

Kewaunee

1Q/2008 Plant Inspection Findings

Initiating Events

Significance: **G** Sep 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Implement Maintenance Rule (a)(1) in Corrective Actions on the "G" Instrument Air Compressor

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR 50.65(a)(1), "Requirements for monitoring the effectiveness of maintenance at nuclear power plants." Specifically, as of August 25, 2007, the licensee failed to implement the Maintenance Rule (a)(1) action plan which had been incorporated into plant procedure N-AS-01 to preclude a loss of the "G" air compressor. The licensee entered the issue into their corrective action program. Corrective actions have included implementation of the procedural requirements of N-AS-01 for both the "G" and "F" air compressors.

The finding is greater than minor because it relates to a licensee failure to implement prescribed significant compensatory measures to manage risk and implement the 10 CFR 50.65(a)(1) action plan. Additionally, the finding is 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 inspectors evaluated the finding using Inspection Manual Chapter 0609, Appendix A, "Significance Determination Process," and determined that this finding is of very low safety significance by answering "No" to all questions in the Initiating Events Cornerstone column.

Inspection Report# : [2007004](#) (*pdf*)

Significance: **G** Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

No Analysis or Procedures to Establish Operability of the Tertiary Auxiliary Transformer Source

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to evaluate the capability of the 345 kV offsite power supply when isolated from the 138 kV switchyard and to translate this criteria into procedures.

This issue was more than minor because procedures allowed operation of the station in unanalyzed configurations for which operability of one offsite source could not be assured and new calculations were needed to ensure that the design basis was met. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Significance: **G** Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Incorporate and Effectively Implement Operating Experience in Reactor Trip Breaker Maintenance Activities

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR 50.65(a)(3) for the failure to incorporate external and internal operating experience into preventive maintenance activities for the reactor trip breakers. This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program because the licensee did not thoroughly evaluate previous breaker issues and did not perform adequate extent of condition reviews. Specifically, the licensee initiated several corrective action documents in response to identified issues; however, did not perform adequate evaluations of the conditions to address the cause or resolve the identified issue. (P.1.(c))

This issue was more than minor because the licensee failed to ensure that the reactor trip breakers (RTBs), and their associated cell assemblies, had been maintained in a continuous state of operational readiness by performing effective maintenance and surveillance activities in accordance with relevant vendor specifications and available operating experience. The issue was of very low safety significance based on a Phase 1 screening because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available.

Inspection Report# : [2007006 \(pdf\)](#)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Acceptance Criteria Not Met Due to Failure to Follow Procedure

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." Specifically, on May 22, 2006 during the performance of PMP-47-01, maintenance technician recorded a trip bar force of 32 ounces when testing reactor trip breaker (RTB) serial number 850-027-1, which exceeded the acceptance criteria; however, no further actions were taken as required by the test. This finding has a cross-cutting aspect in the area of Human Performance, Work Practices because the licensee did not perform an adequate peer check of the surveillance results. Specifically, several individuals including the person performing the task did not identify that the RTB trip bar force exceeded the acceptance criteria. (H.4.(c))

This issue was more than minor because not meeting the acceptance for the trip bar force impacted the reliability of the RBTs because excessive force could result in a failure to trip the breaker. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006 \(pdf\)](#)

Mitigating Systems

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Scaffolding in Close Proximity to Multiple Safety-Related Systems Affects Operability

A finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors for the licensee's failure to install scaffolding in accordance with station procedures. Specifically, more than ten examples where scaffolding was built within 2-inches of safety-related systems without an engineering evaluation, and six examples where non-seismic scaffolding was built in safety-related areas were identified. The licensee suspended all scaffold building pending the completion of their corrective actions. The corrective actions included training scaffold builders on proper scaffold building techniques and how to identify operational and seismic concerns, revising procedures for scaffold building to address operations and engineering involvement in the scaffold building process, and a complete plant walkdown of all scaffolding by engineering or operations.

This finding was more than minor because it was 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. Specifically, the improperly installed scaffolding could have impeded or prevented proper operation of the safety-related components. Using Attachment 4 of IMC 0609, the inspectors answered "no" to all the screening questions in the SDP Phase 1 Screening Worksheet in the Mitigating Systems column; therefore, this finding is of very low safety significance (Green). The inspectors determined that this finding had a cross cutting aspect in the area of problem identification and resolution, corrective action program, because the licensee did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner.

Inspection Report# : [2008002 \(pdf\)](#)

Significance:  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Characterize and Manage Risk in Accordance with Maintenance Rule With the Turbine-Driven Auxiliary Feedwater Pump in Pull-to-Lock

A finding of very low safety significance and an associated Non Cited Violation (NCV) of 10 CFR 50.65(a)(4), "Requirements for monitoring the effectiveness of maintenance at nuclear power plants," was identified by the inspectors during startup of the reactor following a plant shutdown to replace leaking hydrogen coolers on the turbine generator. The licensee entered this issue into its corrective action program.

The finding is greater than minor because if left uncorrected the finding would become a more significant safety concern. Specifically, the licensee failed to correctly characterize the risk on October 12 13, 2007. The inspectors evaluated the finding using Appendix K of Inspection Manual Chapter 0609, "Maintenance Risk Assessment and Risk Management Significance Determination Process," and determined that this finding was of very low safety significance in accordance with Flowchart 1, "Assessment of Risk Deficit."

