April 26, 2002

Mr. M. Warner
Site Vice President
Kewaunee and Point Beach Nuclear Plants
Nuclear Management Company, LLC
6610 Nuclear Road
Two Rivers, WI 54241

SUBJECT: POINT BEACH NUCLEAR PLANT
NRC INSPECTION REPORT 50-266/02-05; 50-301/02-05

Dear Mr. Warner:

On March 31, 2002, the NRC completed an inspection at your Point Beach Nuclear Plant. The enclosed report documents the inspection findings which were discussed on April 5, 2002, with you and members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection was a routine review of plant activities by resident and regional inspectors.

Based on the results of this inspection, the inspectors identified one finding for which the safety significance was still to be determined. This issue pertained to the self-revealing failure of the Unit 2 'B' train safety injection pump, 2P-15B, due to gas binding on February 20, 2002. The issue was determined to be of at least very low safety significance (Green) since one train of the Unit 2 safety injection system was rendered inoperable.

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Sincerely,

/RA/

Roger D. Lanksbury, Chief
Branch 5
Division of Reactor Projects

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

Enclosure: Inspection Report 50-266/02-05; 50-301/02-05

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos:	50-266; 50-301
License Nos:	DPR-24; DPR-27
Report No:	50-266/02-05; 50-301/02-05
Licensee:	Nuclear Management Company, LLC
Facility:	Point Beach Nuclear Plant, Units 1 & 2
Location:	6610 Nuclear Road Two Rivers, WI 54241
Dates:	February 20 through March 31, 2002
Inspectors:	P. Krohn, Senior Resident Inspector, Point Beach J. Lara, Senior Resident Inspector, Kewaunee Z. Dunham, Resident Inspector, Kewaunee D. Chyu, Reactor Engineer B. Winters, Reactor Inspector
Approved by:	Roger D. Lanksbury, Chief Branch 5 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000266-02-05; 05000301-02-05, on 02/20-03/31/2002, Nuclear Management Company, LLC, Point Beach Nuclear Plant, Units 1 & 2. Operability Evaluations.

This report covers a 6-week routine resident inspection. The inspection was conducted by resident and regional inspectors. The inspection identified one finding of at least very low safety significance (Green) that, pending further regulatory review, was considered an Unresolved Item. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the Significance Determination Process does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html.

A. Inspector-Identified Findings

Cornerstone: Mitigating Systems

- To Be Determined (TBD). Unit 2. On February 20, 2002, the 2P-15B safety injection pump failed, during monthly preventative maintenance bearing lubrication activities, due to gas binding caused by back-leakage of nitrogen-saturated water from a reactor coolant system safety injection accumulator. Despite multiple opportunities to have identified the effects of the leaking accumulator, the licensee's organization did not properly respond to adverse accumulator leakage trends or effectively use industry operating experience to prevent failure of the safety injection pump. This issue was considered an Unresolved Item pending further regulatory review of the risk and problem identification and resolution aspects of the safety injection pump failure.

  This issue was determined to have a credible impact on safety and be of at least very low safety significance (Green) since one train of the Unit 2 safety injection system was rendered inoperable. (Sections 1R15.1 and 4OA2)

B. Licensee-Identified Findings

A licensee-identified violation of very low significance was reviewed by the inspectors. Corrective actions taken or planned by the licensee appeared reasonable. The violation is listed in Section 4OA7 of this report.

Report Details

Summary of Plant Status

Unit 1 began the inspection period at full power and remained there until March 23, 2002, when power was reduced to 30 percent to lower the worker radiation dose during restoration of a reactor coolant system (RCS) wide-range pressure transmitter, turbine stop and governor valve testing, condenser and crossover steam dump valve testing, atmospheric steam dump testing, and repair of an oil leak on the 1P-28A main feed pump. Unit 1 was returned to full power operation on the morning of March 24. Unit 1 remained at full power until March 30, when an emergency operating facility computer networking problem caused the plant process computer system to be declared unreliable. Reactor power was reduced to 97 percent during troubleshooting efforts. Unit 1 was returned to full power operation on March 31 and remained there through the end of the inspection period.

Unit 2 began the inspection period at full power and remained there until a Technical Specification (TS) required forced-shutdown due to failure of the 2P-15B safety injection (SI) pump on February 22, 2002. Following SI pump repairs and testing, Unit 2 was made critical on February 25, and returned to full power operations on February 26. Unit 2 power was reduced to 97 percent on March 19, due to a plant process computer failure that occurred while loading software upgrades. Unit 2 was returned to full power operation later the same day following correction of the software problems. Unit 2 remained at full power until March 30, when an emergency operating facility computer networking problem caused the plant process computer system to be declared unreliable. Reactor power was reduced to 97 percent during troubleshooting efforts. Unit 2 was returned to full power operation on March 31 and remained there through the end of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events and Mitigating Systems

1R04 Equipment Alignment (71111.04)

.1 125-Volt Direct Current (VDC) Partial System Walkdown

a. Inspection Scope

The inspectors performed a partial system walkdown of the Units 1 and 2 125-VDC distribution system to verify proper system configuration. The inspectors used licensee checklists (CLs), weekly TS tests, and operating procedures during the walkdowns to verify that the systems were properly configured for full power operations. The CLs and TS tests were compared against design basis requirements to verify that the documents aligned the 125-VDC system in accordance with design basis assumptions. The inspectors also performed walkdowns in the control room to verify appropriate switch positions and valve configurations.

The inspectors reviewed action request (AR) 2652, “PC-43 Part 2,” which was initiated as a result of this inspection activity and discussed seven breakers, including the power

supply to a solenoid valve associated with the Unit 2 turbine-driven auxiliary feedwater (TDAFW) pump recirculation valve, that were not included in the monthly, safety-related, continuous-use CL. The inspectors also reviewed the document feedback form for PC-43 Part 2, Revision 32, to verify that the missed breakers had been added to the next revision of the CL. Finally, the inspectors evaluated other elements, such as material condition, housekeeping, and component labeling.

b. Findings

No findings of significance were identified.

.2 Unit 2 TDAFW System Partial Walkdown Following Mini-Recirculation Valve Accumulator Modification

a. Inspection Scope

The inspectors performed a partial system walkdown of the Unit 2 TDAFW pump system to verify proper system configuration following modifications to provide a nitrogen backup accumulator to the mini-recirculation valve, 2AF-4002. The inspectors used licensee CL 13E, Part 1, "Auxiliary Feedwater Valve Lineup Turbine Driven," during the walkdowns to verify that the system was properly configured for full power operations. The CL and safety evaluation used to install the nitrogen backup accumulator were compared against design requirements to verify that the accumulator had been installed in accordance with design basis assumptions. The inspectors performed walkdowns in the control room, primary auxiliary building, Unit 2 facade, cable spreading room, turbine building, and the auxiliary feedwater pump room to verify appropriate switch and valve positions. The inspectors also reviewed the completed copy of CL 13E, Part 1, to verify that auxiliary operators had used independent verification and self-checking human performance techniques to identify typographical errors and incomplete position designations for some of the newly installed backup nitrogen accumulator valves associated with the Unit 2 TDAFW pump system. Finally, the inspectors evaluated other elements, such as material condition, housekeeping, and component labeling.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors walked down the following areas to assess the overall readiness of fire protection equipment and barriers:

- Fire Zone 310, Air Compressor Room
- Fire Zone 246, Electrical Equipment Room - Unit 2
- Fire Area A26, Fire Zone 307, Battery Room D-05

Emphasis was placed on the control of transient combustibles and ignition sources, the material condition of fire protection equipment, and the material condition and operational status of fire barriers used to prevent fire damage or propagation. Area conditions/configurations were evaluated based on information provided in the licensee's "Fire Hazards Analysis Report," August 2001.

