a causal evaluation and developed corrective actions, including the removal of degraded coatings and the revision of site procedures to include limits for degraded and unqualified coatings

  The inspectors concluded the finding is greater than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This design control deficiency was confirmed not to result in a loss of operability per “Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment.” Hence, the finding screened of as very low safety significance. The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. The failure to appropriately maintain the amount of unqualified and degraded coatings in accordance with the analyses of record involved the cross-cutting component of resources for the failure to ensure that personnel, procedures, and supervisory resources were adequate to assure nuclear safety, and the cross-cutting aspect of maintaining long-term plant safety by maintenance of design margins specified in calculations supporting the design basis accidents. (Section 4OA2.4)

Cornerstone: Public Radiation Safety

- Green. A self-revealed finding of very low safety significance that was a non-cited violation of 10 CFR 20.1501 was identified for the licensee’s failure to perform a survey prior to unconditionally releasing a radioactively contaminated Check Source Mechanism (CSM-1) from the plant. Corrective actions taken by the licensee for this finding included updating the model work orders to include radiological controls for secondary systems.

  The issue is greater than minor because it was associated with the program/process attribute of the Public Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. The inspectors determined that the finding did not involve a radioactive transportation shipment, that public exposure did not exceed 0.005 rem, and there were less than five such occurrences. Consequently, the inspectors concluded that this finding was of very low safety significance. (Section 2PS3)

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

Unit 1 was at 100 percent power throughout the inspection period with the exception of brief downpowers during routine auxiliary feedwater and secondary system valve testing.

Unit 2 was at 100 percent power throughout the inspection period with the exception of brief downpowers during routine auxiliary feedwater and secondary system valve testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of risk-significant systems to determine the operability of the systems. The inspectors utilized system valve lineup and electrical breaker checklists, tank level books, plant drawings, and selected operating procedures to determine if the systems were correctly aligned to perform the intended design functions. The inspectors also examined the material condition of the components and observed operating equipment parameters to determine whether or not deficiencies existed. The inspectors reviewed completed work orders (WOs) and calibration records associated with the systems for issues that could affect component or train functions. The inspectors used the information in the appropriate sections of the Final Safety Analysis Report (FSAR) to determine the functional requirements of the system. Partial system walkdowns of the following systems constituted two inspection procedure samples:

- Unit 2 ECCS Lineup; and
- Emergency Diesel Generator G04.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Walkdown of Selected Fire Zones

a. Inspection Scope

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

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

- Fire Zones 326-331/Fire Area A31; Control Room complex;
- Fire Zone 450/Fire Area A34; Technical Support Center;
- Fire Zone 542/Fire Area A01-E; Unit 2 Lube oil Reservoir;
- Fire Zone 547/Fire Area A01-E; Turbine Building Operating;
- Fire Zones 770-774/Fire Area A71; G03 and Switchgear;
- Fire Zones 775 -778/Fire Area A71; G04 and Switchgear;
- Fire Zones 780-785/Fire Area A71; G03/G04 Radiator Rooms and Exhaust Fan Rooms;
- Fire Zones 141, 142, 142A, and 143/Fire Area A01-A; Corridor - North, Component Cooling Water Pump Room, Condensate Return Pump Room, and Corridor - South; and
- Fire Zones 128-131/Fire Area A01-B and A01-A; Holdup Tank Rooms T8A, T8B, and T8C, and Holdup Tank Pump Room.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

.1 Review of Emergency Diesel Generator G02 Heat Exchanger Cleaning

a. Inspection Scope

The inspectors assessed the condition and cleanliness of the G02 emergency diesel generator heat exchanger through direct observation of the component during scheduled cleaning and inspection activities. In addition, the inspectors reviewed the inspection results against licensee acceptance criteria to determine if the number of plugged tubes affected heat exchanger operability. The inspectors also determined if the inspection frequency was appropriate to detect degradation prior to the loss of heat removal capabilities below design basis values. This review of heat sink performance constituted one inspection procedure sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Resident Inspector Quarterly Observation of Licensed Operator Requalification

a. Inspection Scope

On August 10, 2006, the inspectors observed the operating crew performance during a simulator as-found requalification examination. The inspectors also reviewed some of the changes to the simulator model against modifications made in the plant. Observation of the requalification quarterly evaluation constituted one inspection procedure sample.

The inspectors assessed 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 emergency procedure use and interpretation;
- Oversight and direction from supervisors; and
- Group dynamics.

Crew performance in these areas was also compared to licensee management expectations and guidelines, as presented in nuclear plant procedure NP 2.1.1, "Conduct of Operations." The inspectors also verified that the licensee and crew assessed and critiqued crew performance accordingly.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

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

- Component Cooling Water System; and
- Battery Room Ventilation System.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

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

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

- Planned and emergent maintenance during the week of July 2, 2006;
- Planned and emergent maintenance during the week of July 10, 2006;
- Planned and emergent maintenance during the week of July 24, 2006;
- Planned and emergent maintenance during the week of July 31, 2006;
- Planned and emergent maintenance during the week of August 7, 2006;
- Planned and emergent maintenance during the week of August 14, 2006; and
- Planned and emergent maintenance during the week of September 3, 2006.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

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

- Action Request AR01025473; Nonconservative Main Feedwater Temperature in Westinghouse Analysis;
- AR01031626; Steam Generator Tube Rupture and Main Steam Line Break Offsite Dose Consequences
- OPR157, Revision 1; Diesel Generator Loading.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17A)

.1 Chemical and Volume Control System Charging Pump Motor Replacements

a. Inspection Scope

The inspectors reviewed the engineering analyses, design information, and modification documentation for the replacement of the chemical and volume control system charging pump single-frequency motors with variable-frequency motors. The modification was completed for charging pump 2P-2C and was in progress for the remaining five pumps on Units 1 and 2. The inspection activities included, but were not limited to, verification and review of the following parameters associated with this modification: functional properties, failure mode potentials, seismic and environmental qualification, fire protection conformance, the variable-frequency motor vendor manual, and the associated 10 CFR 50.59 screening analysis. Additionally, the inspectors observed portions of the installation of the modification, reviewed acceptance testing results, and reviewed CAPs associated with the design change to verify that the licensee identified and documented problems at an appropriate threshold. This inspection constituted two annual inspection samples for the Unit 1 and Unit 2 charging pump motor modifications.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- Testing activities satisfied the test procedure acceptance criteria;
- Effects of the testing were adequately addressed prior to the testing;
- Measuring and test equipment calibration was current;
- Test equipment was within the required range and accuracy;
- Applicable prerequisites described in the test procedures were satisfied;
- Affected systems or components were removed from service in accordance with approved procedures;
- Testing activities were performed in accordance with the test procedures and other applicable procedures;
- Jumpers and lifted leads were controlled and restored where used;
- Test data and results were accurate, complete, and valid;
- Test equipment was removed after testing;
- Equipment was returned to a position or status required to support the operability of the system in accordance with approved procedures; and
- All problems identified during the testing were appropriately entered into the corrective action program.

The activities listed below were reviewed by the inspectors and constituted six quarterly inspection procedure samples:

- Emergency diesel generator G04 testing following maintenance during the week of July 24, 2006;
- Replacement of motor control center input and output breakers for inverter 2DY-04 during the week of August 28, 2006;
- Testing following emergent maintenance on emergency diesel generator G02 during the week of September 3, 2006;
- Testing following scheduled maintenance on auxiliary feedwater pump P-38B during the week of September 11, 2006;
- Testing following scheduled maintenance on auxiliary feedwater pump 2P-29 during the week of September 18, 2006; and
- Unit 1 ECCS venting on ‘A’ and ‘B’ trains the week of September 24, 2006.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

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

- Preconditioning occurred;
- Effects of the testing were adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- Acceptance criteria were clearly stated, demonstrated operational readiness, and were consistent with the system design basis;
- Plant equipment calibration was correct, accurate, and properly documented; as-left setpoints were within required ranges; and the calibration frequency were in accordance with TSs, the FSAR, procedures, and applicable commitments;
- Measuring and test equipment calibration was current;
- Test equipment was used within the required range and accuracy;
- Applicable prerequisites described in the test procedures were satisfied;
- Test frequencies met TS requirements to demonstrate operability and reliability;
- Tests were performed in accordance with the test procedures and other applicable procedures;
- Jumpers and lifted leads were controlled and restored where used;
- Test data and results were accurate, complete, within limits, and valid;
- Test equipment was removed after testing;
- Where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers Code, and reference values were consistent with the system design basis;
- Where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- Where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- Where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- Prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- Equipment was returned to a position or status required to support the performance of its safety functions; and
- All problems identified during the testing were appropriately documented and dispositioned in the corrective action program.

