

# Point Beach 2

## 1Q/2009 Plant Inspection Findings

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### Initiating Events

**Significance:**  Mar 27, 2009

Identified By: NRC

Item Type: FIN Finding

#### **Failure To Adequately Control High Winds/Tornado Hazards**

A finding of very low safety significance was identified by the inspectors for the licensee's failure to maintain control over the proper storage and placement of materials, within the risk significant areas of the outdoors protected area, that were classified as high winds/tornado hazards in accordance with station procedures PC 99, "Tornado Hazards Inspection Checklist," and NP 1.9.6, "Plant Cleanliness and Storage." Specifically, these unsecured items were identified near the Unit 1 and Unit 2 main transformer lines, auxiliary transformers, and the G 03/G 04 emergency diesel generator building. Once notified, the licensee removed or secured the materials appropriately and entered the issue into its corrective action program. At the end of the inspection period, the licensee continued to perform a root cause evaluation and develop long-term corrective actions.

The finding was determined to be more than minor because if left uncorrected, the loose items would become a more significant safety concern. The inspectors evaluated the finding using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," dated January 10, 2008. The finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. Additionally, the inspectors determined that the finding had a cross-cutting aspect in the area of human performance, work practices component, because the licensee failed to ensure adequate supervisory and management oversight of the implementation and follow through of the corrective actions from previous related issues (H.4(c)).

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Inspection Procedure for Containment Polar Crane Structures**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self revealed for the failure to have inspection procedures appropriate to the circumstances for the Unit 1 and Unit 2 containment polar cranes and their integral support structures. Specifically, station routine maintenance procedure 1(2) RMP 9118 1(2), "Containment Building Crane OSHA Operability Inspections," did not require that the polar crane lateral restraint bolts be inspected to ensure that they do not show signs of degradation or movement, e.g., flaking paint or being backed out of position. As a result, improperly installed bolts went undiscovered by the licensee until a failed bolt was found on October 16, 2008, lying on the containment floor. The discovery prompted further inspection of the entire crane support structure and led to the de rating of the polar crane's lifting capacity from 100 tons to 40 tons. In addition to conducting an extent-of-condition inspection, the licensee entered the issue into its corrective action program (CAP), replaced all degraded bolts, and performed an apparent cause evaluation.

The finding was determined to be more than minor because the finding was associated with the Initiating Events Cornerstone attribute of equipment performance and affected the cornerstone objective of limiting the likelihood of those events that challenge critical safety functions during shutdown. Specifically, failing to visually inspect critical bolting locations on crane supports could have allowed the use of the polar crane for heavy load lifts while in a degraded condition, increasing the likelihood of a load drop. The inspectors determined that the finding could be evaluated in accordance with Inspection Manual Chapter 0609, Appendix G, "Shutdown Operations SDP

[Significance Determination Process],” dated February 28, 2005. The issue did not need a quantitative assessment and screened as Green using Figure 1. This finding has a cross-cutting aspect in the area of human performance, resources, for the failure to have complete and accurate procedures in place. Specifically, the vague and insufficient detail in the crane inspection procedures contributed to the licensee’s failure to perform an adequate inspection to identify degraded components prior to their failure [H.2(c)].

Inspection Report# : [2008005](#) (pdf)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

### **Failure to Properly Store or Secure Tornado Missile Hazards in the Protected Area**

The inspectors identified a finding of very low safety significance (Green) with no associated violation of regulatory requirements for the licensee’s failure to maintain control over the proper storage and placement of materials within the protected area that were classified as tornado hazards per station Procedure PC 99. Specifically, these unsecured items were identified near the Unit 1 and Unit 2 main and auxiliary transformers, as well as the switchyard boundary. Once notified, the licensee entered the issue into its corrective action program and removed or secured the materials appropriately. At the end of the inspection period, the licensee continued to perform a causal evaluation and develop additional long term corrective actions.

The finding is more than minor because if left uncorrected, the loose items would become a more significant safety concern. The finding is of very low safety significance (Green) because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available. Additionally, the inspectors determined that the finding had a cross-cutting aspect in the area of problem identification and resolution in that the licensee failed to take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance [P.1(d)].

Inspection Report# : [2008003](#) (pdf)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

### **Failure to Implement Appropriate Design and Configuration Control for the Unit Polar Crane**

A self-revealed finding of very low significance (Green) with no associated violation of regulatory requirements was identified for the failure to implement appropriate design and configuration control for the Unit 2 polar crane upgrade project, which resulted in issues associated with reliable operation of the polar crane during the first reactor vessel head lift. Specifically, a lack of configuration control on the crane radio system resulted in a loss of radio communications during the initial reactor vessel head lift over the reactor vessel head stand, which resulted in unreliable crane operation. The licensee implemented remedial corrective actions to address the design issues with the polar crane bridge drive motors which resulted in unavailability at the beginning of the outage and ensured the radio receivers were appropriately configured and installed. The licensee performed a root cause analysis to determine the cause of the design and configuration control issues associated with the polar crane and developed additional corrective actions to address this performance deficiency.

