

Point Beach 1

2Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Perform Appropriate Maintenance on Air-Operated Valve Positioner Linkage

A self-revealing finding and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," having very low safety significance (Green), was identified for failure to have procedures appropriate to the circumstances for maintenance on air-operated valve positioners, when hardware attaching the connecting link between the Unit 1 "B" feedwater regulating valve positioner and actuator became disconnected resulting in loss of control of the valve. Specifically, there were no procedures that ensured that positioner arm hardware was properly secured. The licensee repaired valve positioners as required, performed an extent-of-condition review for similar valve positioners and is performing a root cause evaluation.

The inspectors concluded the finding is greater than minor because the finding was associated with the equipment performance attribute of the Initiating Events Cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The transient initiator contributor was a reactor trip that did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions would not be available. Consequently, the finding is considered to be of very low safety significance (Green). The inspectors also determined that the primary cause of this finding is related to the cross-cutting area of human performance (H.2.(c)). Specifically, under the component of resources, the licensee failed to ensure complete, accurate, and up-to-date procedures and work packages for work on air-operated valve positioners were available.

Inspection Report# : [2007003](#) (*pdf*)

Significance: SL-III Dec 31, 2006

Identified By: NRC

Item Type: VIO Violation

Failure to Update FSAR With Reactor Head Drop Analysis and Obtain NRC Approval

The inspectors identified an apparent violation for the failure of the licensee in 1983 to incorporate the results of an 1982 analysis of a postulated drop of the reactor vessel head on the vessel into the Final Safety Analysis Report (FSAR). The apparent violation is subject to the NRC's traditional enforcement process because it had the potential for impacting the NRC's ability to perform its regulatory function. After the problem was identified in early 2005, the licensee submitted a revised head drop analysis that the NRC reviewed and subsequently approved; evaluated the Unit 2 replacement vessel head against that analysis; updated its FSAR; and conducted a review to identify other instances where the FSAR may not have been updated.

This finding is considered greater than minor because the failure to update the FSAR as required by 10 CFR 50.71(e) resulted in the licensee not obtaining the necessary review and approval of the 1982 analysis, and in the removal and reinstallation of the original reactor heads from 1983 to 2004 without administrative controls similar to those established for head moves in 2005 and after. Also, the finding 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. Because findings involving 10 CFR 50.71(e) potentially affect the NRC's ability to perform its regulatory function, and reactor vessel head drop analysis issues are not suitable for Significance Determination Process analysis, this finding is being evaluated using the traditional enforcement process.

In a letter dated January 29, 2007, a Notice of Violation was issued for a Severity Level III violation of 10 CFR 50.71 (e). There is no civil penalty.

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Replacement Reactor Vessel Head Design Deficiencies

The inspectors identified a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) when the licensee failed to assure from October 2002 to April 2005 that deviations in weight, a specific value used in analysis of the effects of a postulated accident, of the Unit 2 replacement reactor vessel head and head assembly upgrade package were controlled in accordance with the original design bases. One result of this failure was that the licensee's 10 CFR 50.59 evaluation completed in February 2005 for the replacement head was inadequate. The licensee entered the finding into its corrective action program, and revised head replacement project documents and the station design bases to account for the differences between the Unit 2 replacement vessel head and the original head. In addition, the licensee completed an adequate 10 CFR 50.59 evaluation. These actions were taken prior to the actual lift of the new head that occurred in June 2005.

The inspectors concluded that the finding is greater than minor because it was 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. Consultation with the Region III Senior Reactor Analysts determined that reactor vessel head drop issues were not suitable for the Significance Determination Process analysis. Therefore, this finding has been reviewed by NRC management and is determined to be a Green finding, of very low significance. The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance.

Inspection Report# : [2006011](#) (*pdf*)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedural Controls for Manually Operated Breakers Located in Certain Control Panels

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

This finding is greater than minor because if left uncorrected it would become a more significant safety concern in that the inadvertent re-positioning of other similar breakers in the main control room control panels would significantly upset plant stability. In addition, the finding is associated with the procedure quality and human performance attribute of the Initiating Events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. Because attributes such as core heat removal, inventory control, power availability, containment control, and reactivity guidelines were met, the finding screened as (Green) having very low safety significance. The finding has a cross-cutting aspect in the area of human performance because the licensee's control of work failed to incorporate into planned work activities job site conditions, including environmental conditions which may impact human performance, and the human-system interface, that is, the operator interface with the breakers in the close confines of the control panels.