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

- 2ICP 03.012, Unit 2 At-Power Test and Calibration of AMSAC;
- TS-33, Unit 1 Containment Accident Fan Cooler;
- PT-FP-002, Monthly Diesel Driven Fire Pump Functional Test;
- IT-01, Unit 1, High Head Safety Injection Pump and Valve Test;

- PT-FP-004, Annual Fire Pump Capacity Test; and
- PT-FP-003, Monthly Electrical Motor-Driven Fire Pump Functional Test.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The inspectors completed screening reviews of June 2006 revisions of the following portions of the Point Beach Nuclear Plant Emergency Plan to determine whether changes identified in these revisions may have reduced the effectiveness of the licensee's emergency planning: Section 1, Revision 28; Section 5, Revision 50; Section 6, Revision 49; Section 7, Revision 50; Section 8, Revision 48; Appendix D, Revision 26; and Appendix K, Revision 3. Screening reviews of these revisions do not constitute approval of the changes and, as such, the changes are subject to future NRC inspection to ensure that the emergency plan continues to meet NRC regulations.

These activities constituted one inspection sample.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed two emergency preparedness drill evolutions during the inspection period, observing activities in the simulator and Technical Support Center, and attending the critique sessions. The inspectors evaluated the drill performance and determined that the critique activities appropriately captured weaknesses identified by the inspectors and verified that deficiencies were entered into the corrective action program. One of the inspection samples was previously documented in NRC Inspection Report 2006201, but was not counted as a procedure sample at that time; therefore, it is being counted as a sample in this inspection report.

These activities constituted two inspection samples.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous And Liquid Effluent Treatment And Monitoring Systems (71122.01)

.1 Onsite Inspection - Walkdown of Effluent Control Systems, System/Program Modifications, Air Cleaning System Surveillances, and Instrument Calibrations

a. Inspection Scope

The inspectors walked down the major components of the gaseous and liquid release systems (e.g., radiation and flow monitors, demineralizers and filters, tanks, and vessels) to observe current system configuration with respect to the description in the FSAR, ongoing activities, and to assess equipment material condition.

The inspectors reviewed the technical justification for any changes made by the licensee to the Offsite Dose Calculation Manual (ODCM), as well as to the liquid or gaseous radioactive waste system design, procedures, or operation since the last inspection to determine whether the changes affected the licensee's ability to maintain effluents as-low-as-is-reasonably-achievable and whether changes made to monitoring instrumentation resulted in non-representative monitoring of effluents. Additionally, the inspectors reviewed the licensee's evaluations related to the abandonment of the waste water retention pond (a former 10 CFR Part 20 liquid release path).

The inspectors reviewed air cleaning system surveillance test results to ensure that the system was operating within the licensee's acceptance criteria. Specifically, the inspectors reviewed the most recent results of the ventilation filter testing program for the control room emergency filtration system to verify that test methodology, frequency, and test results met TS requirements. The inspectors reviewed and discussed the test results of in-place high efficiency particulate air (HEPA) and charcoal adsorber penetration tests, laboratory tests of charcoal adsorber methyl iodide penetration, and in-place combined HEPA filter and charcoal adsorber train pressure drop tests for the system with radiation protection and system engineering staff.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.2 Onsite Inspection - Effluent Release Packages, Abnormal Releases, Dose Calculations, and Laboratory Quality Control and Assurance

a. Inspection Scope

The inspectors reviewed the results of the interlaboratory comparison program to verify the quality of radioactive effluent sample analyses performed by the licensee. The inspectors reviewed the licensee's quality control evaluation of the interlaboratory comparison test and associated corrective actions for any deficiencies identified. The inspectors reviewed the licensee's assessment of any identified bias in the sample analysis results and the overall effect on calculated projected doses to members of the public. In addition, the inspectors reviewed the results from the licensee's Quality Assurance audits to determine whether the licensee met the requirements of the Radiological Effluents TS/Offsite Dose Calculation Manual (RETS/ODCM). These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed available licensee self-assessments, audits, and special reports related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the corrective action program for resolution. 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 also reviewed corrective action program reports from the radioactive effluent treatment and monitoring program since the previous inspection, interviewed staff, and reviewed documents to determine if 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 Non-Cited Violations (NCVs) tracked in the corrective action program; and
- Implementation/consideration of risk significant operational experience feedback.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring and Radioactive Material Control Programs (71122.03)

.1 Inspection Planning and Reviews of Radiological Environmental Monitoring Reports and Data

a. Inspection Scope

The inspectors reviewed the 2005 Annual Monitoring Report and licensee assessment results to verify that the Radiological Environmental Monitoring Program (REMP) was implemented as required by the licensee's TSs, the ODCM, and the licensee's Environmental Manual (EM). The inspectors reviewed the reports for changes to the ODCM and EM with respect to environmental monitoring: commitments in terms of sampling locations, monitoring and measurement frequencies, land use census, interlaboratory comparison program, and analysis of data. The inspectors reviewed the ODCM and EM to identify environmental monitoring stations and reviewed licensee self-assessments, audits, licensee event reports, and interlaboratory comparison program results. The inspectors reviewed the FSAR for information regarding the environmental monitoring program and meteorological monitoring instrumentation.

These reviews represented one sample.

b. Findings

No findings of significance were identified.

.2 Onsite Inspection

a. Inspection Scope

The inspectors walked down onsite and offsite environmental air sample monitoring stations and examined each station's location as described in the EM. The inspectors observed equipment material condition and operability and verified proper monitoring station orientation, equipment configuration, and vegetation growth control to assess if each station allowed for the collection of representative samples. The inspectors walked down the locations of selected thermoluminescent dosimeters, which measured radiation levels directly, to verify they were positioned as described in the EM. The inspectors accompanied a radiation protection technician and observed sample collection and handling associated with the changing-out of air particulate filters and charcoal cartridges. The purpose of the accompaniment was to evaluate whether samples were collected in accordance with the applicable sampling procedure and whether appropriate practices were used to ensure sample integrity and chain-of-custody. The inspectors also observed the performance of air sampling device leak checks to verify that they were accomplished consistent with the EM and were adequate to ensure no in-leakage paths existed which could impact sample representativeness.

The inspectors also walked down equipment located at the primary and backup meteorological towers to assess whether the towers were sited adequately, the instrumentation was installed consistent with NRC Safety Guide 23, "Onsite

Meteorological Programs," and the instrumentation was operable, calibrated, and maintained in accordance with guidance contained in the FSAR, the Safety Guide, and licensee procedures. The inspectors verified that the meteorological data readout and recording instruments in the control room and at the tower were operable. In addition, the inspector reviewed calibration test of the primary meteorological tower and discussed data recording capabilities with the licensee's staff to verify that meteorological data were sampled and compiled consistent with the Safety Guide.

The inspectors reviewed anomalous events documented in the Annual Monitoring Reports, and their cause and corrective actions; and conducted a review of the licensee's assessment of any positive sample results. The inspectors reviewed the associated radioactive effluent release data for those releases that may have caused a positive result.

The inspectors reviewed significant changes made by the licensee to the ODCM and EM as the result of changes to the land census or sampler station modifications since the last inspection. There were no significant changes made during the period reviewed. The inspectors verified that the licensee performed the reviews required to ensure that the changes did not affect its ability to monitor the impacts of radioactive effluent releases on the environment.

The inspectors reviewed calibration and maintenance records for 2005 which documented work on environmental air sampling pumps and meteorological tower equipment. This review encompassed calibration records for associated measurement and test equipment used for air sampling pump calibration to verify that the testing and maintenance programs for this equipment were implemented consistent with procedural requirements and industry standards, including traceability to the National Institute of Standards and Technology. The inspectors discussed equipment maintenance practices with the licensee's environmental staff.

The inspectors reviewed the results of the REMP sample vendor's quality control program, including the interlaboratory comparison program to assess the adequacy of the vendor's program and the corrective actions for any identified deficiencies. The inspectors reviewed audits and technical evaluations the licensee performed on the vendor's program. The inspectors reviewed Quality Assurance audit results of the program to determine whether the licensee met the ODCM requirements.

These reviews represented six samples.

b. Findings

No findings of significance were identified.

.3 Unrestricted Release of Material From Radiologically Controlled Areas

a. Inspection Scope

The inspectors observed locations where the licensee monitors potentially contaminated material leaving the Radiologically Controlled Area (RCA) and inspected the methods used for control, survey, and release from these areas. The inspectors observed the performance of personnel surveying and releasing material for unrestricted use to verify that the work was performed in accordance with plant procedures.

The inspectors verified that the radiation monitoring instrumentation was appropriate for the radiation types present and was calibrated with appropriate radiation sources. The inspectors reviewed the licensee's criteria for the survey and release of potentially contaminated material and verified that there was guidance on how to respond to an alarm which indicated the presence of licensed radioactive material. The inspectors reviewed the licensee's equipment to ensure the radiation detection sensitivities were consistent with the NRC guidance contained in Inspection and Enforcement (IE) Circular 81-07, "Control of Radioactively Contaminated Material," and IE Information Notice 85-92, "Surveys of Wastes Before Disposal From Nuclear Reactor Facilities," for surface contamination and Health Physics Position (HPPOS-221, in NUREG/CR 5569, "Health Physics Data Base") for volumetrically contaminated material. The inspectors verified that the licensee performed radiation surveys to detect or otherwise evaluate the impact of radionuclides that decay via electron capture. The inspectors reviewed the licensee's procedures and records to verify that the radiation detection instrumentation was used at its typical sensitivity level based on appropriate counting parameters (i.e., counting times and background radiation levels). The inspectors verified that the licensee had not established a "release limit" by altering the instrument's typical sensitivity through such methods as raising the energy discriminator level or locating the instrument in a high radiation background area.