The finding is more than minor because it is associated with the design control attribute of the Initiating Events Cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The finding is of very low safety significance (Green) because the finding did not meet the criteria for a Phase 2 or Phase 3 Analysis, as specified in Inspection Manual Chapter 0609 Appendix G, Attachment 1, Checklist 1, “Pressurized Water Reactor Hot Shutdown Operation: Time to Core Boiling < 2 Hours.” The inspectors did not identify a cross-cutting aspect associated with this finding.

Inspection Report# : [2008003](#) (pdf)

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# Mitigating Systems

**Significance:**  Mar 31, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

## **Inadequate Design Of Diesel Fuel Oil Tank Vent For Tornado Protection**

The inspectors identified a finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to fully incorporate applicable tornado missile protection design requirements into the design of the 'A' train diesel fuel oil storage and transfer system. Specifically, the T-175A underground fuel oil storage tank vent line was found not capable of withstanding the effects of a design basis tornado missile strike without resulting in the subsequent loss of capability of the G 01 and G 02 emergency diesel generators to perform their safety functions. The licensee performed a prompt operability determination, concluded that the system was operable but non conforming, and put in place compensatory measures until the design deficiency had been resolved.

The finding was determined to be more than minor in accordance with Inspection Manual Chapter 0612, Appendix B, "Issue Screening," dated December 4, 2008, because the finding was associated with the Mitigating Systems Cornerstone attribute of Design Control and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, closure of the T 175A vent path would adversely affect the availability, reliability, and capability of the G 01 and G 02 emergency diesel generators to perform their safety-related functions. The inspectors determined the finding could be evaluated using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone, dated January 10, 2008. The finding was determined to be of very low safety significance (Green) because the finding was a design deficiency confirmed not to result in loss of operability. The inspectors did not identify a cross-cutting aspect associated with this finding as the performance deficiency occurred in the 1990s and was not indicative of current performance.

Inspection Report# : [2009002](#) (*pdf*)

**Significance:**  Mar 27, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

## **Failure To Adequately Input Mechanism Operated Control Switch Failure Evaluations and Recommendations Into Maintenance Procedures**

A finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to have appropriate maintenance procedures for Mechanism Operated Cell (MOC) switches. Specifically, the licensee failed to have steps in the MOC switch preventative maintenance procedures for specific inspection and verification actions at the frequency, and with actions, recommended by causal evaluations and the vendor. The licensee entered this issue into the corrective action program and was evaluating corrective actions.

The finding was determined to be more than minor because if left uncorrected the issue would lead to a more significant safety concern. Specifically, the failure to identify degraded hardware on a MOC switch could lead to the failure of associated safety related equipment and alarms. The issue was of very low safety significance based on a Phase 1 screening in accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," dated January 10, 2008. This finding has a cross-cutting aspect in the area of problem identification, corrective action program component, because the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of condition as necessary (P.1(c)).

Inspection Report# : [2009006](#) (*pdf*)

**Significance:**  Mar 27, 2009

Identified By: NRC

Item Type: NCV NonCited Violation

### **Inverter Maintenance Procedures Did Not Include Steps For Capacitor Replacement**

. A finding of very low safety significance (Green) and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to have appropriate maintenance procedures and work instructions in place for certain safety-related inverters.

Specifically, the licensee failed to have steps in the routine maintenance procedure (RMP) 9036 series maintenance procedures for periodic replacement of the electrolytic capacitors in the SCI-model inverters as recommended by the vendor. The licensee entered this issue into the corrective action program, scheduled replacement of the capacitors, and was further evaluating the vendor recommendation.

The finding was more than minor because, if left uncorrected, the finding would become a more safety significant concern. Not replacing the electrolytic capacitors in the SCI inverters based on the vendor recommended life could result in the failure of the inverter to perform their safety function and respond to initiating events. The issue was of very low safety significance based on a Phase 1 screening in accordance with Inspection Manual Chapter 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," dated January 10, 2008. This finding had a cross-cutting aspect in the area of problem identification and resolution, corrective action program component, because the licensee failed to implement and institutionalize operating experience, including vendor recommendations, through changes to station procedures (P.2(b)).

Inspection Report# : [2009006](#) (*pdf*)

**Significance: TBD** Mar 09, 2009

Identified By: NRC

Item Type: AV Apparent Violation

### **Failure to Notify the NRC of a Permanent Illness or Disability of a Licensed Operator.**

Prior to becoming a licensed reactor operator (RO) in 1999, a non-licensed operator notified the station's medical staff that he began taking a prescribed medication for a potentially disqualifying medical condition in 1993. The NRC was not notified of the senior reactor operator's (SRO's) potentially disqualifying medical condition until October 20, 2008. Title 10 CFR 50.74(c), "Notification of Change in Operator or Senior Operator Status," requires the licensee to notify the NRC within 30 days of the licensee being informed of a permanent change in a licensed operator's medical condition. The licensee should have notified the NRC of the operator's potentially disqualifying medical condition when the operator applied for an NRC operating license in 1999. The time period between May 1999 and November 2008 exceeded the 30-day notification requirement. The licensee conducted a review of all licensed operator medical records to determine the extent of condition and initiated other compensatory measures to prevent recurrence of this condition.