The inspectors toured the three fire zones to verify that fire hoses, sprinklers, and portable fire extinguishers were installed at their designated locations, were in satisfactory physical condition, and were unobstructed and to verify the physical location and condition of fire detection devices. Additionally, passive features such as fire doors, fire dampers, and mechanical and electrical penetration seals were inspected to verify that they were located per Fire Hazards Analysis Report requirements and were in good physical condition.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Resident Inspector Quarterly Review: Shutdown Loss-of-Coolant Accident (LOCA)

a. Inspection Scope

On March 19, 2002, the resident inspectors observed licensed operator training involving a LOCA while shutdown. The scenario was applied to both Units. The inspectors evaluated crew performance for clarity and formality of communication; the ability to take timely action in the safe direction; the prioritizing, interpreting, and verifying of alarms; the correct use and implementation of procedures, including alarm response procedures; timely control board operation and manipulation, including high-risk operator actions; and group dynamics.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the implementation of the maintenance rule to verify that component and equipment failures were identified, entered, and scoped within the maintenance rule and that select structures, systems and components were properly categorized and classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65. The inspectors reviewed station logs, maintenance work orders (WOs), condition reports (CRs), ARs, (a)(1) corrective action plans, selected surveillance test procedures, and a sample of CRs to verify that the licensee was identifying issues related to the maintenance rule at an appropriate threshold and that corrective actions were appropriate. Additionally, the inspectors reviewed the licensee's performance criteria to

verify that the criteria adequately monitored equipment performance and to verify that licensee changes to performance criteria were reflected in the licensee's probabilistic risk assessment. Specific components and systems reviewed were:

- 480-Volt Alternating Current Electrical System
- Instrument Air

b. Findings

No findings of significance were identified.

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

.1 Unit 2 Forced Shutdown Due to 'B' SI Pump Failure

a. Inspection Scope

The inspectors observed control room activities associated with a Unit 2 forced shutdown on February 22, 2002, following failure of the 2P-15B SI pump due to gas binding on February 20, 2002. Since repair of the pump was expected to exceed the 72 hours allowed in TS Action Condition Requirement 3.5.2, the licensee commenced a normal shutdown and progression to cold shutdown, as reported in Event Notification 38718. The inspectors assessed the adequacy of operations activities during the reduction of electrical load, reactor shutdown, plant cooldown, and stabilization of RCS temperature and pressure above the residual heat removal (RHR) system initiation point. Additionally, the inspectors reviewed maintenance operations for implementation of risk management, conformance to approved site procedures, and compliance with TS requirements. The inspectors reviewed 5 ARs written as a result of the forced shutdown, including AR 2284, "Unit 2 Shutdown to Mode 4 Almost Causes a UE [Unusual Event] Entry"; AR 2289, "AOP [Abnormal Operating Procedure] 8A, High Coolant Activity, Is Unclear On When To Restore Normal PAB [Primary Auxiliary Building] Access"; and AR 2323, "U2 N32 Source Range Detector Failure With Less Than One Cycle of Operation."

b. Findings

No findings of significance were identified.

.2 Personnel Performance During Propane Leak

a. Inspection Scope

On March 4, 2002, the inspectors observed control room crew actions during a propane leak from a 500-gallon storage tank adjacent to a well water pumphouse. The propane tank was located outside of the protected area. The propane leak was considered a Toxic/Flammable Gas Intrusion and classified as an Unusual Event by the licensee. Offsite fire department assistance was requested and obtained from the Town of Two Creeks volunteer fire department. The propane leak was reported to the NRC under Event Notification Number 38749.

The inspectors monitored licensee communications and actions to ascertain whether appropriate personnel evacuations were considered; to determine the possible ignition impact of the propane leak on adjacent fuel oil storage tanks and switchyard electrical distribution lines; to monitor propane sampling results to determine if explosive atmospheres existed in any portions of the nearby turbine building or vital equipment areas; to monitor licensee actions in determining whether personnel evacuations from selected site locations were required; and to monitor contractor and offsite fire department efforts to stop the propane leak. The inspectors considered wind velocities, ambient temperatures, projected wind shifts, and the rate of the propane tank inventory loss to determine the potential impact of the leak on site equipment and operations. The inspectors also monitored initial manning of the technical support center to determine licensee preparation for potentially worsening conditions. Finally, the inspectors reviewed AR 2448, "Unusual Event Declared on March 4, 2002: Lack of Plant Guidance," which discussed the lack of orders to terminate smoking or other spark producing activities during the initial stages of the propane leak.

b Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

.1 2P-15B SI Pump Failure Due to Gas Binding During Monthly Lubrication Run

a. Inspection Scope

The inspectors reviewed a self-revealing failure of the 2P-15B Unit 2 SI pump on February 20, 2002. During the subsequent repair and replacement activities, the inspectors conducted reviews to verify compliance with TS action condition statements; observed pump disassembly and reassembly; inspected failed parts; reviewed post-maintenance testing activities; and reviewed Final Safety Analysis Report (FSAR) design requirements. The inspectors also reviewed Operability Determination (OBD) 000011, "Gas Binding of SI Pumps," to verify that the licensee had considered the potential effects of gas binding on:

- Unacceptable water hammers due to the rapid refilling of voided SI injection lines upon pump start
- Gas migration to other piping that may have rendered adjacent emergency core cooling system (ECCS) equipment sharing common suction piping inoperable
- Accident analyses due to a delay in injecting water into the reactor core as a result of having voided volumes in the SI pump discharge lines
- Various leaking (or failed open) valves in the system
- Flow and pressure instrument sensing lines
- Pressure-locking SI system valves during pressure transients
- Load amplification due to the constructive combination of reflected shock waves in partially voided SI injection lines.

The inspectors evaluated the OBD to verify that the venting locations, frequency, and instructions given to auxiliary operators for the conduct of venting were conservative and

maintained SI pump operability. The inspectors reviewed SI and residual heat removal (RHR) pump suction and discharge piping isometric drawings to determine available venting points, the creation and effect of loop-seals for unventable portions of the injection line, and the extent to which voided gas volumes could have migrated back towards other ECCS pumps. The inspectors interviewed selected engineering personnel and reviewed pump internal drawings to determine the effects of varying pump casing gas volumes on SI pump operability. The inspectors reviewed the impact of 2SI-845E, "Unit 2 2P-15B SI Pump To Reactor Coolant Loop 'A' Cold Leg SI Check Valve," back-leakage on TS 3.4.14 RCS pressure insolation valve leak rate requirements. The inspectors also reviewed the licensee's troubleshooting plan to identify the leakage path from the Unit 2 'A' SI accumulator, 2T-34A, back to the 2P-15B SI pump casing and future check valve repair plans.