These reviews represented two samples.

b. Findings

Other than the issue discussed below, no findings of significance were identified.

Introduction: A self-revealed finding of very low safety significance and an associated violation of NRC requirements were identified for the failure to survey a spare part of a radiation monitor before releasing the item offsite. The part was subsequently found to be contaminated with radioactive material.

Description: On December 8, 2005, Point Beach Nuclear Plant (PBNP) was contacted by another licensee, requesting documentation for a radioactive source that was assumed to be inside a spare Radiation Monitoring System (RMS) check source mechanism (CSM-1) that had been recently shipped from the PBNP warehouse.

Upon this request, PBNP began an internal investigation, since there was no record of offsite shipments of radioactive sources or equipment containing radioactive material. Upon completion of the investigation, the licensee determined that the CSM-1 shipped offsite contained no radioactive sources. However, the CMS-1, at one time, did house an exempt quantity source used in the RMS. Additionally, surveys performed by the licensee determined that the CMS-1 was slightly contaminated (5000 disintegration per minute (dpm)/100 square centimeters (cm^2) smearable, and a nominal 6,000 dpm/15 cm^2 (Frisker)) with trace material presumed leaked from the exempt source that the mechanism one time housed.

The licensee used CSM-1 units in both the RCA and the non-RCAs of the plant, in various radiation monitors. However, the licensee did not track the installation or use history of the CSM-1 units. The licensee indicated that this particular CSM-1 unit was last used in a non-RCA of the plant and was returned to the warehouse without the cognizance of radiation protection staff. Once the CSM-1 was returned to the warehouse without radiological controls on its use or disposition, the licensee indicated that the CSM-1 was unencumbered for release offsite without any additional radiological review.

Analysis: The failure to survey and evaluate the potential radiological hazard associated with the unconditional release of the CSM-1 represents a performance deficiency as defined in NRC Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening." The inspectors determined that the issue was associated with the program/process attribute of the Public Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. Therefore, the issue was more than minor and represented a finding which was evaluated using the Significance Determination Process (SDP).

Since the finding involved radioactive material control, the inspectors utilized IMC 0609, Appendix D, "Public Radiation Safety SDP," to assess its significance. Specifically, the inspectors determined that the finding did not involve a radioactive transportation shipment, public exposure did not exceed 0.005 rem, and there were less than five such occurrences. Consequently, the inspectors concluded that the SDP assessment for this finding was of very low safety significance (Green). No cross-cutting aspects associated with the finding were identified by the inspectors.

Enforcement: 10 CFR 20.1501 requires that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in Part 20 and that are reasonable under the circumstances to evaluate the extent of radiation levels, concentrations or quantities of radioactive materials, and the potential radiological hazards that could be present.

Pursuant to 10 CFR 20.1003, *survey* means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources of radiation.

Contrary to this, the licensee did not make surveys necessary to assure no licensee material unconditionally enters the public domain. Specifically, PBNP did not survey a radioactively contaminated material (CSM-1) before its unconditional release from the plant.

Corrective actions taken by the licensee for this finding included updating the model WOs to include radiological controls for secondary systems. Since the licensee documented this issue in its corrective action program (CAP069291 and subsequent Apparent Cause Evaluation 001986) and because the violation is of very low safety significance, it is being treated as a Non-Cited Violation (NCV 05000266/2006005-01; 05000301/2006005-01).

.4 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed licensee corrective action documents from 2003 through October 2005 that related to the REMP or to radioactive material control issues. The results of a Nuclear Oversight Department (quality assurance) audit and a REMP self-assessment completed in the same time frame were also reviewed, as were the results of a joint nuclear utility audit of the vendor laboratory. These reviews were conducted to determine if the licensee adequately assessed the effectiveness of these programs and whether the licensee, through its corrective action program, identified individual problems and trends, evaluated contributing causes and extent of condition, and developed corrective actions to achieve lasting results. 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 also reviewed corrective action reports from the radioactive environmental monitoring program and unconditional release program since the previous inspection, interviewed staff, and reviewed documents to determine if 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; and
- Implementation/consideration of risk significant operational experience feedback.

These reviews represented one sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

Cornerstones: Mitigating Systems and Barrier Integrity

The inspectors reviewed the licensee’s recent Performance Indicator (PI) submittal, using definitions and guidance contained in Nuclear Energy Institute NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 4, to assess the accuracy of the PI data. The inspectors reviewed selected applicable conditions and data from logs, Licensee Event Reports (LERs), and CAPs from July 2002 through July 2004. The inspectors independently re-performed calculations where applicable. The inspectors then validated the information required for each PI definition in the guideline, to determine if the licensee reported the data accurately. The following reviewed PIs constituted four inspection procedure samples:

Unit 1

- Safety System Functional Failures;
- Reactor Coolant System Leakage;

Unit 2

- Safety System Functional Failures; and
- Reactor Coolant System Leakage

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

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

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to determine if issues were entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors also reviewed all CAPs written by licensee personnel during the inspection quarter. The CAPs written by the licensee as a result of inspectors' observations are included in the list of documents in the Attachment to this report.

b. Findings

No findings of significance were identified.

.2 Resident Inspector Semi-Annual Trend Review

a. Inspection Scope

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

The effectiveness of licensee trending activities was assessed by comparing trends identified by the licensee with those trends identified by the NRC during the daily reviews of CAPs, as discussed in Section 4OA2.1 of this report.

The inspector's review considered the 6-month period of July 2005 through December 2005, although some examples extended beyond those dates when the scope of the trend warranted. The inspectors also reviewed the Department Roll-Up Meeting Reports and Quarterly Department Roll-Up Meeting Summary from January 2005 through December 2005. Finally, the inspectors reviewed the third and fourth quarter 2005 human performance trend reports. The inspectors' review was focused on licensee human performance errors, but also considered the results of daily inspector corrective action program item screening, licensee trending efforts, and licensee human performance results. This inspection effort constituted one semi-annual trending inspection procedure sample.

b. Findings

No findings of significance were identified.

.3 Selected Issue Followup: Emergency Core Cooling System (ECCS) Sump Flow Design Control Deficiencies

a. Inspection Scope

This issue followup is to evaluate the licensee's corrective action program response to errors in modeling fidelity that have the potential to impact the analytical basis for demonstrating compliance with the acceptance criteria of 10 CFR 50.46(b)(5), long-term core cooling. These concerns surfaced as a result of NRC resident inspectors' questions and subsequent regional inspector evaluation concerning sump operability (given existing conditions in containment during the fall 2005 Unit 1 cycle 29 refueling outage, U1R29) pertaining to coatings and other debris sources with potential to impact ECCS sump strainer capabilities, including equipment configuration and conditions with sump suction valves and piping for residual heat removal. The inspectors' review of this was a followup to the September 18, 2006, safety evaluation issued by NRR of a problem reported by the licensee, in event notification (EN) 42129, that the design basis for long-term core cooling was not modeled correctly.

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

b. Findings

Except for the issue discussed below, no findings of significance were identified.

Introduction: The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance when the licensee failed to consider the effects of and conduct analyses for the narrow flow gap (3/4" annulus) between the entrance of the piping below the SI-850 (the ECCS recirculation sump isolation valve) valve disc and the debris screen surface located above it for the postulated condition of the ECCS sump screen being plugged to the height of the valve opening.

Description: The initial discovery of potential modeling errors associated with ECCS sump screen flow occurred when the licensee was answering inspector questions related to degraded and non-conforming coatings in the Unit 1 containment. Evaluation of the coatings and licensing basis calculations led to discovery of several errors in the calculations. The inspectors identified the potential for post-LOCA (loss-of-coolant accident) debris to accumulate around the base of the ECCS sump screens, causing the majority of the recirculation flow to approach the SI-850 poppet valves vertically from above the valve disc instead of horizontally through the side of the screen. (The ECCS sump screens consist of a right circular fine mesh screen with a poppet valve internal to and concentric with the screen located at the base of the screen at the containment floor height. The residual heat removal (RHR) system piping is flush at its opening to the containment floor, is concentric with the poppet valve, protrudes through and beneath the containment floor, and then turns and runs horizontally to the RHR pumps in the auxiliary building. The SI-850 poppet valves have approximately a 2" - 2½" rise when opened and the flat disc occupies all but a 3/4" annulus of the flow area of the pipe). If there were enough debris accumulation at the floor level of containment to cover the portion of the fine screen below the valve disc, the valve flowpath resistance would be increased, because of the need for the flow to travel through the annulus created by the valve disc and the plugged fine screen surrounding it. This configuration could potentially cause additional RHR pump suction flow head loss and impact available net positive suction head (NPSH) for the RHR pumps during the post-LOCA recirculation phase of the accident.

In addressing the inspectors’ concerns, the licensee identified other non-conservatisms in the subject calculations. The licensee issued CAP068447, performed an operability evaluation (OPR-162) and subsequently performed a cause evaluation (AR00898023 02). The licensee determined in its operability evaluation that the RHR pumps were not fully capable of performing their intended design functions without compensatory actions for the post-LOCA recirculation alignment for boron precipitation control. As a result of these evaluations, the licensee discovered or recognized that 1) the methodology that had been used for calculating the head loss across the screens in those analyses was non-conservative, 2) air entrainment, rather than NPSH, was the limiting factor for the RHR pumps when operated in the post-accident sump recirculation mode (due to the partially submerged sump screens), and 3) a postulated “debris collar” around the sump outlet valves could lead to a significantly higher head loss at the sump outlet than previously evaluated.