Because the issue affected the NRC's ability to perform its regulatory function it was evaluated using the traditional enforcement process. The finding was determined to be of low safety significance because the SRO was taking the medications as prescribed and had not made any operational errors during any emergency condition. The regulatory significance was important because plant staff failed to notify the NRC of a permanent disability or illness of an SRO within 30 days. This was preliminarily determined to be an apparent violation of 10 CFR 50.74(c). The cause of the apparent violation is related to the cross-cutting element of problem identification and resolution in the area of operating experience (P.2(b)).

Inspection Report# : [2009008](#) (*pdf*)

**Significance: TBD** Mar 09, 2009

Identified By: NRC

Item Type: AV Apparent Violation

### **Failure to Provide Complete Information to the NRC which Impacted a Licensing Decision.**

Every six years an operator's NRC operating license must be renewed. When the licensee submits the request for license renewal, the licensee must certify to the NRC that the operator is medically capable of performing license duties. This is done by completing an NRC Form 396, "Certification of Medical Examination by Facility Licensee." When signed by senior station management, the NRC Form 396 certifies that an operator is able to perform operator duties. The form contains several standard license conditions that restrict operator activities to ensure their ability to perform license duties. In this senior reactor operator's (SRO's) case, the licensee certified to the NRC in a letter dated January 23, 2008, that the operator was capable of performing license duties with no restrictions. The licensee

provided incomplete and inaccurate information on the accompanying NRC Form 396 in that the licensee failed to inform the NRC that the SRO was taking medication for a potentially disqualifying medical condition so the NRC could properly restrict the SRO's operating license to have a "Must Take Medication as Prescribed to Maintain Qualifications" license restriction.

Because the issue affected the NRC's ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The finding was determined to be of low safety significance because the SRO had taken medications as prescribed and had not made errors during any emergency condition prior to the license being amended. However, the regulatory significance was important because the incomplete and inaccurate information was provided under a signed statement to the NRC and impacted a licensing decision for the SRO. This was preliminarily determined to be an apparent violation of 10 CFR 50.9, "Completeness and Accuracy of Information." The cause of the apparent violation is related to the cross-cutting element of problem identification and resolution in the area of operating experience (P.2(b)).

Inspection Report# : [2009008](#) (*pdf*)

**Significance:**  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Have Adequate Maintenance Procedures for Service Water Pump Replacements**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for the failure to properly rig and install the P-32E service water pump shaft on June 7, 2006. The bent pump shaft subsequently led to high pump vibrations and pump inoperability in excess of Technical Specification Action Condition completion time in February 2008. Specifically, the licensee determined that Routine Maintenance Procedure (RMP), RMP 9216-2, "Service Water Pump Removal, Installation, and Maintenance," lacked adequate installation and rigging instructions to ensure excessive force was not applied to the shaft during installation. As part of its corrective actions, the licensee revised the RMP to include proper installation and rigging instructions.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of equipment performance, 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 determined the finding could be evaluated using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Tables 3b and 4a for the Mitigating Systems Cornerstone. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, there was no actual loss of safety function, no single train loss of safety function for greater than the technical specification allowed outage time, and no risk due to external events. The inspectors also determined that the finding has a cross-cutting aspect in the area of human performance, resources component, because licensee procedures were not complete or adequate to ensure that the P-32E pump shaft was rigged and installed without damage to the shaft. [H.2(c)]

Inspection Report# : [2008004](#) (*pdf*)

**Significance:**  Jul 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Equalizing Charge Voltage Not Bounded by Battery Room Hydrogen Generation Calculation**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, Design Control, was identified by the team for the failure to ensure that the design limit established in a design basis calculation, used to determine safety-related batteries hydrogen generation rate, bounded the value used in a maintenance procedure for a safety related component. During the inspection, the licensee evaluated and determined that the effect of the higher hydrogen gas generation did not have an impact on the operability of the batteries and the ventilation system.

The finding was greater than minor because the lack of adequate design control process resulted in increase of hydrogen generation levels and in a reasonable doubt of operability of the 125-Volt direct current system. The finding was determined to be of very low significance, because it was a design deficiency that did not result in actual loss of safety function. This finding does not have a cross-cutting aspect because it is not indicative of current performance.

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Jul 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Non-Conservative Design Basis for Primary Auxiliary Building Heat-up**

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, Design Control, was identified by the team for the failure to verify the accuracy of design using alternative or simplified calculational methods or by the performance of a suitable testing program. Specifically, the licensee used non-conservative field test data as a basis for the design temperatures given in the equipment qualification (EQ) manual for components in the auxiliary building, resulting in specified design temperatures for some safety related components that may be as much as approximately 40 degrees Fahrenheit less than calculated worst case accident condition temperatures. The licensee re-evaluated the consequences of the higher temperatures and concluded the equipment remained operable.