The inspectors reviewed Operating Instruction (OI) 163, "SI, RHR, and CS [Containment Spray] Pump Runs," Revision 1, to determine whether monthly SI pump runs for preventative maintenance bearing lubrication activities constituted preconditioning for TS required quarterly surveillance tests. The inspectors applied the results of OBD 000011 to both Units 1 and 2 to verify that the licensee had considered the full effects of accumulator back leakage on all ECCS equipment.

The inspectors interviewed selected engineering personnel and correlated Unit 2 'A' SI accumulator level and pressure history, 2P-15B SI pump injection line volumes, and nitrogen solubility data to determine when the 2P-15B SI pump had become inoperable. Finally, the inspectors considered previous licensee operating experience (OE) and corrective action program opportunities to have prevented failure of the 2P-15B SI pump.

b. Findings

Self-Revealing Condition

On February 20, 2002, at 1:00 a.m., the 2P-15B SI pump was started in accordance with OI-163 as part of a monthly preventative maintenance bearing lubrication activity. The control room operators noted that when the pump was started, motor current increased normally, but then decayed to less than 10 amps. The normal SI pump running current was 30 amps. Additionally, the pump developed no discharge pressure. The auxiliary operator stationed locally in the vicinity of the SI pump noted a loud noise near the end of the pump coastdown, observed excessive seal leakage, and reported the presence of an acrid smell to the control room. The Duty Shift Superintendent arrived in the pump area shortly thereafter, observed the excessive seal leakage, and perceived the acrid smell. Through follow-up discussion and observation it was concluded that the acrid smell was emanating from the inboard pump seal area. The Duty Shift Superintendent (the lead Senior Reactor Operator on-shift) directed the isolation of the pump to secure the excessive seal leakage. The 2P-15B SI pump was declared inoperable and TS Action Condition 3.5.2.A.1 entered at 1:00 a.m. on February 20, 2002. Technical Specification Action Condition 3.5.2.A.1 required an inoperable ECCS train be restored to operable status within 72 hours or the affected Unit be placed in Mode 3 (Hot Standby) within the following 6 hours and Mode 4 (Hot Shutdown) within 12 hours.

Subsequent licensee inspection of the pump revealed damage to the rotating element, the coupling and shaft keys between the pump and the motor, the pump internal wearing rings, and other components. The licensee concluded that the cause of the equipment damage was pump gas binding as the result of back-leakage of nitrogen-saturated water from the SI 'A' accumulator through at least two check valves, 2SI-845E, "Unit 2 2P-15B SI Pump To Reactor Coolant Loop 'A' Cold Leg SI Check Valve," and 2SI-889B, "Unit 2 2P-15B SI Pump Discharge Check Valve," to the discharge side of the 2P-15B pump. When the pressure of the nitrogen-saturated water was reduced from the accumulator pressure (750 pounds per square inch gauge) to the SI pump suction pressure (~30 pounds per square inch gauge), the nitrogen came out of solution, causing the 2P-15B gas binding.

The licensee proceeded with the repair of 2P-15B with the expectation that the pump would be repaired, tested, and returned to service prior to the expiration of 72 hour TS Action Statement 3.5.2.A.1. At approximately 2:00 p.m. on February 22, 2002, the licensee determined that pump repairs and testing could not be completed before the expiration of the TS action statement. Accordingly, shutdown of Unit 2 began at 2:48 p.m. Mode 3 was reached at 7:26 p.m., and Mode 4 at 1:38 a.m. on February 23, 2002. Operator performance during the shutdown was reviewed in Section 1R14.1 of this report. During the time that the Unit 2 'B' ECCS train was inoperable, the 'A' ECCS train remained in standby service and was capable of performing the intended safety function.

Operability of 2P-15B SI and Other ECCS Pumps

The inspectors reviewed and found acceptable, the licensee's OBD conclusion that venting the SI lines at least every 5 days was sufficient to ensure continued operability of the Units 1 and 2 SI pumps. The frequency was based on observed accumulator leakage history and would increase proportionately if accumulator leakage rates increased. The inspectors also concluded that the Units 1 and 2 'A' train SI pumps had remained operable since these pumps had been run frequently to refill SI accumulators and had effectively swept any nitrogen-saturated water or gas voids back into the accumulators each time the pumps were run. The Unit 1 'B' train SI pump was considered to have been operable based on the time of the last successful run and the observed accumulator level trends which indicated insufficient leakage to fill the Unit 1 'B' SI pump with nitrogen-saturated water leading to gas binding failure as had occurred with 2P-15B.

Concerns for voiding of common ECCS piping were eliminated due to elevation differences between the SI pump casings and other ECCS pump common suction lines (the SI pump casings were 3.5 feet above the common ECCS suction line), the fact that the adjacent pump (2P-15A) exhibited no symptoms of gas binding, and the likelihood that at least a portion of the evolved gas had been venting through the 2P-15B pump shaft seals. The inspectors also reviewed the effect of the SI flow delay to the reactor core during design transients caused by partially voided injection lines and determined that the limiting parameter of concern, nuclear fuel peak centerline temperature, remained bounded by existing accident analyses. A review of the gas voiding on water hammer, shock amplification loadings, valve pressure locking, and instrumentation effects raised no other operability concerns.

Analysis

The inspectors assessed this issue using the Significance Determination Process. The inspectors concluded that the failure of the 2P-15B SI pump had a credible impact on safety since the 2P-15B SI pump was credited for mitigating the consequences of design basis and risk significant transients including: reactor trips, transients without the secondary power conversion system, loss of a single 125-VDC safeguards bus, small break LOCAs, stuck open pressurizer power-operated relief valves, medium break LOCAs, loss of offsite power, loss of offsite power plus loss of the gas turbine with one emergency alternating current power source unavailable, steam generator tube rupture, and main steam line break accidents. Consequently, the failure of the 2P-15B SI pump had a credible impact on safety and was associated with the mitigating systems cornerstone.

Using the Significance Determination Process Phase 1 Screening Worksheet for the Mitigating Systems Cornerstone, the inspectors concluded that failure of the 2P-15B SI pump was considered to be at least of very low safety significance (Green). Pending further inspector and Region III review of the regulatory and risk aspects of the pump failure, the safety significance of the finding is To Be Determined and this issue will be considered an Unresolved Item (URI). Problem identification and resolution aspects of the failure are discussed in Section 4OA2 of this report.

.2 2P-15B SI Pump Failed to Meet Differential Pressure Acceptance Criteria

a. Inspection Scope

The inspectors reviewed OBD 000005, "2P-15B SI Pump Failed to Meet Differential Pressure Acceptance Criteria," to determine operability following a rebuild of the 2P-15B SI pump due to a failure caused by gas binding on February 20, 2002. Specifically, the inspectors reviewed Inservice Test IT-02 "High Head Safety Injection Pumps and Valves (Quarterly) Unit 2," Revision 48, performed on February 24, 2002, to determine the impact of the 800 gallons per minute flow test point which was found to be below the acceptance criteria of the FSAR pump curve. The inspectors reviewed the licensee's position that failure of 2P-15B to meet the SI pump curve defined in FSAR Figure 14.3.2-13, "PBNP High Head Safety Injection Flow," at 800 gallons per minute constituted an operable-but-degraded condition applicable to the SI pump curve rather than the SI pump itself. The inspectors reviewed the effects of the reduced SI pump flow on nuclear fuel peak clad temperatures to verify that existing analyses remained bounding for all design basis accidents. Finally, the inspectors reviewed licensee plans to modify the SI pump rotating assembly or revise the FSAR SI pump flow curve to verify that as-built equipment capabilities were accurately reflected in the design bases.

b. Findings

No findings of significance were identified.