To address the calculation errors, the licensee had to limit sump outlet flow to less than 1582 gallons per minute to eliminate flashing and ensure adequate NPSH would be available to the RHR pumps during post-LOCA recirculation. The licensee established compensatory measures to limit pump flow accordingly and took credit for containment overpressure, noting that this was a non-conformance to the licensing basis and its response to Generic Letter (GL) 98-04, "Potential for Degradation of the Emergency Core Cooling System and the Containment Spray System After a Loss-of-Coolant Accident Because of Construction and Protective Coating Deficiencies." The licensee's response to GL 97-04, "Assurance of Sufficient Net Positive Suction Head for Emergency Core Cooling and Containment Heat Removal Pumps," stated ". . . for the NPSH evaluations conducted for the design basis alignments, containment overpressure is neither credited nor required to ensure adequate NPSH margin. "While the NRC staff concluded in its September 18, 2006, safety evaluation that the licensee had not appropriately justified its conclusion that a "debris collar" would not form around the sump screens, the inadequate modeling of "debris collar" did not result in a nonconservative effect on the licensee's overall sump performance as the licensee appropriately addressed this nonconservatism by assuming the formation of a "debris collar" in its analysis of the ECCS sump suction line flashing. Resolution of the nonconformance with GL 98-04 will entail revision of the design and licensing bases associated with the ECCS suction strainers via detailed analyses, plant modifications, and establishment of additional administrative controls in response to NRC Generic Safety Issue 191, "Assessment of Debris Accumulation on Pressurized-Water Reactor Sump Performance."

<u>Analysis</u>: The inspectors determined that the licensee's failure to correctly interpret the results of the head loss calculation is a performance deficiency and warranted a significance determination. The inspectors concluded that the finding is greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," issued on September 30, 2005, because the finding is associated with the Mitigating System Cornerstone attribute of design control and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage).

The inspectors evaluated the finding using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The design control deficiency was confirmed not to result in loss of operability per "Part 9900, Technical Guidance, Operability Determination Process for Operability and Functional Assessment." The licensee implemented compensatory measures to ensure that sump outlet flow would be limited to eliminate flashing and ensure adequate NPSH was available by crediting containment overpressure; hence, the finding screened as very low safety significance (Green).

The licensee evaluated the cause (AR00898023 02) for the modeling errors and determined that there was lack of engineering rigor during the preparation and review of the calculations. The inspectors agreed with this determination. The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. The lack of engineering rigor associated with review of this calculation involved the cross-cutting component of resources for the failure to ensure that personnel, procedures, and supervisory resources were adequate to assure nuclear safety, and the cross-cutting aspect of maintaining long-term plant safety by maintenance of design margins specified in calculations. The licensee did not maintain adequate NPSH margin or preclude air intrusion, as the ECCS sump flow parameter (RHR pump flow during phase 2 recirculation following a postulated LOCA) was not appropriately limited in the emergency operating procedures.

Enforcement: 10 CFR, Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that the design bases are correctly translated into specifications, drawings, procedures, and instructions. Contrary to this, the licensee did not correctly interpret the results of the head loss calculation as it relates to the head available to drive flow across the screens and did not identify and analyze for the postulated sump plugging condition as it affected NPSH. As a result, necessary ECCS sump outlet flow limitations were not translated into emergency operating procedures. Because this violation was of very low safety significance and has been entered into the licensee's corrective action program (CAP068447), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000266/2006005-02; 05000301/2006005-02).

The licensee established compensatory measures to limit RHR pump flow and took credit for containment overpressure, noting that this was a non-conformance to the licensing basis and its response to GL 98-04. Resolution of these nonconformances will entail revision of the design and licensing bases associated with the ECCS suction strainers via detailed analyses, plant modifications, and establishment of additional administrative controls in response to Generic Safety Issue 191 and GL 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," by December 31, 2007. The licensee is addressing engineering rigor in the Engineering Effectiveness Improvement Plan. Specifically, the 2006 training schedule identified training for excellence in technical rigor scheduled for September and November 2006. This training will focus on engineering products that required rework, including recent problems with modifications and calculations, as well as, utilizing products and behaviors that demonstrate exemplary application of engineering rigor. The training is currently under development.

c. Corrective Action Program Assessment and Observations

The inspectors concluded that the licensee had appropriately evaluated and dispositioned the reportability of issues, the extent of condition, the classification of the issue commensurate with the safety significance, and the identification of the contributing causes and contributing factors associated. The inspectors concluded that the completeness and accuracy of the identification of the problems in CAP068346, CAP068373, CAP068442, and CAP068447 were adequate. However, the weakness associated with the corrective action program for these deficiencies was related to failure to recognize and document these issues without NRC questioning and prompting from the resident and regional inspectors, as well as NRR. A formal NRC request for additional information, dated 10 January 2006, was issued in response to EN 42129 to obtain clarification to enable NRC staff review of the event. Subsequently, the NRC issued its safety evaluation on September 18, 2006. In consideration of this issue and other performance deficiencies, NMC has committed to performing alternating independent and self-assessments of engineering every 6 months for 2 years to monitor improvements, including improvements in engineering rigor (Section 4OA5.1). Similar assessments are being performed for the corrective action program (Section 4OA5.2).

.4 Selected Issue Follow-up Inspection: Containment Coatings Program Weaknesses

a. Inspection Scope

This issue followup is to evaluate the licensee's corrective action program response to the identification of an inadequate containment coatings program. The concern surfaced as a result of the inspectors' questions after reviewing the containment coatings program during U1R29. The inspectors identified that the established design analysis limits the amount of unqualified and degraded coatings within the zone of influence. As with Section 4OA2.3 of this inspection report, the inspectors' review of this issue was a followup to the September 18, 2006, safety evaluation issued by NRR for licensee EN 42129.

The inspection criteria for this review include: the completeness and accuracy of identification of the problem, the evaluation and disposition of reportability issues, the extent of condition, the classification of the issue commensurate with the safety significance, and the identification of the causes of the problem. The inspectors also verified that remedial and long-term corrective actions were identified and implemented to correct the causes identified for the problem. The review by the inspectors of the root cause evaluation constituted one inspection procedure sample.

b. Findings

Except for the issue discussed below, no findings of significance were identified.

Introduction: The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance when the licensee failed to correctly translate the design basis into specifications and plant procedures. Specifically, the licensee failed to assure that the limits of unqualified and degraded coatings within the containment sump zone of influence, as documented in the 1999 analyses of record, were correctly translated into specifications and plant procedures and that deviations since 1999 were appropriately controlled.

Description: In October 2005, during U1R29, the inspectors reviewed the overall status of degraded and unqualified containment coatings for Unit 1. In response to GL 98-04, the licensee had performed a mechanistic determination for net positive suction head loss for the RHR pumps due to debris buildup on the containment sump screens. A large contributing factor to the debris buildup was the presence of degraded and unqualified coatings inside containment. The inspectors reviewed calculations M-09334-345-RH.1 and M-09334-431-RH.1, for Units 1 and 2 respectively. These 1999 calculations documented the quantities of unqualified and degraded coatings allowed within the zones of influence in both containments. The inspectors then compared the quantities listed in the 1999 calculations with the two most recent licensee assessments of degraded and unqualified coatings for Units 1 and 2. The inspectors noted that the quantities of degraded and unqualified coatings for the entire containment had increased significantly for both units; however, the licensee had not reconciled this increased quantity with respect to the two 1999 calculations of record.

As a result of the inspectors' questions, the licensee initiated CAP068346, CAP068373, CAP068442, and CAP068447. The licensee took two significant immediate actions: 1) the conduct of an immediate self-assessment of the coatings program, and 2) the development of an issue response team to review the design and licensing basis related to containment coatings and sump issues. The self-assessment identified significant weaknesses in the areas of identification, evaluation, and resolution of problems associated with the containment coatings program. The issue response team first evaluated Unit 2 discrepancies in Operability Evaluation OPR000161 because Unit 2 was at full power. The licensee determined that the degraded coatings within the zone of influence could not exceed 5.7 ft^2 in the operability evaluation, and current containment inventories for the Unit 2 zone of influence were below that level.

However, 5 days later, licensee personnel discovered that the amount of degraded epoxy coatings used in OPR000161 in the Unit 2 zone of influence was incorrect and the current levels of degraded coatings, based on newly discovered documentation, potentially exceeded the limits established in the operability evaluation. The licensee conducted a containment entry, confirmed the degraded coatings, and entered TS 3.0.3 for Unit 2, due to Limiting Condition for Operation (LCO) 3.5.2, not being met with both trains of ECCS recirculation out-of-service. The licensee made the appropriate 10 CFR 50.72 non-emergency event reports on November 1, 2005. Approximately, 2 hours after entering the LCO, the licensee removed the degraded coatings and the exited the LCO. Following additional engineering evaluation that concluded that the degraded coatings would not have significantly affected sump recirculation flow capability, based on conservatisms in the original sump blockage analysis, the licensee retracted EN 42109. Before the end of U1R29, the licensee took remedial corrective actions to ensure the quantity of degraded and unqualified coatings in Unit 1 was consistent with the current license basis and documented analysis.