The finding was determined to be more than minor because, if the EQ design temperatures were left uncorrected, this deficiency could lead to inadequately qualified replacement parts or inadequately designed plant modifications in the future. The finding was determined to be of very low significance because, by the end of the inspection, the licensee was able to show that all affected components were capable of performing their safety related functions under the higher than previously anticipated temperatures. The team did not identify a cross-cutting aspect associated with this finding.

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Jul 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Ability to Transfer Fuel Oil Between EDG Fuel Oil Tanks T-175A/B Has Not Been Demonstrated by Testing**

A finding of very low safety significance and associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, was identified by the team for the failure to test the components used for transfer of fuel oil between two underground storage tanks that support emergency diesel generator (EDG) operation. Specifically, the licensee has not demonstrated the transfer of fuel between tanks T-175A and T-175B as credited in the Technical Specification (TS) Basis and Updated Safety Analysis Report. The licensee entered this issue into its corrective action and prepared to test these components.

This finding was determined to be more than minor because the failure to verify the transfer capability affected the ability to ensure emergency power availability for greater than two days. This finding was screened as very low safety significance because it was a deficiency that did not result in the loss of safety function. This finding does not have a cross-cutting aspect because it was not indicative of current performance.

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Jul 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **RHR Pump Suction Pressure Gages Repeatedly Found To Be Out Of Tolerance**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XII, Control of Measuring and Test Equipment, was identified by the team for the failure to correct a known trend of out of tolerance (OOT) test pressure gauge which were used in a critical In Service Test (IST) Program performance test of the residual heat removal (RHR) pumps for Units 1 and 2. The licensee entered this issue into its

corrective action and confirmed operability of the RHR pumps.

The finding was determined to be more than minor because, if left uncorrected, it could become a more significant safety concern. Specifically, since the cause of the high frequency OOT conditions for these pressure gauges has not been identified, it could be assumed that this instrumentation could be out of tolerance in a non-conservative manner. The finding was determined to be of very low significance because the comprehensive IST performance test conducted during the 2008 refueling outage showed that the actual test results were within the acceptable band, thereby confirming that operability and functionality of the RHR pumps had not been lost. This finding has a cross-cutting aspect in the area of Human Performance, Resources because the licensee did not ensure adequate resources were available to minimize long-standing equipment issues (H.2(a)).

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Address Sprinkler Head Obstructions in 'B' Train EDG Rooms**

The inspectors identified a finding of very low safety significance (Green) and an associated Non-Cited Violation of License Condition 4.F for the failure to address fire suppression sprinkler head obstructions in the 'B' train emergency diesel generator (EDG) rooms. The inspectors identified that five sprinkler heads were obstructed in the 'B' train EDG rooms. National Fire Protection Association (NFPA) 13-1991, "Installation of Sprinkler Systems" was the applicable standard for sprinkler systems installed in the two rooms. The inspectors determined that failure to address sprinkler head obstructions was contrary to NFPA 13-1991 and was a performance deficiency.

The finding was more than minor because the failure to address sprinkler head obstructions was associated with the Mitigating Systems Cornerstone attribute of Protection Against External Factors (Fire) and affected the cornerstone objective of ensuring the capability of systems that respond to initiating events. Specifically, the identified obstructions to sprinkler heads would affect the sprinkler spray patterns and distribution thereby impacting the sprinkler systems capability to control a fire. In accordance with Inspection Manual Chapter (IMC) 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," and IMC 0609, Appendix F, "Fire Protection Significance Determination Process [SDP]," the inspectors considered the finding to represent a moderate degradation of the water based suppression system for both rooms. As such, the inspectors performed a Phase 2 SDP. The inspectors concluded that potential fire scenarios associated with the finding were effectively FDS0 fire scenarios as described in Section 2.2 of IMC 609, Appendix F, and that the issue was of very low safety significance (i.e., Green). The inspectors did not identify a cross-cutting aspect associated with this finding.

Inspection Report# : [2008003](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Adequately Manage Online Risk for Breaker 1B52-16C Work**

The inspectors identified a finding of very low safety significance (Green) and an associated Non-Cited Violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," when the licensee failed to adequately manage the risk associated with work on the 480-volt alternating current breaker 1B52 16C, coincident with a large number of other out-of-service components, which resulted in an unplanned risk condition for Unit 1 without the appropriate risk management actions. Specifically, the licensee incorrectly assumed that planned work on breaker 1B52 16C did not render the breaker unavailable, and that the breaker was not utilized in Modes 1, 2, or 3. Consequently, the component was not factored into the Safety Monitor online risk model. However, breaker 1B52 16C was in fact unavailable and also utilized in abnormal operating procedures for Modes 1, 2 and 3. Therefore, unavailability of the breaker was required to have been factored into Safety Monitor with appropriate risk management actions taken. The licensee took corrective actions to perform an apparent cause evaluation that identified the apparent cause of the issue and recommended a number of corrective actions to address

the procedural and human performance deficiencies that were identified.