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

Mitigating Systems

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Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Work Instructions for Preventive Maintenance on Safety-Related Battery Chargers

The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to accomplish required preventive maintenance resulting in the D-108 Station Battery output becoming unstable on several occasions. In January 2007, the D-09 Battery Charger also failed as a result of failure to perform scheduled preventive maintenance. The licensee initiated condition reports, took immediate corrective actions to repair the chargers and is performing an apparent cause evaluation.

The inspectors concluded that the finding is greater than minor because if left uncorrected, the finding would become a more significant safety concern, in that, failures of safety-related battery chargers can significantly challenge the vital 125V DC system. In addition, the finding is associated with the equipment performance attribute of the Mitigating System cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, (such as, core damage). Since the finding is not a loss of system safety function and is not an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, the finding is considered to be of very low safety significance (Green). The inspectors also determined that the primary cause of this finding is related to the cross-cutting area of human performance (H.3(b)). Specifically, the licensee did not appropriately coordinate work activities to support long-term equipment reliability and maintenance scheduling, which was not more preventive than reactive, as critical preventative maintenance for battery chargers was not performed.

Inspection Report# : [2007003](#) (*pdf*)

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Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Appropriately manage an Orange Risk Condition

The inspectors identified a NCV of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," after the licensee failed to adequately manage the risk associated with the installation of the Unit 1 Steam Generator Nozzle Dams, which is a reduced inventory and Orange Qualitative Risk Condition. Specifically, the contingency plan stated, in part, that an uncontrolled reactor coolant system inventory loss would be mitigated with the use of Shutdown Emergency Procedure SEP-2, "Cold Shutdown LOCA." However, the inspectors noted that certain critical equipment required in SEP-2 was not available and no contingencies were established for the unavailable equipment. The licensee initiated condition reports and took immediate corrective actions and planned additional corrective actions based on a causal evaluation.

The finding was greater than minor because the finding affected the cornerstone objective, to ensure the availability of systems that respond to initiating events to prevent undesirable consequences, and the attributes of configuration control and equipment performance, due to the shutdown equipment lineup and unavailability of equipment. In addition, the finding was related to the licensee's failure to effectively manage significant compensatory measures for this Orange Risk condition. The finding screened as very low safety significance (Green), because the finding did not meet the criteria for a Phase 2 or Phase 3 Analysis, as specified in IMC 0609 Appendix G, Attachment 1, Checklist 1, "PWR Hot Shutdown Operation: time to Core Boiling < 2 Hours." The inspectors also determined that the primary cause of this finding is related to the cross-cutting area of human performance (H.3(a)). Specifically, under the component of work control, the licensee did not appropriately plan work activities by incorporating the need for planned contingencies and compensatory actions, ensuring that equipment relied upon for contingencies remained available.

Inspection Report# : [2007003](#) (*pdf*)

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Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Program for Preventive Maintenance of Breaker Mechanism Operated Control Switches

The inspectors identified a NCV of 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," of very low safety significance (Green), for the failure to incorporate available internal and external Operating Experience (OE) pertaining to 4.16kV switchgear cubicle Mechanism Operated Control (MOC) switch assemblies. Preventive maintenance procedures for Westinghouse 4.16kV switchgear cubicles had not been revised to incorporate important MOC switch linkage measurements, adjustments and verification of contact position. The licensee initiated condition reports and is revising procedures to incorporate required preventive maintenance.

The inspectors concluded that the finding is greater than minor, because, if left uncorrected, the finding would become a more significant safety concern. The finding also affects the procedure quality attribute of the Mitigating System cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (such as, core damage). Since the finding is not a loss of system safety function and is not an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, the finding is considered to be of very low safety significance (Green). Additionally, the inspectors determined that the contributing cause of the finding is related to the cross-cutting area of Problem Identification and Resolution within the component of OE (P.2(b)). The licensee did not implement and institutionalize OE through changes to station processes and procedures, as appropriate preventive maintenance procedures and routines were not established. Inspection Report# : [2007003](#) (*pdf*)

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify and Correct Previous Indications of High Bearing Temperatures