A subsequent root cause evaluation conducted by the licensee for the issues raised by the inspectors and the licensee's prompt self-assessment concluded that the coatings program did not include the appropriate measures to ensure that the amount of degraded or unqualified coatings remained below the design basis analysis limits. The licensee also concluded that the program did not contain limits, acceptance criteria, or the necessary management reviews of findings to ensure adequate implementation.

Analysis: The inspectors determined that the licensee's failure to assure that the limits of unqualified and degraded coatings were appropriately maintained and controlled in the Unit 1 and 2 containments, as originally documented in the 1999 analyses of record, was a performance deficiency that warranted a significance determination. The inspectors concluded that the finding is greater than minor in accordance with IMC 0612, "Power Reaction Inspection Reports," Appendix B, "Issue Screening," issued on September 30, 2005, as the finding is associated with the design control attribute of the Mitigating System Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage).

The inspectors evaluated the finding using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The design control deficiency was confirmed not to result in a loss of operability per "Part 9900, Technical

Guidance, Operability Determination Process for Operability and Functional Assessment," hence, the finding screened as very low safety significance (Green). In addition, the NRC staff concluded in the September 18, 2006, "Evaluation of Event Notification 42129," in Section 2.1.3, that the licensee's assumptions regarding coating failure and coating debris generation in a design basis accident were acceptable for the licensee's assessment that there was a reasonable assurance of ECCS operability under the current licensing basis.

The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. The failure to appropriately maintain the amount of unqualified and degraded coatings in accordance with the analyses of record involved the cross-cutting component of resources for the failure to ensure that personnel, procedures and supervisory resources were adequate to assure nuclear safety, and the cross-cutting aspect of maintaining long-term plant safety by maintenance of design margins specified in calculations supporting the design basis accidents.

Enforcement: 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures be established to assure that the design basis are correctly translated into procedures and instructions to assure that deviations are controlled. Contrary to this, since 1999, the licensee has failed to assure that the design basis with respect to debris blockage of the ECCS recirculation sump was correctly translated into procedures and instructions to assure that deviations from the 1999 analyses of record for debris generation inside containment were controlled. Specifically, the licensee failed to assure that the amount of degraded or unqualified coatings in the Unit 1 and Unit 2 containments remained below the design analysis limits. Because of the very low significance of this finding and because the issue was entered into the licensee's corrective action program (as CAP068346, CAP068373, CAP068442, and CAP068447), this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000266/2006005-03; 05000301/2006005-03).

The licensee established remedial corrective actions through the removal of degraded coatings in Units 1 and 2 to maintain the limits established in Operability Evaluation OPR000161. The licensee completed a root cause evaluation and developed corrective actions, including those to prevent recurrence of the root causes. The inspectors concluded that the corrective actions to prevent recurrence, if appropriately implemented, would prevent recurrence. These actions included: providing inputs that establish design and license basis limits related to degraded and unqualified coatings allowed in containment based on containment sump strainer modifications for resolving Generic Safety Issue 191; revision of site procedures to include the limits for degraded and unqualified coatings and corrective measures to enure the limits in the design analysis were not exceeded; revision of site procedures to contain specific limits, acceptance criteria, and corrective measures for controlling the amount of zinc and aluminum in containment; and revision of site procedures for the containment debris control program to include specific limits, acceptance criteria, and corrective measures for the controlling amount of debris in containment.

In addition, the licensee planned an additional 18 corrective actions to address the contributing causes, contributing factors, and extent of cause identified in the evaluation. Therefore, the inspectors concluded that the remedial and long-term corrective actions appropriately addressed the causes identified for the problems identified by the licensee.

c. <u>Corrective Action Program Assessments and Observations</u>

The inspectors reviewed CAP068346, CAP068373, CAP068442, and CAP068447 and concluded that the completeness and accuracy of the identification of the problems, originally raised by the inspectors, were adequate; however, significant questioning and prompting by the NRC were necessary to identify the concerns. The weakness associated with the corrective action program for these deficiencies is related to failure to recognize and document these issues without NRC questioning and prompting. The performance deficiency associated with these action requests is addressed in Section 4OA2.4.b above. The licensee combined the issues described in the CAPs and conducted Root Cause Evaluation RCE000294. In consideration of this issue and other performance deficiencies, the licensee has committed to performing alternating independent and self-assessments of the corrective action program every 6 months for 2 years to monitor long-term continuous performance improvement in the corrective action program (Section 4OA5.2).

The inspectors concluded that the licensee had appropriately evaluated and dispositioned the reportability of issues, the extent of condition of the problem identified, the classification of the issue commensurate with the safety significance, and the identification of the root cause, contributing causes, and contributing factors associated with the identified problems.

.5 <u>Selected Issue Follow-up Inspection: Safety-Conscious Work Environment Self-Assessment</u>

a. <u>Inspection Scope</u>

During the inspection period, the inspectors reviewed the licensee's "Snapshot" assessment in April 2006 of nuclear safety culture and safety-conscious work environment. The assessment was partially in response to industry operating experience pertaining to safety culture and safety-conscious work environment issues at Davis-Besse following identification of significant degradation of the reactor vessel head. Safety-conscious work environment is routinely reviewed by the NRC during the baseline Problem Identification and Resolution (PI&R) team inspections. Reports of PI&R inspections in 2004 and 2005 and two licensee-initiated nuclear safety culture assessments in 2004 document the conclusion that the safety-conscious work environment at Point Beach was adequate, but that there had been a significant decline in the general trust environment at Point Beach. A public meeting was held with the licensee on March 23, 2006, to further discuss the earlier assessment results. The review by the inspectors of the self-assessment constituted one inspection procedure sample.

b. Issues

The safety culture self-assessment consisted of a 20-question survey that was completed by 480 of the 700 onsite plant workers and an interview of more than 110 workers. The inspectors concluded that the self-assessment was a well-constructed, informative effort to identify nuclear safety culture issues, and notably, the assessment team included an experienced individual from another multi-site nuclear utility. As with the recent PI&R inspections and the licensee's assessments in 2004, the self-assessment identified that workers would readily identify nuclear safety concerns, but that workers' level of trust of management remained an issue. Two 2004 events were cited by workers as still having a significant negative impact on safety culture and the environment of trust: the 2004 resignation of four senior reactor operators following a change to an outage schedule for establishing a hot leg vent path and the delayed resolution of questionable safety injection accumulator level indication. Details about these two events were discussed in the 2004 PI&R inspection report (05000266/2004008; 05000301/2004008).

The licensee identified eight recommendations for improvement to address the results of the self-assessment. These eight recommendations were entered into the licensee's corrective action program. The results of the assessment were also presented to plant staff.

4OA3 Event Followup

.1 (Closed) LER 05000266/200600001-00; 05000301/2006001-00, Control Room Emergency Filtration System Inoperable.

On May 30, 2006, the licensee identified through testing that the control room emergency filtration system (CREFS) charcoal failed to meet the methyl iodide penetration acceptance criteria of less than or equal to one percent as required by TS 5.5.10.c. Based on the failed result, the CREFS system was declared inoperable. The charcoal filter trays were replaced and the system was returned to an operable condition. A past operability review by the licensee demonstrated that the system was inoperable at least as far back as May 2, 2006, when the sample was taken. This licensee-identified violation is discussed in Section 4OA7 of this report. This LER is considered closed.

4OA5 Other Activities

.1 Evaluation of the Licensee's Engineering Independent Assessment

The licensee committed as part of its response to the Confirmatory Action Letter CAL 3-04-001, Revision 1, dated April 14, 2006, to perform alternating independent and self-assessments of the engineering and corrective action programs. In June 2006, the licensee performed an independent assessment of engineering performance. The specific objectives of this assessment were to 'conduct an interim review of the Point Beach Engineering Effectiveness Improvement Plan; identify engineering behaviors (individual or organizational) that were not aligned with the NMC attributes of engineering excellence; identify NMC picture of excellence "barriers" that were not functioning to prevent events; highlight any specific engineering flaws identified, i.e., calculation process, modification process, etc., by reviewing engineering product samples.'

The inspectors reviewed the charter for the assessment, observed the independent assessment team, reviewed the final report, and reviewed the proposed corrective actions. The inspectors agreed with the team's assessment that progress had been made in engineering effectiveness. Engineering improvement plan actions were appropriate and had resulted in changes that were improvements in engineering performance in behaviors, process, and products. The pace of implementation of the engineering improvement plan was slower than desired. Increased commitment and dedication of resources were required to reduce the risk of additional engineering lapses similar to those experienced earlier.

The inspectors also agreed with the team's overall recommendations that there was a need for the licensee to demonstrate to the licensee staff, as well as to the NRC, a constancy of purpose and accountability in implementing the ongoing and planned critical engineering initiatives, such as the Engineering Work Management System, Engineering Improvement Plan, Calculation Reconstitution Review Project, and Licensing Reconstituting Project, and the need to establish clear goals and develop highly visible performance indicators for communicating progress for each of these critical initiatives. The inspector concluded that the assessment was thorough, the conclusions were well founded, and corrective actions planned should address the concerns noted.