The finding was greater than minor because the finding was based on incorrect assumptions that changed the outcome of the risk assessment. The inspectors evaluated this finding using the Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process" worksheets of Inspection Manual Chapter 0609 because the finding is a maintenance risk assessment issue. Flowchart 1, "Assessment of Risk Deficit," requires the inspectors to determine the risk deficit associated with this issue. This finding was determined to be of very low safety significance because the incremental core damage probability deficit was less than 1E-6. The inspectors also determined that the finding has a cross-cutting aspect in the area of human performance. Specifically, the licensee failed to use conservative assumptions in decision-making and adopt a requirement to demonstrate that the proposed action was safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].

Inspection Report# : [2008003](#) (pdf)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Procedures for DY-0C Inverter Maintenance**

A self-revealing finding of very low safety significance (Green) and an associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for the failure to have appropriate maintenance procedures and work instructions in place to identify improperly installed components prior to the attempted restoration of the DY-0C white channel instrument inverter. Specifically, the routine maintenance procedure did not contain instructions to check for direct current (DC) grounds following maintenance and prior to restoration, which allowed a ground to go undetected and cause a number of unplanned Technical Specification Action Condition (TSAC) entries as well as the unplanned inoperability of the G-01 and G-02 emergency diesel generators and the 2PI 9046 containment pressure indicator. At the end of the inspection period, the licensee continued to perform a causal evaluation and develop additional long-term corrective actions.

The finding was more than minor because it is associated with the Procedure Quality attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The inspectors evaluated the finding using Inspection Manual Chapter 0609, Appendix A, Attachment 1, "Significance Determination of Reactor Inspection Findings for At-Power Situations," dated January 10, 2008. The inspectors determined that the finding was of very low safety significance (Green) because the finding did not involve a design or qualification deficiency, there was no actual loss of safety function, no single train loss of safety function for greater than the technical specification (TS) allowed outage time, and no risk due to external events. The inspectors also determined that the finding had a cross-cutting aspect in the area of human performance. Specifically, procedures were not complete or adequate to ensure that installation errors would be detected prior to restoration of the DY-0C inverter [H.2(c)].

Inspection Report# : [2008003](#) (pdf)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Procedures for Reduced Inventory With an Intact Reactor Coolant System**

A finding of very low safety significance and associated Non-Cited Violation of TS 5.4.1, "Procedures," was identified by the inspectors for the failure to protect all of the safety equipment necessary for safe shutdown while in reduced inventory with the reactor coolant system (RCS) intact. Specifically, the licensee failed to ensure that an auxiliary feedwater source and steam generator (SG) were available for decay heat removal when a reduced inventory condition was entered and the RCS was intact. The licensee's responses to Generic Letter 88-17, "Loss of Decay Heat Removal," indicated that the first drain of the RCS to reduced inventory following shutdown could be accomplished with the RCS intact and reflux cooling (with a SG and auxiliary feedwater source) as an alternate decay heat removal path. The licensee was performing a causal evaluation of this issue and developing corrective actions at the end of the assessment period.

The finding was determined to be more than minor because the finding was associated with the Mitigating Systems Cornerstone attribute of human performance and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance (Green) because the finding did not meet the criteria for a Phase 2 or Phase 3 Analysis, as specified in Inspection Manual Chapter 0609 Appendix G, Attachment 1, Checklist 3. The inspectors also determined that the finding has a cross-cutting aspect in the area of human performance. Specifically, the licensee failed to ensure that procedures were adequate and accurate to assure nuclear safety [H.2(c)].

Inspection Report# : [2008003](#) (pdf)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Maintain RCS Within Procedurally Allowed Level During Reduced Inventory**

A finding of very low safety significance and associated Non-Cited Violation of TS 5.4.1, "Procedures," was identified by the inspectors for the failure to implement operations procedures to remain above the ¾ pipe level indications for draining the Reactor Coolant System (RCS) while in reduced inventory. Specifically, during the second planned orange risk condition of the Unit 2 refueling outage to facilitate removal of the Steam Generator nozzle dams, operators drained the RCS below the procedurally required 22 percent level, as indicated by the most conservative reactor vessel level indication. The licensee took immediate corrective actions to address the issue and was performing a causal evaluation and developing corrective actions at the end of the assessment period.

The finding was determined to be more than minor because it is associated with the Mitigating Systems Cornerstone attribute of human performance 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 finding is of very low safety significance (Green) because the finding did not meet the criteria for a Phase 2 or Phase 3 Analysis, as specified in Inspection Manual Chapter 0609 Appendix G, Attachment 1, Checklist 3. The inspectors also determined that the finding has a cross cutting aspect in the area of human performance. Specifically, the licensee failed to use conservative assumptions in decision-making and adopt a requirement to demonstrate that the proposed action was safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action [H.1(b)].