.3 Non-Quality Assurance (QA) Ammeter and Voltmeter Installed In Safety-Related Battery Chargers

a. Inspection Scope

The inspectors reviewed the OBD associated with AR 2432, “Non-QA Parts Used in SR [Safety-Related] Equipment, D-107 Delayed,” to understand the impact of a Non-QA ammeter installed in safety-related battery charger D-109 in August 2000 and a Non-QA voltmeter installed in safety-related battery charger D-108 in April 2000. The inspectors interviewed the 125-VDC system engineer and reviewed battery charger FSAR design basis requirements to determine if failure of the meters could prevent the fulfillment of any safety-related functions. The inspectors also considered whether design basis requirements to restore battery chargers to 125-VDC safety-related buses within 1 hour following a design basis accident, concurrent with loss of offsite power, had been validated against current emergency and abnormal operating procedures.

b. Findings

No findings of significance were identified.

1R16 Operator Workarounds (OWAs) (71111.16)

.1 Cumulative Effect of OWAs

a. Inspection Scope

Using the OWA list effective on March 25, 2002, the inspectors reviewed the cumulative effect of OWAs to determine the total impact of these workarounds on plant operations. Specifically, the inspectors considered the interactions between OWAs associated with emergency diesel generator (EDG) starting air systems, manual operator action required to reseat crossover steam dump valves, safety-related battery room ventilation fan high air flow velocities resulting in water on electrical equipment, air ejector radiation monitor sensitivity to increasing turbine hall temperatures, direct current bus over/undervoltage alarms during routine starts of Units 1 and 2 safeguards pumps, frequent condenser water box level alarms while on ice melt operation, and the frequent venting of SI pumps and piping due to back-leakage past check valves between the SI accumulators and the refueling water storage tank on the operator's ability to implement abnormal and emergency operating procedures. The inspectors also reviewed OWA meeting minutes from October 2001 to March 2002 to verify that the licensee had been conducting periodic reviews of OWAs and considering the total impact of workarounds on plant operations. The inspectors reviewed probabilistic risk assessment personnel involvement in the periodic workaround reviews to verify that the licensee was attempting to gain risk insights concerning the cumulative effect of OWAs.

b. Findings

No findings of significance were identified.

.2 Condenser Air Ejector Radiation Monitors Trend Upward With Increasing Turbine Hall Temperatures

a. Inspection Scope

The inspectors reviewed OWA 0-00C-002 RMS [Radiation Monitoring System] to identify potential effects on the ability of operators to respond to steam generator tube rupture events and implement abnormal and emergency operating procedures. The workaround concerned the Units 1 and 2 condenser air ejector radiation detectors which, during normal operations, were operating at less than 0.005 percent of full scale. Due to the low alarm setpoint and the low number of detector ionizing events associated with the detectors, normal seasonal temperature changes in the turbine building frequently caused detector alarms. The inspectors interviewed radiation protection personnel to review plans to change procedures to adjust the background constant for the detectors. The inspectors reviewed design basis transient analysis to verify that the proposed changes were bounded by existing steam generator tube rupture analyses and to verify that the operator's ability to rapidly detect steam generator tube ruptures would not be comprised by the proposed changes. In addition, the inspectors verified that the proposed changes would allow operators to detect steam generator tube leaks that were well below TS RCS leakage limits. Finally, the inspectors performed limited walkdowns of the air ejector discharge piping to verify that turbine hall ambient temperature changes were the only external factor influencing detector count rates.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

.1 EDG G-02 Post-Maintenance Testing Following Electrical Generator Rotor Rewinding

a. Inspection Scope

The inspectors observed portions of maintenance activities for the G-02 generator replacement. Subsequently, the inspectors reviewed design basis requirements and observed portions of the G-02 load capacity tests performed in accordance with Point Beach Test Procedure 110, "Emergency Diesel Generator G-02 Test," Revision 0, to verify that the G-02 EDG was capable of performing its design and licensing basis functions. The inspectors reviewed the completed test documentation to verify that all acceptance criteria had been met. The inspectors also reviewed design basis requirements and completed documentation for TS Procedure TS-82, "Emergency Diesel Generator G-02 Monthly," Revision 62, to verify operability and configuration of the EDG G-02. Finally the inspectors reviewed AR 2403, "G-02 Intra-Pole Connecting Strap Installed Improperly," which discussed the improper installation of one of seven straps that connected the eight rotor poles in series, to evaluate the rigor of the quality assurance organization oversight that had been applied to the 10 CFR Part 50, Appendix B, certified vendor that had rewound the EDG rotor.

b. Findings

No findings of significance were identified.

.2 Replacement of 'C' Service Water (SW) Pump Parts Following Vibration Level Increase

a. Inspection Scope

The inspectors observed post-maintenance testing activities conducted in accordance with WOs 0203115 and 0202837 and Inservice Test IT 07C, “P-32C Service Water Pump (Quarterly),” Revision 10, following replacement of the 'C' SW pump wearing rings, column bolting, spider bearings, shafts, and packing glands to verify that the tests were adequate for the scope of the maintenance work which had been performed and that the testing acceptance criteria were clear and demonstrated operational readiness consistent with design and licensing basis documents. The inspectors observed portions of the pump replacement activities and reviewed completed maintenance and test records to verify that foreign material exclusion controls were properly applied; inservice leak tests were properly performed; pump and motor vibrations following reassembly were at acceptable levels; motor power supply lugs and cables were properly reattached and assembled; the motor had acceptable electrical performance characteristics; and shaft runout and bearing clearances following reassembly were within acceptable limits. The inspectors also reviewed the safety evaluation screening used to re-baseline the SW pump performance characteristics to verify that all design basis and American Society of Mechanical Engineers Code requirements were satisfied for the new pump assembly. Finally, the inspectors reviewed AR 2327, “Motor Purchase Without Recommended Accessory,” which discussed a stabilizer bushing sold by the motor vendor that was not installed during 'C' SW pump modifications activities.

b. Findings

No findings of significance were identified.