The inspectors identified a finding involving a non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," having very low safety significance (Green) for the licensee's failure to identify and implement prompt corrective actions for the conditions which caused outboard bearing high temperature alarms during: the Unit 1 Turbine-Driven Auxiliary Feedwater (TDAFW) pump post-maintenance test (PMT) performed on May 1, 2007; the Unit 1 TDAFW pump PMT performed on May 6, 2007; and the Unit 2 TDAFW pump PMT performed on November 17, 2006. The licensee performed trouble shooting and repair of the Unit 1 TDAFW pump and confirmed operability of the Unit 2 TDAFW pump with needed compensatory actions. The licensee entered the issue into their corrective action program and took immediate corrective actions. At the end of the inspection period the licensee continued to evaluate the causes and corrective actions to address this finding.

The finding was more than minor because it could reasonably be viewed as a precursor to a significant event. Specifically, the failure to identify and investigate the cause of the high bearing temperature alarms could potentially result in failure of the TDAFW pumps. Additionally, the finding is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Failure to identify and promptly correct the conditions which caused the high bearing temperature alarms was a condition adverse to quality and was a corrective action program issue that was determined to be a licensee performance deficiency of very low safety significance (Green). The primary cause of this finding was related to a cross-cutting aspect in the area of problem identification and resolution for the failure to implement a corrective action program with a low threshold for identifying issues completely, accurately and in a timely manner commensurate with their safety significance (P.1(a)).

Inspection Report# : [2007008](#) (*pdf*)

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Appropriately Assess the Operability of the Unit 1 Turbine Driven Auxiliary Feedwater Pump on June 9, 2007

The inspectors identified a finding of very low safety significance (Green) and a Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately assess Operability in accordance with plant procedures. The inspectors identified that the licensee failed to implement procedural requirements regarding the immediate assessment of operability on June 9, 2007 for the Unit 1 TDAFW pump

outboard turbine bearing high temperatures. The licensee took corrective actions which included re-performing testing to evaluate bearing stabilization temperatures and briefing of the operations crews on this issue. The licensee entered the issue into their corrective action program and took immediate corrective actions. At the end of the inspection period the licensee continued to evaluate the causes and corrective actions to address this finding.

The finding was more than minor because, if left uncorrected, the failure to properly assess operability could result in the TDAFW pump being degraded, and possibly inoperable for more than the allowed outage time in accordance with Technical Specifications with no action being taken. The finding is of very low safety significance since the inadequate operability call did not result in exceeding the allowed outage time of Technical Specifications before action was taken. The primary cause of this finding was related to a cross-cutting aspect in the area of human performance because the licensee failed to demonstrate that nuclear safety was an overriding priority. Specifically, the licensee failed to make safety-significant or risk-significant decisions using a systematic process for operability determinations, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained (H.1(a)).

Inspection Report# : [2007008](#) (*pdf*)

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to have Procedures Appropriate to the Circumstances for Terry Turbine Overhauls

The inspectors identified a finding of very low safety significance and a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to ensure that procedures associated with the maintenance of the TDAFW turbines were appropriate to the circumstances. Specifically, the licensee's maintenance overhaul procedure did not address the following significant issues: 1) specify acceptance criteria and as-left requirements for thrust bearing axial clearance; 2) specify instructions to ensure the proper setting and critical dimensions for the proper pump to turbine coupling stretch; 3) correctly establish the turbine to wheel nozzle lap setting; and 4) specify proper placement of insulation on the turbine. The licensee entered the issue into their corrective action program and took immediate corrective actions. At the end of the inspection period the licensee continued to evaluate the causes and corrective actions to address this finding.

The finding was more than minor because, if left uncorrected, the issue would have become a more significant safety concern. In addition, it affected the Mitigating Systems attributes of equipment performance availability and reliability, and maintenance procedure quality, as well as the Mitigating Systems cornerstone objective of ensuring the reliability of systems. The inspectors determined this programmatic 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# : [2007008](#) (*pdf*)

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: FIN Finding

Failure to have Specific Formal Training for Maintenance Craft on Terry Turbine Overhauls

The inspectors identified a finding of very low significance (Green) with no associated violation for the failure to provide appropriate training for maintenance personnel performing overhauls on the TDAFW pump turbines. Specifically, while maintenance personnel received training on some of the individual components associated with a turbine, the mechanic-electrician (mechanical) training program did not require specialty task training for turbine overhauls. In addition, this was contrary to standard industry guidelines for training and qualification of maintenance personnel. The licensee entered the issue into their corrective action program and took immediate corrective actions. At the end of the inspection period the licensee continued to evaluate the causes and corrective actions to address this finding.