Inspection Report# : [2008003](#) (pdf)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Maintenance Procedure for Turbine-Driven Auxiliary Feedwater Pump 2P-29**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to ensure that procedures associated with the maintenance of the turbine for the turbine-driven auxiliary feedwater pump were appropriate to the circumstances. Specifically, the licensee's maintenance procedures did not address the following significant issues: 1) proper application of sealant material used on turbine casing joints; 2) proper cure time of sealant material used on turbine casing joints; 3) prescribed methods for tightening of the oil deflector ring set screw was not discussed; and 4) acceptable clearances between the turbine shaft and the inner diameter of the oil deflector ring were not specified. The licensee took immediate corrective actions to address the issue, conducted a root cause evaluation, and developed corrective actions to address the root causes, contributing causes, and extent of condition associated with this finding.

The finding was more than minor because it affected the Mitigating Systems Cornerstone attributes of equipment performance availability and reliability, and maintenance procedure quality, as well as the cornerstone objective of ensuring the availability and reliability of systems. The inspectors evaluated the finding in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 Initial Screening and Characterization of Findings." The inspectors determined this finding was not a design qualification deficiency

resulting in a loss of function per Generic Letter 91-18, did not represent an actual loss of safety function of a system or train of equipment, and was not potentially risk-significant due to a seismic, fire, flooding, or severe weather initiating event. Therefore, the finding was considered to be of very low safety significance (Green). The primary cause of this finding was related to a cross-cutting aspect in the area of human performance because the licensee failed to ensure that procedures were adequate and accurate to assure nuclear safety [H.2(c)].

Inspection Report# : [2008003](#) (*pdf*)

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## Barrier Integrity

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Non-Conservative Low Temperature Overpressure Protection Setpoints**

A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” was self revealed upon discovery of the use of a non-conservative setpoint for the Low Temperature Overpressure Protection (LTOP) systems for Units 1 and 2. Specifically, licensee calculation 2000-0001, “RCS [Reactor Coolant System] Pressure and Temperature Limits and Low Temperature Overpressure Protection Setpoints Applicable through 32.2 EFPY[Effective Full Power Years] – Unit 1 and 34.0 EFPY – Unit 2,” established an LTOP setpoint of 500 pounds per square inch – gauge (psig). However, by using the setpoint calculation methodology of 10 CFR Part 50, Appendix G, the resulting LTOP setpoint was calculated to be 420 psig. Therefore, the 500 psig setpoint was found to be non conservative and the LTOP systems were declared inoperable. As part of its corrective actions, the licensee revised the LTOP setpoints from 500 psig to 420 psig and made changes to operating procedures to delineate the acceptable operating conditions of the reactor coolant pumps and charging pumps during low temperature conditions.

The finding was determined to be more than minor because the finding was associated with the human performance attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective of providing reasonable assurance that physical design barriers, such as containment, protect the public from radionuclide releases caused by accidents or events. Specifically, the non-conservative LTOP setpoint provided reasonable doubt that the integrity of the RCS pressure boundary would be maintained during low temperature conditions. The inspectors determined the finding could be evaluated using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, “Significance Determination Process,” Attachment 0609.04, “Phase 1 - Initial Screening and Characterization of Findings,” Table 4a for the Barrier Integrity Cornerstone, dated January 10, 2008. The inspectors determined that the finding was of very low safety significance (Green) because all of the questions in the containment barrier column of Table 4a were answered NO and the actual setpoint of the power operated relief valves was 415 psig, below the revised LTOP setpoint. The inspectors also determined that the finding has a cross cutting aspect in the area of problem identification and resolution, corrective action program component, because personnel did not use a low threshold for identifying issues [P.1(a)].

Inspection Report# : [2008005](#) (*pdf*)

**Significance:**  Sep 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedures for Use of the Containment Hatch Doors**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was self revealed for the failure to follow system operating procedure requirements to visually inspect and remove debris from the Unit 1 lower containment airlock door sealing surface upon exit from the airlock, which resulted in the failure of the airlock to meet its post maintenance testing acceptance criteria on September 9, 2008. As part of its corrective actions, the licensee reinforced with the hatch operators the procedural requirements.

The finding was determined to be more than minor because the finding was associated with the Barrier Integrity Cornerstone attribute of human performance and affected the cornerstone objective of providing reasonable assurance that physical design barriers, such as containment, protect the public from radionuclide releases caused by accidents or events. The inspectors determined the finding could be evaluated using the Significance Determination Process in accordance with Inspection Manual Chapter 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Barrier Integrity Cornerstone. The inspectors determined that the finding was of very low safety significance because all of the questions in the containment barrier column of Table 4a were answered NO. The inspectors also determined that this finding has a cross-cutting aspect in the area of human performance, work practices component, because personnel did not follow procedures. [H.4(b)]

Inspection Report# : [2008004](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Maintain Control of Containment Penetration Status**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the failure to maintain adequate control over the status of containment penetrations during the Unit 2 core reload evolution. Specifically, the licensee failed to adequately track the open and closed status of two isolation valves, such that an unexpected pathway from containment to the atmosphere existed. The containment closure checklist indicated that the valves were closed and secured; however, they were in fact open during a period of fuel movement inside containment. At the end of the inspection period, the licensee continued to perform a causal evaluation and develop additional long-term corrective actions.