.3 EDG G-01 Post-Maintenance Testing Following Limited Maintenance Window

a. Inspection Scope

The inspectors reviewed design basis requirements and observed post-maintenance testing performed in accordance with Technical Specification Test (TS) 81, “Emergency Diesel Generator G-01 Monthly,” Revision 62, to verify operability of the Unit 1 'A' train EDG following a limited maintenance window which had deferred selected vendor recommended inspections while replacing engine oil filters. Completed surveillance test documentation was reviewed to verify that the EDG satisfied all required acceptance criteria and remained capable of performing the intended safety functions. The inspectors also reviewed selected safety evaluations to verify that the delayed maintenance did not increase the probability of occurrence of a malfunction of equipment important to safety that was described in the current licencing basis. Finally, the inspectors verified that the deferred maintenance inspections had been entered into the licensee's work planning program and scheduled for completion within 90 days of the original inspection date.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

.1 Installing a Stabilizer Bushing for SW Pump P-32C-M

a. Inspection Scope

The inspectors reviewed Temporary Modification TM 02-006, “Steady Bushing for P-32C-M,” to verify that the modification was properly installed, had no effect on the operability of the safety-related equipment, and adequately reduced vibration levels. The inspectors observed SW pump testing and associated vibration measurements after the installation of the temporary modification to ensure that the pump was capable of performing its intended safety function.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification (71151)

Cornerstones: Initiating Events, Mitigating Systems

.1 RHR System Unavailability PI

a. Inspection Scope

The inspectors reviewed portions of the Units 1 and 2 1999, 2000, and 2001 data for the RHR System Unavailability PIs using the definitions and guidance contained in Nuclear Energy Institute 99-02, “Regulatory Assessment Indicator Guideline,” Revision 2.

The inspectors reviewed station log entries, Licensee Event Reports, selected inservice text procedures, and system engineer data sheets to verify that planned and unplanned unavailability hours were characterized correctly in determining PI results. The inspectors also performed independent calculations to verify PI data.

b. Findings

No findings of significance were identified.

.2 Unplanned Power Changes Per 7,000 Critical Hours PI

a. Inspection Scope

The inspectors reviewed Units 1 and 2 2001 data for the Unplanned Power Changes per 7,000 Critical Hours PI using the definitions and guidance contained in Nuclear Energy Institute 99-02, “Regulatory Assessment Indicator Guideline,” Revision 2.

The inspectors reviewed station log entries, Licensee Event Reports, and licensee quarterly data tracking sheets for unplanned power changes greater than 20 percent of full power to verify that all power changes were properly characterized as planned or unplanned in determining the PI results. The inspectors also performed independent calculations to verify PI data.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

.1 2P-15B SI Pump Failure Due to Gas Binding During Monthly Lubrication Run

a. Inspection Scope

The inspectors reviewed the corrective action and operating experience program history surrounding the self-revealing failure of the 2P-15B Unit 2 SI pump due to gas binding on February 20, 2002. Specifically, the inspectors reviewed the corrective action and operating experience history provided by the licensee in Root Cause Evaluation 000044, “Unit 2 Safety Injection Pump ‘Damaged’ During Routine Preventative Maintenance,” to determine the causes of the 2P-15B failure. A description of the circumstances and operability considerations associated with the safety injection pump failure are provided in Section 1R15.1 of this report.

b. Findings

The licensee initiated a root cause evaluation team on February 23, 2002, to identify why the safety injection pump failure had occurred and to determine corrective actions to prevent reoccurrence. The licensee's evaluation identified that plant staff had not properly responded to adverse SI accumulator trends that increased the potential for gas binding of the SI pumps. The licensee also concluded that the operating experience program had not been effective in ensuring timely implementation of corrective actions from previous lessons learned.

The inspectors reviewed the corrective action and operating experience history collected by the root cause evaluation team and noted at least two specific opportunities for the licensee to have identified the Unit 2, 'A' accumulator, 2T-34, adverse leakage trend prior to the 2P-15B SI pump failure.

- Action Request 1862, “Excessive Leakage of 2T-34A SI Accumulator,” was initiated on January 15, 2002, by a licensed reactor operator who identified an adverse trend in the rate of decrease of the Unit 2 'A' accumulator level. The operator recommended further evaluation to pinpoint a leakage path since his analysis efforts had been inconclusive. He attached a graph of the accumulator level history to the AR which showed a marked increase in the accumulator leakage rate following performance of the last quarterly 2P-15B TS surveillance test on December 29, 2001. Prior to December 29, accumulator level had been decreasing at a rate of approximately 1 percent per day. However, following the quarterly surveillance test and fill of the accumulator on December 29, the average rate was 4 to 5 percent per day.

  Action Request 1862 was reviewed by plant management on January 16, 2002, and closed, with no further action, to an open WO to investigate leakage through the accumulator fill valve.

- Condition Report 01-0454, “Unit 2 'A' Safety Injection SI Accumulator Level,” was initiated on February 12, 2001, by a different licensed reactor operator who identified that the Unit 2 'A' accumulator level was lowering slowly, requiring refilling numerous times per OI-100, “Adjusting SI Accumulator Level and Pressure.” Work Order 9935625 was initiated to determine whether the accumulator drain valve, 2SI-844A, or the accumulator fill valve, 2SI-835A, was leaking. Results of WO 9935625 were inconclusive and CR 01-0454 was closed to WOs 9939167 and 9939168 to correct the drain and fill valve seat leakage during the next refueling outage. In closing CR 01-054, the system engineer noted that either both the drain and fill valves were leaking or another drain path existed. At the time of the 2P-15B SI pump failure, the WOs to repair the accumulator fill and drain valves had not yet been completed and remained open.

Several other Unit 1 and 2 corrective program opportunities had existed to cause the licensee to question accumulator leakage paths and the consequences of continued leakage on SI pump operability. Condition Reports 97-1044, “Unit 1 SI Accumulator Stop Valves Leak By”; CR 96-0908, “Unit 1 SI Accumulator Level Loss”; CR 98-0171, “2SI-843B SI Accumulator First Off Isolation Valve Leaking”; and CR 99-2717 identified various combinations of leaking accumulator drain, local sample isolation, and fill valves. Each CR was closed to a WO which repaired the leaking valves. Other corrective action program opportunities that had existed and should have caused the licensee to more thoroughly question potential accumulator leakage paths and the Unit 1 and 2 leakage consequences included;

- Condition Report 96-1789, “SI Accumulator (1T-34A) Level Decreasing,” was initiated on December 17, 1996, and identified that the Unit 1 SI accumulator had been decreasing about 1 percent per day. The CR was closed to WO 94893 which, at the end of this inspection period, had not been traced to closure in the licensee’s work planning system.

- Condition Report 97-3942, “Unit 1 'A' SI Accumulator Lost 86.6 Gallons of Borated Water,” was initiated on December 1, 1997, and identified that the

leakage, following evaluation, was believed to be going through fill valve, 1SI-835A. The CR was closed to WO 9714938 which identified that the accumulator continued to leak even when the drain valve, 1SI-844A, was isolated. The CR indicated that because of the leakage investigation done, and other actions in place under CR 97-3932, the only additional action needed was the creation of a new item for engineering personnel to evaluate if the noted rate of level increase in the reactor coolant drain tank was acceptable. This action item had not been created when the CR was closed.

- Condition Report 98-1004, "SI Accumulator Level Decrease," was initiated on March 11, 1998, and identified that the Unit 2 'A' accumulator was decreasing by approximately 3 percent per day. The initial recommendation was to close this CR to an open WO written to repair seat leakage on the 2T-34A accumulator outlet valve, 2SI-841A. At the request of the system engineer, however, the CR was re-opened to evaluate and track the issue of dissolved nitrogen coming out of solution once it had leaked by the accumulator isolation valve. Condition Report 98-1004 contained a September 1999 cross-reference to OE at another commercial pressurized water reactor which discussed gas binding of high-head SI pumps via back-leakage through check valves that isolate the RCS from the SI and RHR systems.