The finding was more than minor because, if left uncorrected, the issue would have become a more significant safety concern. In addition, it affected the Mitigating Systems attributes of equipment performance availability and

reliability, and to pre-event human error, as well as the Mitigating Systems cornerstone objective of ensuring the reliability of systems. The inspectors determined this programmatic 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 assure that training of personnel was adequate to assure nuclear safety (H.2(b)).

Inspection Report# : [2007008](#) (*pdf*)

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Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to have Procedures Appropriate to the Circumstances for the Analysis and Sampling of Safety-Related Turbine and Pump Oil

The inspectors identified a finding of very low safety significance (Green) and a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately implement an oil analysis program for the TDAFW pump. The inspectors identified that the licensee failed to implement sampling guidelines using industry standards or provide an adequate justification for not performing the samples at reasonable intervals. The licensee entered the issue into their corrective action program and took immediate corrective actions. At the end of the inspection period the licensee continued to evaluate the causes and corrective actions to address this finding.

The finding was more than minor because if left uncorrected, the failure to have an adequate procedure for lubrication could result in the TDAFW pump being degraded without the knowledge of the licensee. The inspectors determined the finding did not result in an actual loss of safety function of a system or train of equipment; 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 did not ensure that procedures were adequate and accurate to assure nuclear safety (H.2(c)).

Inspection Report# : [2007008](#) (*pdf*)

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Significance: Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement a Quarantining Process

The inspectors identified a finding of very low safety significance (Green) and a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure to adequately quarantine a component for subsequent causal analysis. The inspectors identified that the licensee failed to implement procedural controls to quarantine degraded components during troubleshooting and maintenance activities which resulted in the loss of evidence for causal analysis. The licensee entered the issue into their corrective action program, implemented interim quarantine controls, and issued a new Procedure, NP 1.1.17 "Quarantine of Areas, Equipment, and Records."

The finding was more than minor because if left uncorrected, the failure to properly quarantine items could become a more significant safety concern, since the failure to do so could impede the identification of causes for conditions adverse to quality and prevent the implementation of appropriate corrective actions. The inspectors determined the 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 did not ensure that procedures were adequate and accurate to assure nuclear safety (H.2(c)).

Inspection Report# : [2007008](#) (*pdf*)

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Significance: Dec 15, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure for Identifying Degraded Piping

The inspectors identified a finding of very low safety significance involving areas of service water piping where microbiologically induced corrosion was identified but the wall thicknesses of the pipe in those areas were not measured. An NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," was associated with this finding for failure to prescribe directions to ensure all areas of degradation identified were characterized. The licensee performed radiographic examination of safety-related piping in the service water system to identify and determine the extent of degradation and to take appropriate corrective action to maintain operability. However, the radiographic technique used did not provide information on the most severe (deepest) degradation in the section of pipe examined. Without this information, the licensee's evaluation of the piping integrity, actions to perform inspections of additional pipe segments, and actions to perform more frequent inspection on the same section could be inappropriate. The licensee entered this finding into its corrective action program for evaluation.

This finding is greater than minor because it was associated with the procedure quality attribute of the Mitigating System cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the procedure did not require adequate characterization of the extent of microbiologically induced corrosion (MIC) in service water (SW) piping to ensure that MIC degradation would not result in failure of the SW piping pressure boundary. Because there were no active through-wall leaks in this system and no known degradation which exceeded the Code minimum wall thickness, the finding is of very low safety significance.

Inspection Report# : [2006015](#) (*pdf*)

Significance:  Dec 15, 2006

Identified By: NRC

Item Type: FIN Finding

Inadequate Extent-of-Condition Review

The inspectors identified a finding of very low safety significance with no associated violation for an inadequate extent-of-condition review for boric acid leakage found in the last quarter of 2005 on the safety injection-850 valves (containment recirculation sump isolation valves). During the current inspection, the inspectors identified boric acid leakage on other valves that the licensee had not evaluated. The licensee entered this finding into its corrective action program.