The finding was determined to be more than minor because the failure to maintain the accuracy of the containment closure checklist affected the Barrier Integrity Cornerstone attribute of configuration control and affected the cornerstone objective of providing reasonable assurance that physical design barriers, such as containment, protect the public from radionuclide releases caused by accidents. Specifically, in the event of a fuel handling accident inside containment, the unknown position of these two vent valves could have resulted in the inability to restore containment closure in a timely manor. The finding is of very low safety significance (Green) because the finding did not meet the criteria for a Phase 2 or Phase 3 Analysis, as specified in Inspection Manual Chapter 0609 Appendix G, Attachment 1, Checklist 4. Additionally, the inspectors determined that the finding had a cross-cutting aspect in the area of human performance in that the licensee failed to use conservative assumptions in decision-making [H.1(b)].

Inspection Report# : [2008003](#) (*pdf*)

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## **Emergency Preparedness**

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## **Occupational Radiation Safety**

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Perform Adequate Total Effective Dose Equivalent ALARA Evaluations**

A finding of very low safety significance and associated Non-Cited Violation of 10 CFR 20.1501 was identified by the inspectors for the failure to perform an adequate survey (evaluation) to determine the use of respiratory protection equipment and/or engineering controls so as to maintain the total effective dose equivalent (TEDE) as-low-as-is-

reasonably achievable (ALARA). Specifically, TEDE ALARA evaluations completed in April 2008 prior to steam generator (SG) maintenance and maintenance support activities did not adequately assess the planned use of engineering controls to reduce the concentration of radioactive material in air. As a result, respirators were specified to be used when not warranted based on the engineering controls to be implemented. As corrective actions, the licensee planned to reevaluate its TEDE ALARA evaluations for pending SG work activities, planned to develop a procedure specific to the performance of these evaluations, and was considering the need for supervisory or health physics staff review of these evaluations. The licensee entered the issue into its corrective action program as action request (AR) 01125284.

The finding was determined to be more than minor because it impacted the Occupational Radiation Safety Cornerstone attribute of program and process and potentially affected the cornerstone objective of ensuring adequate protection of worker health and safety from exposure to radiation, in that not performing adequate evaluations to determine the use of respiratory protection equipment consistent with the engineering controls for the work would result in additional dose to workers. The finding was determined to be of very low safety significance because it was not an ALARA planning issue, there was no overexposure nor potential for overexposure, and the licensee's ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the resource component of the human performance area, because procedures were not adequate to ensure that TEDE ALARA evaluations were performed properly [H.2(c)].

Inspection Report# : [2008003](#) (*pdf*)

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## Public Radiation Safety

**Significance:**  Dec 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Establish Written Procedures to Implement the Effluent Control Program**

The inspectors identified a finding of very low safety significance and an associated Non-Cited Violation of Technical Specification 5.4.1 for the failure to establish written procedures to implement the radioactive effluent control program as provided in the Offsite Dose Calculation Manual to ensure effluent sample analyses satisfied required detection criteria. Specifically, no process was established to ensure that effluent analysis capabilities for chemistry analytical equipment were periodically demonstrated to meet required lower levels of detection (LLDs). As corrective actions, the licensee subsequently performed LLD determinations for its analytical equipment (gamma spectroscopy system) and developed procedures to ensure LLDs were periodically verified consistent with industry standards.

The finding was determined to be more than minor because it affected the program and process attribute of the Public Radiation Safety Cornerstone and affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive material released into the public domain. Specifically, given the instability in the licensee's gamma spectroscopy system since 2007, as evidenced by repetitive performance check failures, the ability of the equipment to achieve required LLDs could have been impacted or necessitated changes in analysis parameters (such as count times) resulting in non-conservative effluent quantification. The inspectors determined that the finding was of very low safety significance (Green) because it did not represent a substantial failure to implement the effluent release program or result in public dose that exceeded specified criterion. The inspectors also determined that the finding has a cross-cutting aspect in the area of human performance, resources component, in that the licensee failed to develop procedures to fully implement its effluent program as provided in the Offsite Dose Calculation Manual (ODCM) [H.2(c)].

Inspection Report# : [2008005](#) (*pdf*)

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## Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the [cover letters](#) to security inspection reports may be viewed.