.2 <u>Evaluation of the Licensee's Corrective Action Program Independent Assessment</u>

The inspectors reviewed the charter for the assessment and observed the independent assessment team. The team consisted of six experienced individuals from other utilities and from consulting firms. The team concluded that employees at Point Beach readily identify problems, the station made good use of external resources on root cause evaluations, and the station Department Roll-up Meeting and performance indicator processes were good means for departments to regularly evaluate performance in corrective actions. For improvement, the team concluded that the station conducted too many apparent cause evaluations and not enough root cause evaluations, additional resources were needed in the Performance Assessment Group that manages the station's corrective action program, problems with the recently implemented corrective action program computer system were limiting the retrieval and analysis of information from the system, and three root cause evaluations in the radiation protection group were not being completed in a timely manner. The final report of the self-assessment and the proposed corrective actions will be reviewed during a future inspection.

.3 <u>(Closed) NRC Temporary Instruction (TI) 2515/167: Assurance of Industry implementation of Key Shutdown Voluntary Initiatives</u>

On September 18-20, 2006, the inspectors reviewed refueling outage documents and interviewed licensee personnel to verify the licensee was implementing the key voluntary shutdown initiatives as described in NUMARC 91-06, "Guidelines for Industry

Actions to Assess Shutdown Management," and in GL 88-17, "Loss of Decay Heat Removal (Generic Letter No. 88-17) 10 CFR 50.54(f)." Appropriate documentation of the results of this inspection was provided to NRC headquarters staff for further analysis, as required by the TI. This completes the Region III inspection TI requirements for the Point Beach Nuclear Plant.

4OA6 Meetings

.1 Exit Meeting

On October 4, 2006, the resident inspectors presented the inspection results to Mr. D. Koehl and members of his staff, who acknowledged the findings. The licensee did not identify any information, provided to or reviewed by the inspectors, as proprietary.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Public radiation safety radiological effluents, and the radiological environmental monitoring and radioactive material control programs with Mr. D. Koehl and other licensee staff on August 11, 2006;
- Emergency Preparedness inspection with Mr. S. Tulley on August 25, 2006; and
- Temporary Instruction 2515/167, Assurance of Industry Implementation of Key Shutdown Voluntary Initiatives with Mr. D. Koehl and other licensee staff on September 20, 2006.

4OA7 Licensee-Identified Violations

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

Technical Specification 5.5.10., "Ventilation Filter Testing Program," requires, in part, that a charcoal sample from the CREFS system shows a methyl iodide penetration of less than or equal to 1 percent. Contrary to this, a sample taken on May 2, 2006, demonstrated a methyl iodide penetration of 1.095 percent; a value greater than 1 percent. Based on the failed result, the CREFS system was declared inoperable and, as required by TS 3.7.9., was to be returned to an operable condition within 7 days from entering the LCO. The licensee-identified finding was entered into the corrective action program and was of very low safety significance.

Although the sample results exceeded the TS required value, the bounding safety analysis contained in the FSAR assumed a 5 percent iodide penetration limit which, during accident conditions, would result in an occupational dose to control room operators of less than 10 CFR Part 20 and 10 CFR Part 100 limits. The licensee's review for past system operability revealed a degrading trend in charcoal performance over time in the previous surveillance tests and, demonstrated that the system was in fact inoperable from the point the sample was taken on May 2, 2006. The licensee wrote CAP1032855 to document and implement corrective actions, which included, but were not limited to: charcoal filter replacement; evaluate and improve existing maintenance practices; identify a single test coordinator for system testing; and update the operating experience database to include this example for future CREFS testing.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

C. Butcher, Site Engineering Director
G. Casadonte, Fire Protection Coordinator
F. Flentje, Senior Regulatory Compliance Engineer
T. Gemskie, Emergency Preparedness Supervisor
B. Grazio, Regulatory Affairs Manager
C. Hill, Assistant Operations Manager
C. Jilek, Maintenance Rule Coordinator
R. Johnson, Senior Emergency Preparedness Coordinator
T. Kendall, Engineering Senior Technical Advisor
D. Koehl, Site Vice-President
R. Ladd, Fire Protection Engineer
G. LeClair, Radiation Protection Supervisor
M. Lorek, Plant Manager
J. McCarthy, Director of Site Operations
J. McNamara, Engineering Supervisor
C. Monarch, Fire Protection Engineer
P. Nicholson, Fire Protection Engineer
G. Packard, Operations Manager
L. Peterson, Design Engineer Manager
M. Ray, Emergency Planning Manager/Regulatory Affairs Manager
D. Schuelke, Radiation Protection Manager
L. Schofield, Employee Concerns Program Manager
J. Schweitzer, Manager of Projects
G. Sherwood, Engineering Programs Manager
C. Sizemore, Training Manager
N. Stuart, Maintenance Manager
S. Tulley, Emergency Preparedness Manager
P. Wild, Design Engineering Projects Supervisor
R. Womack, Fleet Program Engineering Manager

Nuclear Regulatory Commission

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

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000266/2006005-01; 05000301/2006005-01	NCV	Conditional Release of Radioactively Contaminated Material, a Check Source Mechanism (Section 2PS3.3)
05000266/2006005-02; 05000301/2006005-02	NCV	Emergency Core Cooling System Sump Flow Design Control Deficiencies (Section 4OA2.3)
05000266/2006005-03; 05000301/2006005-03	NCV	Containment Coatings Program Weaknesses (Section 4OA2.4)

Closed

05000266/2006001-00; 05000301/2006001-00	LER	Control Room Emergency Filtration System Inoperable (Section 4OA3.1)

LIST OF DOCUMENTS REVIEWED

1R04: Equipment Alignment
2-TS-ECCS-001 Safeguard Systems Valve and Lock Checklist; Revision 5
CL 11A G-04 G-04 Diesel Generator Checklist; Revision 8
CL 10D Fuel Oil systems; Revision 21

1R05: Fire Protection
Fire Hazard Analysis Report for Applicable Fire Areas Reviewed; December 2005
Standard Review Plan; 9.5.1 Fire Protection Program
Fire Protection Engineering Evaluation (FPEE); 1999-003
Condition Report 99-2578; During Evaluation of CR 99-1028, A Condition was Identified that May Subject Diesel Generators to Loss by Fire Above that Assumed in The Appendix R Safe Shutdown Analysis.

1R07: Heat Sink Performance
GL 89-13 Program Document; Revision 6
HX-01 Heat Exchanger Condition Assessment Program; Revision 5
Hx-01 Heat Exchanger Condition Assessment Program, Appendix E Annual Cycle Inspection Schedule; Revision 2
Bio/Silt Fouling Inspection Form for HX-55B-1; August 7, 2006
Bio/Silt Fouling Inspection Form for HX-SSA-2 and HX-SSA-1; May 16,2006, July 26,2006, June 28, 2005
2003-0037 Point Beach Nuclear Plant Engineering Evaluation for Determining Plugged Tubes Due to Lakegrass Fouling for Diesel Cooler G-01 and G-02; Revision 0.
Trend Report for G-01 and G-02 HX Inspection Results; June 2002 to June 2006

1R11: Licensed Operator Requalifications
Crew Simulator Examination Summary; QF-1073-02 ROO (FP-T-SAT-73)
Simulator Exercise Guide PB-LOR-064-001E; Revision 0

1R12: Maintenance Effectiveness
System Health Report, Battery & Inverter Rooms Ventilation System (VNBI), and Component Cooling Water Systems as of August 2, 2006
Documentation of Maintenance Rule Performance Criteria for the VNBI and CCW Systems
Performance Criteria Assessment for VNBI and CCW Systems Between July 1, 2004 and August 23, 2006
Maintenance Rule (a)(1) System Action Plan Check List & Approval for the VNBI and CCW Systems
Point Beach Nuclear Plant, “Maintenance Rule Unavailability Data Sheet”, For the VNBI and CCW Systems, Between 07/01/2004 and 07/01/2006.
DPB31 MRML 00000216; PI&D, “Battery Room & EE Room RMS VAC”

1R13: Maintenance Risk Assessment and Emergent Work Evaluation
Safety Monitor Calculation Reports Units 1 and 2 for Applicable Work Weeks
Work Week Execution Schedules for the Applicable Work Weeks
Operator Logs for Applicable Work Weeks

1R15: Operability Evaluations
AR01031626; Control Room Doses from SGTR and MSLB Accident Not Quantitatively Assessed to Reflect Incorporation of Westinghouse Nuclear Safety Advisory Letter
AR0860610; FSAR Lacks Relevant Information used to Support License Amendment
SER for Point Beach Nuclear Plant License Amendments for TS Change Requests 188 and 189; July 1,1997