This finding is greater than minor because failing to evaluate boric acid leakage would lead to component failure and had the potential to become a more significant safety concern. Because no safety function was lost, no Technical Specification train or maintenance rule safety function was lost, and there was no external event concerns. The finding is of very low safety significance. The inspectors also determined that a primary cause of this finding was related to the cross-cutting area of PI&R within the component of the corrective action program and the aspect of thorough evaluation of problems.

Inspection Report# : [2006015](#) (*pdf*)

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Emergency Core Cooling System Sump Flow Design Control Deficiencies

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

The inspectors concluded the finding is greater than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). This design control deficiency was confirmed not to result in loss of operability per "Part 9900, Technical Guidance,

Operability Determination Process for Operability and Functional Assessment.” Hence, the finding screened as of very low risk significance. The inspectors also determined that a primary cause of this finding is related to the cross-cutting area of human performance. The lack of engineering rigor associated with review of this calculation involved the cross-cutting component of resources in that personnel, procedures, and supervisory resources were not adequate to assure nuclear safety, and the cross-cutting aspect of maintaining long-term plant safety by maintenance of design margins specified in calculations. The licensee did not maintain adequate NPSH margin or preclude air intrusion, as the ECCS sump flow parameter (RHR pump flow during phase 2 recirculation following a postulated loss of coolant accident was not appropriately limited in the emergency operating procedures.

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Containment Coatings Program Weaknesses

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

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

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Sep 29, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Potential Common Mode Failure Mechanism Due to Overdutied Circuit Breakers

The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” having very low safety significance involving electrical system short circuit studies. Specifically, the inspectors identified that the licensee failed to identify or analyze the potential consequences of faults on non-seismically protected circuits, or the potential for degradation of redundant trains due to a fault on a non-safety circuit that is routed in raceways associated with both redundant trains.

The inspectors determined that the finding was more than minor because the failure to identify and analyze unacceptable consequences of overdutied circuit breakers could impact their safety function. In the evaluation, The inspectors determined that the finding screened as Green because, as an immediate corrective action for this issue, the licensee performed an operability evaluation that determined that despite the failure to properly analyze the consequences of overdutied circuit breakers, there was sufficient cable impedance to assure that loss of redundant buses due to postulated faults would not occur.

Inspection Report# : [2006006](#) (*pdf*)

Significance:  Sep 29, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Non-Conservative EDG Loading Calculation

The inspectors identified a finding of very low safety significance associated with a violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, Emergency Diesel Generator (EDG) Room exhaust fans, EDG diesel air start compressors, and additional loading caused by the EDG operating at frequencies above 60 Hertz (Hz) were not considered in the licensee's EDG loading calculation. The licensee determined that this issue was not an operability concern, because these additional loads did not cause the EDG to be overloaded during design basis accident conditions.

The issue was more than minor because the failure to identify loads that would be supplied during an accident condition could result in eventual overloading of the EDG. The finding screened as having very low significance (Green) because the inspectors answered "no" to all five questions under the Mitigating Systems Cornerstone column of the Phase 1 worksheet. After performing a calculation to support operability, it was determined that there were conservatisms and other unnecessary loads in the EDG loading calculation that served to counteract the non-conservatisms that were identified by the inspection team resulting in the EDG not exceeding any vendor load limitations

Inspection Report# : [2006006](#) (*pdf*)

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Significance: Sep 29, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Lack of a 4 Hour SBO Coping Duration Heat-Up Calculation for the AFP Rooms

The inspectors identified a finding of very low safety significance associated with a violation of 10 CFR 50.63, "Loss of all Alternating Current Power." Specifically, the licensee never performed a calculation that evaluated the effects of loss of ventilation on the Auxiliary Feedwater Pump (AFP) room during a Station Blackout (SBO). The AFP rooms, which each house a turbine driven AFP (TDAFP), had not been evaluated for the heatup that would occur during the SBO 4 hour coping duration. In response to the inspector's concerns, the licensee performed informal calculations to provide reasonable assurance that the heatup in the room during an SBO would not adversely affect the equipment.

The issue was more than minor because the licensee had not maintained a heatup calculation for the TDAFP room that assessed the effects of heatup on safe shutdown equipment as required for station blackout. The finding screened as having very low significance (Green) because the inspectors answered "no" to all five questions under the Mitigating Systems Cornerstone column of the Phase 1 worksheet.