In addition, several industry OE opportunities had existed to alert the licensee to examine SI accumulator leakage paths and the potential SI pump operability consequences. Operating experience opportunities included:

- Information Notice (IN) 97-040, "Potential Nitrogen Accumulation Resulting From Back-Leakage From Safety Injection Tanks," was evaluated by the license in September 1997. As a result of the review, Operating Procedure OP-1A, "Cold Shutdown to Hot Shutdown," was revised to require venting of the high point of the accumulator discharge lines prior to startups.

- Information Notice 88-023, "Potential for Gas Binding of High-Pressure Safety Injection Pumps During a Loss-of-Coolant-Accident," Supplements 1 through 4, were evaluated between January 1989 and May 1993. These supplements focused on gas binding of the high head SI pump suction due to back-leakage from the RCS and RHR systems.

- Information Notice 88-023, "Potential for Gas Binding of High-Pressure Safety Injection Pumps During a Loss-of-Coolant-Accident," Supplement 5, and licensee OE document 9876, "4B HHSI [High-Head Safety Injection] Pump Gas Binding," were evaluated by the licensee in June 1999. During the evaluation, the licensee concluded that previous OE responses on the gas binding subject were incomplete, not thorough, and too narrowly focused, and that the potential for nitrogen accumulation in the SI piping from check valve or multiple valve leakage paths had not been addressed. This conclusion resulted in the generation of a single action item under IN 88-023 for the performance of an in-depth re-evaluation of the gas binding phenomena, including re-evaluation of all prior documents on the gas binding issue. The inspectors noted that a CR

concerning the lack of rigor of the previous OE responses was not initiated during the processing of IN 88-023, Supplement 5.

The IN 88-023 action was created in September 1999, and assigned to an engineer for further evaluation and completion by January 2000. One due date extension was granted and the evaluation was competed during April 2000. In the evaluation, the engineer concluded that the SI system was susceptible to gas binding in the event of leakage from the SI accumulators through multiple check valves and/or motor-operated valves. In addition, the engineer concluded that, "Frequent filling of an accumulator can be evidence of check valve leakage," and "Small leakage over time can result in gas coming out of solution and voiding significant amounts of ECCS piping." The engineer recommended that another action item be created to address these concerns and listed specific areas to be addressed including:

- Addition of guidance to OI-100, "Adjusting SI Accumulator Level and Pressure," to check for ECCS piping voids when frequent accumulator filling was required

- Consideration of adding frequent venting of the ECCS piping upstream of the first- and second-off RCS check valves

Discussions between engineering and operations personnel concerning OI-100 procedure changes occurred between June 2000 and December 2001. At the beginning of December 2001, an action item was initiated to complete OI-100 revisions by March 8, 2002. The OI-100 revision had not been issued prior to the gas binding failure of 2P-15B on February 20, 2002.

In reviewing the corrective action program history of the in-depth re-evaluation of the gas binding phenomena for the single action item associated with IN 88-023, Supplement 5, the inspectors noted eight due date extensions encompassing 18 months (June 2000 to December 2001) before operations personnel agreed to the recommended OI-100 revisions and the revision date of March 8, 2002, was agreed upon. During the intervening 18 months, the inspectors noted deferral of OI-100 revisions for changes in system engineers, conflicts with a Unit 2 refueling outage, assignment of a new system engineer, further research on the feasibility of corrective actions, evaluation of the impact of improved TSs on the planned revision, and operations review of the recommended changes.

Pending further regulatory review, this issue will be carried under the URI opened in the 2002 Problem Identification and Resolution Inspection Report 50-266/02-03(DRP); 50-301/02-03(DRP) as URI 50-301/02-03-01.

4OA6 Meetings

Exit Meeting

The resident inspectors presented the routine inspection results to Mr. M. Warner and other members of licensee management at the conclusion of the inspection on April 5, 2002. The licensee acknowledged the findings presented. No proprietary information was identified.

Interim Exit Meeting

Senior Official at Exit:	N/A. Phone call with Ms. F. Flentje
Date:	January 23, 2002, via telephone
Proprietary (explain "yes")	No
Subject:	Results of an licensee investigation on failure to follow a work order.
Change to Inspection Findings:	No

4OA7 Licensee-Identified Violations

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

If you deny the NCV, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United Stated Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Point Beach facility.

NCV Tracking Number	Requirement Licensee Failed to Meet
NCV 50-266/02-05-01	10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," required, in part, that activities affecting quality be prescribed by documented instructions, procedures, or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, on March 27, 2001, electricians commenced work on the 125-VDC system without authorization from the Duty Shift Superintendent as required by Work Order 9928468. In addition, the workers went beyond the scope of the work order and performed work in an energized 125-VDC panel. These two issues, combined, constituted a violation of more than minor significance because the issues could be viewed as a precursor to a significant event. Since this finding did not result in a loss

of safety function, the inspector determined that, through the use of Significance Determination Process Phase 1 Screening Worksheet, the issues were of very low safety significance (Green). These two issues were described in the licensee's corrective actions program as Condition Reports 01-1073 and 01-1029. This is being treated as a Non-Cited Violation.

KEY POINTS OF CONTACT

Licensee
J. Anderson, Production Planning Group Manager
L. Armstrong, Design Engineering Manager
C. Arnone, Outage Manager
A. Cayia, Site Director
F. Flentje, Senior Regulatory Compliance Specialist
D. Gehrke, Nuclear Oversight Supervisor
N. Hoefert, Engineering Programs Manager
R. Hopkins, Nuclear Oversight Supervisor
V. Kaminskas, Maintenance Manager
C. Krause, Regulatory Compliance
R. Mende, Director of Engineering
D. Schoon, Operations Manager
R. Pulec, Site Assessment Manager
D. Shannon, Radiation Protection Supervisor
C. Sizemore, Training Supervisor
P. Smith, Operations Training Supervisor
J. Strharsky, Assistant Operations Manager
T. Taylor, Plant Manager
S. Thomas, Radiation Protection Manager
R. Turner, Inservice Inspection Coordinator
P. Walker, Training Manager
M. Warner, Site Vice-President
T. Webb, Licensing Manager

NRC
D. Spaulding, Point Beach Project Manager, NRR

ITEMS OPENED, CLOSED, AND DISCUSSED

Open

50-266/02-05-01	NCV	Failure to follow work order instructions for initiating work and performing work beyond the scope of authorization. (Section 4OA7)

Closed

50-266/02-05-01	NCV	Failure to follow work order instructions for initiating work and performing work beyond the scope of authorization. (Section 4OA7)

Discussed

50-301/02-03-01	URI	2P-15B Safety Injection Pump Failure During Monthly Preventative Maintenance Lubrication Activity (Section 1R15.1)

LIST OF ACRONYMS USED

AR	Action Request
CFR	Code of Federal Regulations
CL	Checklist
CR	Condition Report
CS	Containment Spray
DRP	Division of Reactor Projects
ECCS	Emergency Core Cooling System
EDG	Emergency Diesel Generator
FSAR	Final Safety Analysis Report
IN	Information Notice
IT	Inservice Test
LOCA	Loss-of-Coolant-Accident
NRC	Nuclear Regulatory Commission
OBD	Operability Determination
OE	Operating Experience
OI	Operating Instruction
OP	Operating Procedure
OWA	Operator Workaround
PI	Performance Indicator
QA	Quality Assurance
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SI	Safety Injection
SW	Service Water
TDAFW	Turbine-Driven Auxiliary Feedwater
TS	Technical Specification
URI	Unresolved Item
VDC	Volts Direct Current
WO	Work Order