Section 1R17: Permanent Plant Modifications
MR 04-013; CVCS Charging Pump Drive Replacement (EC 1561); Revision 1
Specification Number PB677; Charging Pump Variable Frequency Drive, Robicon CVCS Charging Pump Vendor Manual; July 13, 2005
CAP01039547; 2P-2C PMs Not Properly Revised After New Drive Installation; July 13, 2006 [NRC-Identified]
CAP066089; Project Missed Schedule; August 1, 2005
CAP066316; Change in Mod Turnover Requirements for MR 04-013 - Use as Lessons Learned; January 9, 2006
CAP069392; Unanticipated Alarm in Control Room; December 15, 2005
CAP069701; 2P2C Speed Controller 2-HC-428C Not Linear; January 9, 2006
CAP069762; 2P-2C Charging Pump Failed to Start for IT-22 Testing; January 11, 2006
CAP01026324; Bech 6118 E-209 Sheet 8 (Units 1 & 2) Drawing Changes; April 25, 2006
CAP01028512; 2P-2C Charging Pump Received Fault Condition On First Start; May 7, 2006
WO00293191 01; 2P-002C-Z Inspection; Grease 2P-002C-M Motor Bearings

1R19: Post-Maintenance Testing
RMP 9374-2 Molded Case Circuit Breaker (MOB/Panel) Maintenance; Revision 2
WO297224-03 G-02 EDG Generator; August 26, 2006
WO297224 G-02 EDG Generator; August 25, 2006
WO262038 CAT-1 MCCB Replacement and Testing for 2Y52-DY-04
0-PT-EDG-021 G-02 Emergency Diesel Generator Endurance and Margin Testing; Revision 0
TS-82 Emergency Diesel Generator G-02; Revision 72
RMP 9043-47 Emergency Diesel Generator G-04 Maintenance Run and Post Maintenance Testing; Revision 5
IT 10; Test of Electrically-Driven Auxiliary Feed Pumps and Valves (Quarterly); Revision 57; Performed September 14, 2006
IT 09A; Cold Start of Turbine-Driven Auxiliary Feed Pump and Valve Test (Quarterly) Unit 2; Revision 39; Performed September 20, 2006
IT 9B; TDAFP Suction from SW Move Exercise Test (Q); Unit 2; Revision 8; Performed September 19, 2006

1R22: Surveillance Testing
2ICP 03.012; At-Power Test and Calibration of AMSAC; Performed July 12, 2006; Revision 0
STPT 15.1; Point Beach Nuclear Plant Setpoint Document Turbine Trips, Alarms, and AMSAC; Revision 14
PT-FP-004 Annual Fire Pump Capacity Test; Revision 5
PT-FP-003 Monthly Electrical Motor-Driven Fire Pump Functional Test
TS-33 Containment Accident Fan Cooler; Revision 26
AR0075 FP-3758 Regulator Failure Due to Clogging of the Inlet Screen
AR01031598 Diesel Fire Pump Batteries Out of Spec

IT-01 High Head Safety Injection Pumps and Valves Unit 1; Revision 54
PT-FP-002 Monthly Diesel Engine-Driven Fire Pump Functional Test; Revision 5

1EP4: Emergency Action Level (EAL) and Emergency Plan Changes
Point Beach Emergency Plan; Section 1; Revision 28
Point Beach Emergency Plan; Section 5; Revision 50
Point Beach Emergency Plan; Section 6; Revision 49
Point Beach Emergency Plan; Section 7; Revision 50
Point Beach Emergency Plan; Section 8; Revision 48
Point Beach Emergency Plan; Appendix D; Revision 26
Point Beach Emergency Plan; Appendix K; Revision 3

1EP6: Drill Evaluation
Point Beach Nuclear Plant Emergency Plan Implementing Procedures; EPIP 1.1; Revision 52

2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems
Annual Monitoring Report - 2005; Point Beach Nuclear Power Plant; April 28, 2006
CAMP 601; Primary Auxiliary System Sample Points; Revision 12
CAP61669; 1/2RE-216 FSAR Design Basis Description Question; January 25, 2005
CAP61800; Determine Design Basis Accident Radiation Levels in Plant Auxiliary Building; February 28, 2005
CAP61801; Determine Sample Points for Service Water Return Points; February 28, 2005
CAP65310; Problems Encountered with Remote Containment Air Sample; June 24, 2005
CAP65311; Questionable Results on Remote Containment Air Sample; June 24, 2005
CAP65375; Containment Particulate Radiation Monitor Check Source Failure; June 27, 2005
CAP66215; DAM-3 Radiation Monitor Data Acquisition Module Failure Due to Unknown Cause; August 6, 2005
CAP66261; RE-325 Alert Alarm at 10 Times Normal Value; August 9, 2005
CAP70719; Current Radiation Protection Charcoal Filters Too Large for Calibration; February 27, 2006
CAP761405; RE-230 Alarm Setpoint Conflict Between the ODCM, STPT, and RMSASRB; March 9, 2005
CAP1030490; Chemistry Lab Result - One Point Outside 3 Sigma, Genie 2000; May 17, 2006
CE 15253; 1/2RE-216 FSAR Design Basis Description Question; January 27, 2005
FSAR Section 11; August 2005
HPCAL 3.1; Liquid Monitor Calibration Procedure (RE230); November 15, 2005
HPCAL 3.1; Liquid Monitor Calibration Procedure (2RE229); November 15, 2005
HPCAL 3.1; Liquid Monitor Calibration Procedure (1RE229); September 14, 2005
HPCAL 3.4; SPING Calibration Procedure (SPING 22); May 16, 2005
HPCAL 3.4; SPING Calibration Procedure (SPING 23); February 14 and 15, 2005
HPCAL 3.8; Stack Exhaust Monitor Calibration (RE-214); December 12, 2005
HPCAL 3.6; PNG Calibration Procedure (1RE 211/212); March 14, 2005
HPCAL 3.6; PNG Calibration Procedure (2RE211/212); August 16, 2005
HPCAL 3.4; SPING Calibration (SPING 21); March 15, 2006
HPIP 11.50; Filter Testing; August 23, 2004
HPIP 11.54; Control Room F-16 Filter Testing; June 3, 2006
HPIP 11.54; Control Room F-16 Filter Testing; May 2, 2006
HPIP 3.52; Airborne Radioactivity Surveys; Revision 32
HPIP 3.52.1; Radiological Sampling for Release Accountability; Revision 25

NP 3.2.1; Point Beach Nuclear Plant Analytical Quality Assurance Program; Revision 10
OTH 27550; Evaluate the Use of Disc Sources for Calibration of RMS Liquid Monitors; January 2, 2003
OTH 29458; Create a Source Document for Procedure Reference; April 28, 2003
PCR 29457; Revise HPCAL 3.1 for Use of Disc Calibration Source; February 28, 2003
RAM 5.1; Radioactive Airborne Effluent Releases; Revision 10
RAM 3.2; Radioactive Batch Liquid Releases; Revision 13
Construction Closeout Report: Abandonment of the Waste Water Retention Pond; December 2002
EM; Environmental Manual; Revision 18
Groundwater Radionuclide Monitoring Project - Project Plan
ODCM; Offsite Dose Calculation Manual; Revision 17
RECM; Radiological Effluent Control Manual; Revision 4

2PS3: Radiological Environmental Monitoring and Radioactive Material Control Programs

In addition to those documents referenced in 2PS1:
ACE 001986; A Check Source Mechanism (CSM-1), A Piece of Radiation Monitoring Equipment, Was Internally Contaminated
CAP1022117; Low Level Activity Detected on Equipment at DC Cook; April 4, 2006
CAP1028729; Radioactive Material on the Ground in the Outside RCA; May 8, 2006
CAP01035879; Environmental Sample Sent to the Wrong Lab; June 15, 2006
CAP066099; REMP Sample Handling Errors; August 1, 2005
CAP066162; TLD at REMP Site E-39 Needs Relocating; August 4, 2005
CAP069291; Check Source mechanism, CSM-1 Shipped Off-Site; December 9, 2005
CAP069943; Vendor Equipment Found to have Fixed Contamination; January 20, 2006
CAP070393; Material Stored Improperly in PAB Challenges ALARA and Rad Worker Practices; February 11, 2006
CAP070963; Near Miss on Collecting Environmental Milk Samples; March 10, 2006
Department Roll-Up Meeting Results (Self-Assessments); various dates
HPCAL 2.15; Small Articles Monitor Type SAM 9/11 Calibration and Efficiency; Revision 10
HPCAL 1.33, Maintenance and Calibration of Low Volume Air Samplers Calibration Records; various dates
ICP 06.055; Meteorological Tower Instrumentation 6 Month Replacement and Calibration Procedure; Revision 0
IWP 05-005-01; Installation of the Primary Meteorological Tower, Attachments D & E; Performed September/October, 2005
NP 4.2.25 Release of Material, Equipment and Personal Items from the Radiologically Controlled Areas; Revision 14
Radiological Environmental Sampling Checklist; various dates
Retention Pond Radiological Characterization Study; November 15-17, 2000
RDW 14.3 Steam Generator Storage Facility Low-Level Radioactive Waste Storage Requirements; Revision 2
RDW 14.4 Requirements for the Storage of Containers in Outside Areas; Revision 4
Snapshot Report, AR Number SA016036, REMP/RAM; Performed September 30, 2006

4OA1: Performance Indicator Verification

CAP AR01044232; NRC Quarterly Performance Indicator on “Safety System Functional Failures” (SSFFs) Has Not Consistently Been Identified, Verified and Reported