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## Miscellaneous

**Significance:** N/A Mar 27, 2009

Identified By: NRC

Item Type: FIN Finding

### **Biennial Problem Identification and Resolution Report Summary**

Based on the samples selected for review, the inspectors concluded that implementation of the corrective action program (CAP) was adequate. The inspectors noted that the licensee has a sufficiently low threshold for identifying issues and entering them in the CAP and established additional directions to ensure a lower threshold was consistently used. Prioritization of items entered in the CAP was adequate with recent improvements that have reduced the action item backlog and allowed the station to focus on higher priority items. The inspectors noted that the licensee entered operating experience into the CAP but did not always fully evaluate the information for applicability to station components. Audits and self assessments were determined to be performed at an appropriate level to identify deficiencies. On the basis of licensee self-assessments and interviews conducted during the inspection, workers at the site expressed freedom to raise safety concerns

Inspection Report# : [2009006](#) (*pdf*)

**Significance:** SL-IV Jul 25, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Perform a 10 CFR 50.59 Evaluation for Changes to SI System Valve Back-Seating Procedures**

The inspectors identified a Severity Level IV Non-Cited Violation, having very low safety significance, of 10 CFR 50.59, Changes, Tests, and Experiments, for the licensee's failure to provide documented basis for determining that changes to procedures did not require prior NRC approval. Specifically, the licensee incorrectly concluded that a 10 CFR 50.59 screening was not required when procedures were revised to eliminate the practice of back-seating normally open gate/globe valves even though the Final Safety Analysis Report stated that normally open gate/globe valves in the Safety Injection (SI) system are back-seated to limit valve stem leakage.

The finding was determined to be more than minor because the team could not reasonably determine that the change to the plant procedure which had removed a barrier to release radioactivity into the auxiliary building would not have ultimately required NRC prior approval. The finding was determined to be of very low safety significance because it only represented a degradation of the radiological barrier function provided for the auxiliary building. This finding has a cross-cutting aspect in the area of Human Performance, Decision Making, because during performance of the 10 CFR 50.59 applicability determination for a procedural change, in March 2008, the licensee made an inappropriate decision by failing to require a screen or full 50.59 evaluation (H.1.(a)).

Inspection Report# : [2008009](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Ensure Completion of New Supervisory Training**

A Non-Cited Violation of Confirmatory Order EA 06-178 having very low safety significance (Green) was identified by the inspectors for the licensee's failure to ensure that new employees holding supervisory positions and higher were trained on safety conscious work environment (SCWE) principles within nine months of their hire dates, unless they have had the same or equivalent SCWE training within the previous two years of the hire dates. Specifically, the inspectors identified that four new employees holding supervisory positions for greater than nine months of their hire dates as supervisors, had not received SCWE training, nor the same or equivalent training within the previous two years. At the end of the inspection period, the licensee was performing a causal analysis and developing corrective actions to address the issues identified by the inspectors.

The finding was determined to be more than minor because if left uncorrected the finding would become a more significant safety concern. The finding would have been greater than very low significance had an action by the new supervisor resulted in a violation of 10 CFR 50.7 against an employee. The finding is not suitable for Significance Determination Process evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The inspectors determined that the finding had a cross-cutting area aspect in the area of human performance. Specifically, the licensee failed to ensure that supervisory and management oversight of the Confirmatory Order actions, such that nuclear safety was supported [H.4(c)].

Inspection Report# : [2008003](#) (*pdf*)

**Significance:**  Jun 30, 2008

Identified By: NRC

Item Type: FIN Finding

#### **Inadequate Corrective Actions to Address Licensee Action Plans**

A finding of very low safety significance was identified by the inspectors for the failure to take timely and effective corrective actions to address four of nine nuclear safety culture action plans and the “quick hitter” plans. Specifically, the licensee developed the action plans and “quick hitter” plans in response to the Confirmatory Order in the first quarter of 2007, to correct longstanding safety culture issues identified by the licensee’s comprehensive safety culture assessments conducted in 2004 and 2006. At the end of the inspection period, the licensee was performing a causal analysis and developing corrective actions to address the issues identified by the inspectors.

The finding was determined to be more than minor because if left uncorrected the finding would become a more significant safety concern. The finding would have been greater than very low significance had the failure to take corrective actions resulted in a more safety significant issue as a result of the incomplete action plans. The finding is not suitable for Significance Determination Process evaluation, but has been reviewed by NRC management and is determined to be a finding of very low safety significance. The inspectors determined that the finding had a cross-cutting area aspect in the area of problem identification and resolution. Specifically, the licensee failed to take appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity [P.1(d)].

Inspection Report# : [2008003](#) (*pdf*)

**Significance:** N/A Dec 31, 2006

Identified By: NRC

Item Type: AV Apparent Violation

#### **NRC to Review Items in Confirmatory Order Dated January 3, 2007, for Employment Discrimination Settlement.**

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

NOTE: All of the specific items from this AV are also tracked as ORDER items in RPS/IR.

Inspection Report# : [2006013](#) (*pdf*)

Inspection Report# : [2008003](#) (*pdf*)

Last modified : May 28, 2009