Inspection Report# : [2006006](#) (*pdf*)

G

Significance: Sep 29, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Condensate Storage Tank Vortexing Calculation Did Not Bound Station Blackout Scenario

The inspectors identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance (Green) involving the useable volume in the condensate storage tank (CST). Specifically, the inspectors identified that the licensee's calculation to show that there would not be vortexing in the CST was not bounding for the station blackout scenario, which was the basis for the CST volume stated in the Technical Specifications. The licensee's corrective actions included verifying the CST contained a sufficient volume to prevent vortexing in support of a station blackout scenario, and initiated actions to perform a formal calculation and to established an administrative limit to increase the available margin from the Technical Specification limit.

The finding was more than minor because the failure to adequately evaluate the CST vortex limit could have led to an insufficient useable volume in the CST preventing the auxiliary feedwater system from performing its function during a station blackout scenario and could have affected the mitigating systems cornerstone objective of design control. The finding was of very low safety significance based on the results of the licensee's analysis and screened as Green using the SDP Phase 1 screening worksheet.

Inspection Report# : [2006006](#) (*pdf*)

G**Significance:** Sep 29, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Unverified Fouling Factor Assumption for Containment Fan Coolers

The team identified a Green non-cited violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XI, Test Control, relating to the safety-related Containment Fan Coolers (CFC) for not assuring that the fouling factor inside the tubes was not maintained above the minimum specified analytical limit to prevent boiling of Service Water inside the coolers' tubes during accident conditions. Specifically, the licensee visually inspected the coolers and did not establish a specific criterion for accepting a fouling factor not lower than the established minimum of 0.0003 ft²-hr-°F/Btu to prevent boiling inside the tubes.

This finding was greater than minor because the current method of testing the fan coolers did not demonstrate that the existing fouling was such to prevent boiling. The finding screened as Green because, as an immediate corrective action, the licensee demonstrated through an evaluation that if boiling occurred, it will occur first in the upper tubes before the condition of the water in the lower tubes will cause boiling. This would result in excess service water flow to the lower tubes such that the fan coolers could still perform their safety function.

Inspection Report# : [2006006](#) (*pdf*)**G****Significance:** Sep 29, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Reactor Water Storage Tank/Spent Fuel Pool Pipe Support Calculation Deficiencies

The team identified a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance involving a modification that upgraded the Reactor Water Storage Tank/Spent Fuel Pool recirculation loop small bore piping and the Units 1 and 2 Reactor Water Storage Tank cross connect branches from the loop to Seismic Class I piping. Specifically, the inspection team found numerous non-conservative technical errors and calculation omissions in seismic design basis analysis calculations that supported this modification. This issue was entered into the licensee's corrective action system.

The issue was more than minor because the presence of these non-conservative calculational deficiencies resulted in seismic design basis analysis calculations to be re-performed to assure that the pipe supports would function as required during the design basis seismic event. The finding screened as having very low significance (Green) because the inspectors answered "no" to all five questions under the Mitigating Systems Cornerstone column of the Phase 1 worksheet. Specifically, after re-performing the calculations for the supports that were called into question by the inspection team, the licensee was able to show that enough margin was still available to support the loads that would be seen during the design basis seismic event.

Inspection Report# : [2006006](#) (*pdf*)

Barrier Integrity

G**Significance:** Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Establish Appropriate Test conditions for Leak-Rate Testing Outside Containment

The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the failure to have procedures appropriate to the circumstances, which established the appropriate test conditions for primary coolant sources testing outside containment. Specifically, testing procedures, which satisfied Technical Specification 5.5.2, "Primary Coolant Sources Outside Containment," did not ensure that residual deposits of boric acid on the containment spray, high head and low head safety injection systems were removed, so that active system fluid leaks could be identified as required during the tests. The issue was entered into the licensee's corrective action program (CAP), the licensee took immediate corrective actions, and performed a causal evaluation at the end of this inspection.

The inspectors evaluated the finding using IMC 0609, "Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The finding screened as very low safety significance (Green) because the finding did not: represent the degradation of the radiological barrier function provided for the auxiliary building; represent a degradation of the barrier function of the control room; and did not represent an actual open pathway in the physical integrity of reactor containment. The inspectors also determined that the primary cause of this finding is related to the cross-cutting area of human performance (H.2(c)). Specifically, under the component of resources, the licensee failed to ensure that procedures were adequate and accurate to assure nuclear safety.