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignment

Periodic Checks 43 Part 2	Switch and Breaker Alignment Checks	Revision 32
0-TS-EP-001	Weekly Power Availability Verification	Revision 2
Safety Evaluation SCR 2002-0090	Revision of TS-EP-001 and PBF-2035 To Incorporate Revised Bus Voltage Limits	March 8, 2002
FSAR 8.6.3	120 VAC [Volts Alternating Current] Instrument Power (Y)	June 2001
AR 2652	PC-43 Part 2	March 22, 2002
Master Data Book (MDB) 3.2.12	D-31, DC [Direct Current] Distribution	Revision 10
MDB 3.2.12	D-41, DC Distribution	Revision 9
Point Beach Drawing E-94 Sheet 140	Connection Diagram Instrument Rack C207	Revision D
Point Beach Drawing PBE-174	Internal Wiring Diagram Local Instrument Rack C207	Revision E
Nuclear Work Order (WO) 924198	P-29 AFP [Auxiliary Feedwater Pump] Recirc Control Solenoid	September 11, 1992
Task Sheet 0009750	Unit 2 Aux Feedwater System Check Valves/Flow Indicator	October 1, 1993
Tag Series 2AF-4002 IC Rev1-2	2P-29 AFP [Auxiliary Feedwater Pump] Mini Recirc Control	March 25, 2002
WO 0200356	2P-29 AFP Mini Recirc Control, Add Backup Air to AF-4002	February 28, 2002
Plant Modification/Minor Change 02-001	TDAFP [Turbine-Driven Auxiliary Feedwater Pump] Mini Recirc Valve (1/2AF-4002) Instrument Air Accumulator Addition	January 2, 2002
Procedure Feedback Request	PC-43 Part 2, Switch and Breaker Alignment Checks	March 22, 2002
Operating Procedure (OP) 11A G-01	Emergency Diesel Generator G-01	Revision 3
OP 11A G-02	Emergency Diesel Generator G-02	Revision 4
Checklist (CL) 13E Part 1	Auxiliary Feedwater Valve Lineup Turbine-Driven Unit 2	Revision 14

Temporary Change 2002-0127	Auxiliary Feedwater Valve Lineup Turbine-Driven Unit 2	March 11, 2002
Safety Evaluation SCR 2002-0010	Backup Air Systems for Auxiliary Feedwater Pump Minimum Flow Recirculation Valves	January 25, 2002
Point Beach Drawing Bech 6118 M-217	P&ID Auxiliary Feedwater System - Sheet 1	Revision E
Point Beach Drawing Bech 6118 M-217	P&ID Auxiliary Feedwater System - Sheet 2	Revision E

1R05 Fire Protection

Fire Hazards Analysis Report	Fire Area A29, Fire Zone 310, Air Compressor Room	August 17, 2001
Fire Hazards Analysis Report	Fire Area A01-E, Fire Zone 246, Electrical Equipment Room - Unit 2	August 17, 2001
Fire Hazards Analysis Report	Fire Area A26, Fire Zone 307. Battery Room D-05	August 17, 2001

1R11 Licensed Operator Qualifications

Simulator Guide 0065	Shutdown Malfunctions #1	Revision 1
Shutdown Emergency Procedure (SEP) 2	Shutdown LOCA Analysis - Unit 2	Revision 2
SEP 2.2	Shutdown LOCA [Loss of Coolant Accident] With RHR [Residual Heat Removal] Aligned For Decay Heat Removal - Unit 2	Revision 7

1R12 Maintenance Rule Implementation

MTN Rule Coord File T7.2.6	2000 480 VAC Electrical - Maintenance Rule Performance Criteria/Goals	March 26, 2001
	480 VAC Performance Criteria Assessments Since January, 2001	January, 2002
	Maintenance Rule Function List for 480 VAC Electrical	March, 2001
Design Basis Document DBD-21	480 VAC System Design Basis Document	Revision 1
Health Physics Implementing Procedure 4.56	Testing Supplied Air For Air-Line Respiratory Equipment	Revision 15

	Air Compressor Out-of-Service Times - August 1999 to February 2002	
WO 9934911	Document Maintenance Rule System Performance Compared to Performance Criteria in MRLIN	January 28, 2002
	Instrument Air Performance Criteria Assessments since January, 2001	
	Work Orders for Instrument Air Initiated or Completed Between 1/1/200 and 3/7/2002	
NPM 2001-0251	2000 Annual Report for the Maintenance Rule	March 26, 2001

1R14 Personnel Performance During Non-Routine Plant Evolutions

OP 3A	Power Operation to Hot Standby	Revision 58
OP 3B	Reactor Shutdown	Revision 33
OP 3C	Hot Standby to Cold Shutdown	Revision 86
AR 2284	Unit 2 Shutdown To Mode 4 Almost Causes a UE [Unusual Event] Entry	February 23, 2002
AR 2285	2RE-109 Went Into Hi Alarm Tonight	February 23, 2002
AR 2287	2Re-109 High Alarm Due To Crud Burst During Unit 2 Shutdown for 2P-15B SI Pump Repairs	February 23, 2002
AR 2289	AOP 8A, High Coolant Activity, Is Unclear On When To Restore Normal PAB [Primary Auxiliary Building] Access	February 23, 2002
AR 2290	Unexpected Alarm On Radiation Monitor RE-109	February 23, 2002
A2323	U2 N32 Source Range Detector Failure With Less Than One Cycle of Operations	February 26, 2002
AR 2448	Unusual Event Declared on 3-4-02: Lack of Plant Guidance	March 7, 2002
NPM 2002-0116	Point Beach Nuclear Plant Emergency Preparedness Response to March 4, 2002 - Unusual Event, Toxic/Flammable Gas Intrusion	March 7, 2002

1R15 Operability Evaluations

OBD 000011	Gas Binding of SI [Safety Injection] Pumps	February 24, 2002
OBD 00005	2P-15B SI Pump Failed to Meet Differential Pressure Acceptance Criteria	February 24, 2002
Design Basis Document DBD 11	SI and CS [Containment Spray] System	Revision 0
Phase 2 Significance Determination Process Worksheets	Risk-Informed Inspection Notebook for Point Beach Nuclear Plant, Units 1 and 2, Prepared by Brookhaven National Laboratory	November 29, 2000
OI-100	Adjusting SI Accumulator Level and Pressure	Revision 16
OI-163	SI, RHR [Residual Heat Removal], and CS Pump Runs	Revision 1
Inservice Test (IT) IT 02	High Head SI Pumps and Valves (Quarterly) Unit 2	Revision 48
Drawing PB 02 MSIL 000 001 45	P&ID Safety Injection System Unit 2	Revision E
Drawing PB 02 MSIL 133 002 10	SI Pump Discharge to Injection Unit 2 SI-150IR-1 and SI-1501R-3	Revision E
PB Drawing 02 MSIL 133 003 10	SI Pump Discharge to Injection Line Unit 2 SI-150IR-1 and SI-1501R-2	Revision E
Drawing PB 02 MRDL 183 001 14	Suction From RWST to SI, CS, RHR Pumps Unit 2	Revision E
Drawing PB 02 MRHL 183 001 06	SI RHR System to Reactor Vessel Unit 2 6SI-601R-2	Revision E
Drawing PB 02 MSIL 183 054 00	2" SI Piping in Containment Unit 2 - Sheet 1	Revision E
Drawing PB 02 MSIL 183 055 01	2" SI Piping in Containment Unit 2 - Sheet 2	Revision E
Drawing PB 02 MSIL 183 056 00	2" SI Piping in Containment Unit 2 - Sheet 3	Revision E
Drawing PB 02 MSIK 000 001 48	P&ID Safety Injection System Unit 2	Revision E
Drawing PB 02 MSIK 000 001 49	P&ID Safety Injection System, Unit 2	Revision E