4OA2: Identification and Resolution of Problems
ACE 2018 (AR 898023 02) Apparent Cause Evaluation
NMC Letter NRC 2006-0009 February 16, 2006, NRC Request for Information Relating to Event Notification 42129
NMC Letter NRC 2006-0049 May 12, 2006 Supplement to Response to NRC Request for Information Relating to Event Notification 42129
A/R 89823 Question with the Ability of ECCS Sump Screens to Pass Required Flow
OPR 162 for CAP 068447 for RHR Pump Suction Flow Head Loss and Impact on NPSH for RHR Pumps, Revision 2
Snapshot Report PBSA-PBNP-06-01; Self-Assessment of Assessment of Nuclear Safety Culture; June 15, 2006
CAP068923; NRC Inspector Raised Several Concerns Associated with the Units 1 and 2 SI 850 A and B Valves
CAP069260; Potential for Significant Fault Exposure Time Reporting; U2 Containment Coatings
Drum Summary Report; First Quarter 2006
Department Roll-Up Meeting Results; Department: Engineering; First Quarter 2006
Department Roll-Up Meeting Results; Department: Maintenance; First Quarter 2006
Department Roll-Up Meeting Results; Department: Operations; First Quarter 2006
Department Roll-Up Meeting Results; Department: Radiation Protection; March, 2006
CAP068535; Unit 2 Enters LCO 3.03 and Commenced TS Required Shutdown; November 2, 2005
CAP068534; Wax Found on Two Elevations on Floors in Unit 2 Containment; November 2, 2005
CAP068527; Degraded Coating Inventory for Unit 2 May Exceed OPR 161 Analysis Limit; November 1, 2005
CAP068526; Unit 1 and 2 Containment Coating Qualifications; November 1, 2005
CAP068444; U1R29 Containment Floor Wax Inspection; October 30, 2005
CAP068442; GL 98-04 Commitments; October 30, 2005
CAP068403; Enhancements - Containment Coating Program Assessment; October 28, 2005
CAP068402; Area for Improvement 3 - Containment Coating Program Assessment; October 28, 2005
CAP068400; Area for Improvement 2 - Containment Coating Program Assessment; October 28, 2005
CAP068399; Area for Improvement 1 - Containment Coating Program Assessment; October 28, 2005
CAP068182; Containment Coating Issues are not Identified in a Timely Manner; October 21, 2005
CAP068079; Damaged Level 1 Coatings; October 18, 2005
CAP068071; Floor Wax in SG/RCP Cubicles Needs to be Removed; October 18, 2005
CAP068067; Steel Pipe Supports in Containment with Unqualified Coating; October 18, 2005
OPR000161; Containment ECCS Suction Strainers; December 9, 2005
OPR000162; The RHR Pumps 1(2) P-10A(B); December 9, 2005
OPR000164; Floor Wax; November 5, 2005
OPR000165; 1&2 SI-00850A&B, RHR Pump Suction from Sump B; November 6, 2005
Calculation 2005-0024; Evaluation of Containment Sump Screen Debris Buildup on EPRI Technical Report and Current Degraded Epoxy Inventories; Revision 1
Point Beach Nuclear Plant Drawing 276; Containment Safety Injection Sump Requirements for Screens; Revision 2

NP 8.4.15; Protective Coating Program; Revision 4
NDE-802; Condition Monitoring and Assessment of Containment Coatings; Revision 0

4OA3: Event Followup
CAP1032855; CREFS Filter Testing Failures; May 30, 2006
TSs; Sections 3 and 5

4OA5: Other
Independent Engineering Effectiveness Assessment at Point Beach; June 2006
Independent Assessment of the Corrective Action Program; July 2006

4OA7: Licensee-Identified Violations
CAP1032855; CREFS Filter Testing Failures; May 30, 2006

CAPs Identified as a Result of NRC-Identified Issues
CAP01043473; Need to Complete/Document SBO Commitment
CAP01043484; FSAR Appendix A.1 Clarification
CAP01044891; Revise 1999-FPEE-003 for Documentation Weaknesses
CAP01044901; Potential Floor Drain Problem; G03 to G01 and G02 Fuel Oil Transfer Pumps
CAP01022094; Question Regarding Potential Cancellation of Calculation
CAP01023897; Evaluate OE Regarding Tornado Preparations
CAP01026624; Evaluate Lighting at PBNP Firing Range
CAP01028314; NRC Recommended Enhancements to HPI
CAP01024017; Potential Enhancement to RP 17, Part 4
CAP01032369; LTA Communication Causes Rework of
CAP01023927; Untimely ENS Notification-Battery Charger AC Load
CAP01034266; Regulatory Analysis of NRC Inspection
CAP01040428; Regulatory Analysis of NRC Inspection
CAP01039014; SG Wear Values Need to be Clearly Documented
CAP01043879; E-08 Electrical Cord Configuration
CAP01039547; 2P-2C PM’s not Properly Revised
CAP01037732; FEPs Require Links to the Reference
CAP01035798; Unsealed Conduit Between D105
CAP01026138; Update NRC DBT Order; Develop Security Protective Strategy
CAP01043577; RCA Posting Improvement Opportunity
CAP01043580; Opportunity for Improvement in Sampling
CAP01043553; Improvements in Filter Handling TSs
CAP01043568; Rad Material Stored Outdoor Susceptibility
CAP01043866; Environmental Stations E-03 and E-0
CAP01034368; Track Receipt of Up MRO License
CAP01034689; Procedure FP-S-FFD-02; Security Work Hours
CAP01047332; NRC Security Order B.5.b, Phase 1 TI
CAP01052262; NRC Identified PB-485 Deficiency CI
CAP01052315; CVCS Charging Pump Conduit Penetrations
CAP01045855; Enhancements to PBF-1304 from NRC Recommendations
CAP01051574; OPR153 Did Not Address NSR Cable Room
CAP01048032; NRC Inspection Document Not Provided
CAP01044901; Potential Floor Drain Problem
CAP01051400; Charging Pump Makeup Flow During Shutdown

CAP01051288; SEPs Do Not Give Guidance for Long
CAP01053085; Non-controlled Procedure Binder in Control Room
CAP01038724; Improvements to VNCR Maintenance Rule
CAP01034320; Continuing Training With On-site
CAP01050127; Administrative Step Not Signed Off
CAP01026070; NUHOMS Concern Regarding TS 1.2.17a
CAP 01051831; Calculation –93-086 has Non-Conservative Value
CAP01043063; Verify EAL HG1.1 is Consistent
CAP01043473; Need to Complete/Document SBO Testing
CAP01051328; Evaluate SEP 1.0 for Concern-Degraded RHR Procedure
CAP01043554; Radioactive Material Posting Lacking
CAP01043573; Improvements Needed in DAVS Tritium
CAP01051042; Controls Needed to Keep DG1/2
CAP01034661; Minor Editorial Changes in FFD Procedure
CAP01044891; Revise 1999-FPEE-003 for Documentation
CAP01050596; FHAR Documentation Discrepancies
CAP01046103; Recommended Enhancement to AOP-29
CAP01046390; Clarification Needed for Training on
CAP01047011; NRC Security Order B.5.b, Phase 1
CAP01047265; Potential Inadequate Implementation of ECA-1.3
CAP01047322; Enhancements - NRC Security Order
CAP01047353; OPR153 Did Not Address Seismic Event
CAP01047394; Placard Missing from ISI-897A
CAP01048551; 2DY-04 Returned to Service with Step
CAP01028171; NRC Feedback on CREFS Testing (HPIP 11.54)
CAP01044232; Potential Incomplete NRC PI Reporting
CAP01022449; PAB Structure Calculation and 50.59
CAP01043484; FSAR Appendix A.1 Clarification
CAP01047207; DBD-16 EDG, License Basis Info Needed
CAP01044130; AMSAC System Test Point Not Installed
CAP01044778; Error Found in U1R29 ECCS Leakage System

LIST OF ACRONYMS USED

AR	Action Request
CAP	Corrective Action Program Document
CFR	Code of Federal Regulations
CREFS	Control Room Emergency Filtration System
CSM-1	Check Source Mechanism
CVCS	Chemical and Volume Control System
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
EM	Environmental Manual
EN	Event Notification
FSAR	Final Safety Analysis Report
GL	Generic Letter
HEPA	High Efficiency Particulate Air
IMC	Inspection Manual Chapter
IR	Inspection Report
LER	Licensee Event Report
LOCA	Loss-of-Coolant Accident
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NP	Nuclear Plant Procedure
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
NRR	Office of Nuclear Reactor Regulation
ODCM	Offsite Dose Calculation Manual
OPR	Operability Recommendation
PBNP	Point Beach Nuclear Plant
PI	Performance Indicator
PI&R	Problem Identification and Resolution
RCA	Radiologically Controlled Area
REMP	Radiological Environmental Monitoring Program
RHR	Residual Heat Removal
RMS	Radiation Monitoring System
SDP	Significance Determination Process
TI	Temporary Instruction
TS	Technical Specification
U1R29	Unit 1 Cycle 29 Refueling Outage
URI	Unresolved Item
V	Volt
WO	Work Order