Inspection Report# : [2007003](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain Design Margin for Control Room Emergency Filtration Fan Thermal Overload Trips

A non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion III, "Design Control," having very low safety significance was self-revealed for the failure to maintain sufficient design margin for the expected running currents of the control room emergency filtration system fans to their thermal overload trip settings. This occurred due to design errors in a modification that replaced the fans in October 2006. Control Room Emergency Filtration System (CREFS) Fan W-1-B tripped on a breaker thermal overload during surveillance testing in February 2007 with low outside ambient air temperature (approximately negative 11°Fahrenheit). Licensee analyses also demonstrated that a trip of fan W-14A could have occurred for the combination of low ambient temperature and degraded grid voltage. The licensee took immediate corrective actions to replace the breaker thermal overloads with thermal overloads of a higher setting as a result of troubleshooting and evaluations performed following the trip of the W-14B fan. The issue was entered into the licensee's corrective action program and a root cause evaluation was subsequently performed.

The finding is greater than minor because it is associated with the attribute of maintaining radiological barrier functionality of the control room and affected the Barrier Integrity cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Loss of CREFS fans during a release could result in increased dose to the operators in the control room potentially affecting control room habitability. Although the finding involved a potential failure of the CREFS to provide its filtration function, the simultaneous occurrence of low outside air temperature, degraded grid voltage, and a radiological release is of very low probability. The finding for the failure to provide the correct thermal overload trip setting is a design deficiency that has a cross-cutting aspect in the area of human performance in that resources were not effective in maintaining long-term plant safety by maintenance of design margins.

Inspection Report# : [2007002](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Significance:  Dec 15, 2006

Identified By: NRC

Item Type: FIN Finding

Untimely Completion of Three RCEs Involving Radiation Protection

The inspectors identified a finding of very low safety significance for the licensee's untimely completion of three root cause evaluations in the radiation protection area. The 3 evaluations were completed in 8-9 months instead of the 30 days stated in the corrective action program administrative procedure. Several due date extensions had been approved by station management early in the conduct of the evaluations and they eventually went overdue before they were completed. No violation of NRC requirements was identified. The licensee entered this finding into its corrective action program for evaluation.

The inspectors concluded that the issue of allowing the completion time for the three root cause evaluations to exceed the 30-day limit in the procedure is a finding that if left uncorrected would become a more significant safety concern, and thus, is a finding that is greater than minor. Because the finding did not involve an overexposure, a substantial potential for an overexposure, and a compromise of the ability to assess dose, it is of very low safety significance. The inspectors also determined that a primary cause of this finding was related to the cross-cutting area of human performance within the component of work control and the aspect of coordinating work activities.

Inspection Report# : [2006015](#) (*pdf*)

Public Radiation Safety

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Conditional Release of Radioactively Contaminated Material, a Check Source Mechanism

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

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

Inspection Report# : [2006005](#) (*pdf*)

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.

Miscellaneous

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.

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

Significance: N/A Dec 15, 2006

Identified By: NRC

Item Type: FIN Finding

Biennial Problem Identification and Resolution Inspection

The team concluded that the licensee's program for the identification and resolutions of problems was functioning appropriately and had improved since the previous NRC PI&R expanded team inspection conducted in late 2005. The licensee was identifying plant problems at an appropriately low level, although, the inspectors noted that the threshold for entering wall thinning issues into the program was high relative to the level at which other issues were entered. The inspectors identified three findings in the area of prioritization and evaluation of issues: one for an inadequate procedure for inspection of service water pipe, one for an inadequate extent-of-condition review for boric acid corrosion on valves; and one for untimely completion of three root cause evaluations. In the area of effectiveness of corrective actions, the inspectors concluded that a licensee-developed training course on engineer rigor was well developed and implemented and that corrective actions for three previous issues may need additional management attention to ensure timely completion. The licensee's use of operating experience and self-assessments and audits was found to be appropriate. From interviews conducted during this inspection, the inspectors concluded that workers at Point Beach felt free to input nuclear safety findings into the corrective action program.

Inspection Report# : [2006015](#) (*pdf*)

Last modified : August 24, 2007