Drawing PB 02 MSIK 000 002 43	P&ID Safety Injection System, Unit 2	Revision E
Drawing PB 01 MESK 000 002 49	P&ID Safety Injection System, Unit 1	Revision E
Drawing PB 01 MSIK 000 001 55	P&ID Safety Injection System, Unit 1	Revision E
Drawing PB 01 MSIK 00012 45	P&ID Safety Injection System, Unit 1	Revision E
OPR 000007	QA Classification of Replacement Ammeter and Voltmeter for Safety-Related Battery Charger	March 7, 2002
FSAR Section 8.7	125 VDC Electrical Distribution System (125V)	June 2001

1R16 Operator Workarounds

Monthly Operator Work Around Meeting Minutes	October 2001 to March 2002	
Operator Work Around Summary	Summary List	March 25, 2002
FSAR 14.2.4	Steam Generator Tube Rupture	June 2001
OWA 0-00C-002 RMS	1 and 2 RE-215 Trends Up With Increasing Turbine Hall Temperatures	March 25, 2002

1R19 Post-Maintenance Testing

Point Beach Test Procedure 110	EDG G-02 Test	Revision 0
Technical Specification Test (TS)-82	Emergency Diesel Generator G-02 Monthly	Revision 62
CAP002391	G01 EDG Amber Light Lit When G02 EDG Stopped Running	March 5, 2002
Design Basis Document DBD-16	Emergency Diesel Generator System	Revision 0
AR 2403	G-02 Intra-Pole Connecting Strap Installed Improperly	March 5, 2002
IT 07C	P-32C Service Water Pump (Quarterly)	Revision 10

Safety Screening SCR 2002-0089	0P-32C Rebaselining	March 7, 2002
Procedure Change Request Form	Modification of IT-7C Attachment 'A' Flow Rate Acceptance Criteria Upper Limit From 4790 to 5098 Gallons Per Minute	March 8, 2002
WO 0203115	Dissassemble/Inspect/Rebuild Pump Assembly Being Removed and Reinstalled Under Work Order 0202837	
WO 0202837	Dissassemble Pump and Inspect and Replace Parts as Per RMP [Routine Maintenance Procedure] 9216-1, 2, 3	
RMP 9216-1	Service Water Pump Motor Removal and Installation	Revision 3
RMP 9612-2	Service Water Pump Motor Removal, Installation and Maintenance	Revision 3
RMP 9612-3	Service Water Pump Vibration Testing and Balancing for Post Maintenance Testing	Revision 5
ASME Code Repair/Replacement/ Modification Form 2002-0018	Replace Bolting at Column-to-Column Flanges for P-32C Service Water Pump	March 6, 2002
AR 2326	P32C OOS Due to High Vibrations	February 27, 2002
AR 2327	Motor Purchase Without Recommended Accessary	February 27, 2002
AR 2291	EM [Electrical Maintenance] Workplan Had Incorrect Data For G-02 Rotor Resistance Equation	February 24, 2002
TS 81	Emergency Diesel Generator G-01 Monthly	Revision 62
Safety Evaluation 2001-0056	TRM [Technical Requirements Manual] Section 3.8.3, Standby Emergency Power Source Inspection	October 8, 2001
Safety Evaluation Screening	Deferral of G-01 Maintenance Inspection Up To Three Months Beyond EMD [Electro-Motive Diesel] Owner's Group Recommended Maintenance Period	February 27, 2002

Preventative Maintenance Work Order Deferral Request	G-01 Emergency Diesel Generator - Two Year Maintenance	March 12, 2002
Surveillance Work Order Interval Extension Request	G-01 Emergency Diesel Generator - Two Year Maintenance	March 12, 2002

1R23 Temporary Plant Modifications

TM 02-006	Steady Bushing for P-32C-M	February 27, 2002
CAP002326	P32C OOS due to High Vibrations	February 27, 2002
CAP002327	Motor Purchase Without Recommended Accessory	February 27, 2002
NP 7.3.1	Temporary Modifications	Revision 12

4AO1 Performance Indicator Verification

NEI 99-02	Regulatory Assessment Performance Indicator Guideline	Revision 2
Point Beach Form 1650	Mitigating System Cornerstone Monthly Unavailability and Verification, LHSI [Low Head Safety Injection], January to December 2001	Revision 0
IT-03	Low Head Safety Injection Pumps and Valves (Quarterly) Unit 1	Revision 43
IT-40	Safety Injection Valves (Quarterly) Unit 1	Revision43
IT-45	Safety Injection Valves (Quarterly) Unit 2	Revision 43
Spreadsheet	Point Beach Units 1 and 2, Initiating Events Cornerstone Quarterly Tracking Sheet, 1Q99 to 4Q01	

4OA2 Problem Identification and Resolution

Root Cause Evaluation 000044	U2 [Unit 2] Safety Injection Pump “Damaged” During Routine Preventative Maintenance	April 2002
Operating Instruction (OI) OI-100	Adjusting SI Accumulator Level and Pressure	Revision 16
NRC Information Notice 88-23	Potential for Gas Binding of High Pressure SI Pumps During a Loss-Of-Coolant Accident	Supplement 5 April 23, 1999

NRC Information Notice 97-40	Potential Nitrogen Accumulation Resulting from Backleakage from SI Tanks	June 26, 1997
CR 01-0454	Unit 2 ‘A’ SI Accumulator Level	February 12, 2001
AR 2245	2P-15B SI Pump Fails During OI-163 Performance	February 20, 2002
AR 2262	Concerns About Gas Binding of SI Pumps and System Leakage	February 21, 2002
AR 2264	Untimely Implementation of Recommendations from Information Notice 88-23, Supplement 5	February 21, 2002
AR 2292	2P-15B SI Pump Failed IT-02	February 24, 2002
AR 2294	Unit 1 and 2 SI Accumulators Require Frequent Filling Due to Check Valve L	February 24, 2002
AR 2295	SI Pumps and Piping Require Frequent Venting	February 24, 2002
AR 2296	Valves Found Mis-Positioned in Unit 2 Containment	February 25, 2002
AR 2299	Missed Opportunity to Use OE on Safety Inject Pump	February 25, 2002
AR 2325	Venting of CS Pump Suction	February 26, 2002
AR 2432	Non-QA Parts Used in SR [Safety-Related] Equipment, D-107 Delayed	March 6, 2002