Inspection Report# : [2007005](#) (*pdf*)

Significance:  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Solenoid Valve Not Installed Properly

A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when the "B" turbine building service water header isolation valve failed to fully cycle on demand. Specifically, the licensee failed to provide adequate procedures to support installation and maintenance for certain designs of solenoid valves used in the instrument air system. A failure of an instrument air system solenoid valve caused the service water valve to fail. The licensee repaired the solenoid valve and entered the issue into its corrective action program.

The finding is greater than minor because it 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 (i.e., core damage). Specifically, the licensee failed to provide adequate procedures to support the installation, maintenance, and operation of safety-related solenoid valve, SV-33044. Using Appendix A of Inspection Manual Chapter 0609, the inspectors answered "no" to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet in the Mitigating Systems column; therefore, this finding is of very low safety significance. This finding has a cross-cutting aspect in the area of human performance because related installation and maintenance procedures (resources) were inadequate and not up to date to ensure safety-related equipment was protected (H.2(c)).

Inspection Report# : [2007005](#) (*pdf*)

Significance:  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedures for Post-Maintenance Testing of Steam Traps in the Turbine-Driven Auxiliary Feedwater Pump System

A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors during observation of a post-maintenance test on a steam trap associated with the turbine-driven auxiliary feedwater pump (TDAFWP) in accordance with plant procedure CMP-13-01 "TD-Turbine Room Traps and Drains-Trap Maintenance." Specifically, the licensee failed to provide adequate procedures to support the testing of the steam trap. The licensee has entered the issue into the corrective action program and will be revising the appropriate procedures.

The finding is greater than minor because 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 (i.e., core damage).

Specifically, the licensee failed to update procedures to support the post maintenance testing of steam traps in the TDAFWP system. Using Appendix A of Inspection Manual Chapter 0609, the inspectors answered “no” to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet in the Mitigating Systems column; therefore, this finding is of very low safety significance. This finding has a cross-cutting aspect in the area of human performance because the licensee had ample opportunity (resources) available to update procedure CMP-13-01 during multiple prior maintenance activities but did not (H.2(c)).

Inspection Report# : [2007005](#) (pdf)

Significance:  Dec 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Seismic Storage Procedure

A finding of very low safety significance and an associated Non-Cited Violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was identified by the inspectors during a review of procedures related to the control and storage of material. Specifically, procedure GNP 01.31.01, “Plant Cleanliness and Storage,” permitted uncontrolled storage of materials next to a Seismic Class 1 system. Additionally, opportunities existed to correct it and/or place compensatory measures in place after the NRC issued an NCV related to this issue in the first quarter of 2007. The licensee has entered the issue into the corrective action program and will be revising the procedure.

The finding is greater than minor because it is associated with the procedure quality 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). Specifically, the procedure allowed uncontrolled storage of materials in the vicinity of Seismic Class 1 systems that could render the systems inoperable during a seismic event. Using Appendix A of Inspection Manual Chapter 0609, the inspectors answered “no” to all the screening questions in the Significance Determination Process Phase 1 Screening Worksheet in the Mitigating Systems column; therefore, this finding is of very low safety significance. This finding has a cross-cutting aspect in the area of problem identification and resolution because the licensee failed to take appropriate timely corrective actions or put compensatory actions in place after the NRC issued a Non-Cited Violation relating to this issue in the first quarter of 2007 (P.1(d)).

Inspection Report# : [2007005](#) (pdf)

Significance:  Dec 19, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Extent of Condition Review for Fuel Leak.

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” of very low safety significance, for failure by the licensee to follow procedural requirements for performing an adequate extent of condition for a diesel fuel line failure in 2006. Specifically, the licensee failed to complete an extent of condition which would have evaluated different systems where a similar failure mechanism (cyclic fatigue) could occur. The licensee entered the item into their corrective action program.

The issue is greater than minor because it was associated with the equipment performance attribute of the Mitigating System Cornerstone and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, it affected the equipment performance attribute for availability and reliability. Using Inspection Manual Chapter 0609, “Significance Determination Process,” the inspectors screened this issue as of very low safety significance (Green) because no loss of safety function occurred.

Inspection Report# : [2007011](#) (pdf)

Significance:  Dec 19, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Initiate Corrective Action Documents for Multiple Leaks in the Plant

The inspections identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” of very low safety significance. Specifically, the licensee failed to initiate corrective action documents

in accordance with plant procedures for multiple leaks found in the plant. The licensee entered this item into its corrective action program.

The finding is greater than minor because it was associated with the equipment performance attribute of the Mitigating System Cornerstone and affected the cornerstone objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to identify and correct leakage on equipment important to safety could eventually lead to equipment unavailability during events that the equipment is designed to mitigate. The finding is of very low safety significance (Green), because the inspectors answered “no” to all five questions under the Mitigating Systems Cornerstone column of the Phase 1 worksheet in Inspection Manual Chapter 0609, “Significance Determination Process.” Specifically, at the time that the leakage was discovered, none of the leaks immediately impacted the functionality of the equipment affected. The finding has a cross-cutting aspect in the area of human performance because the licensee failed to effectively communicate expectations regarding procedural compliance for the corrective action program.

Inspection Report# : [2007011](#) (pdf)

G

Significance: Dec 19, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Update the Updated Safety Analysis Report with Safety Analysis for Pressure Locking of Containment Sump Isolation Valves

The inspectors identified a non cited violation of 10 CFR 50.71, of very low safety significance, for the licensee’s failure to update the Updated Safety Analysis Report (USAR). Specifically, the licensee failed to update the USAR to fully reflect the results of a safety analysis performed in response to Generic Letter 95 07, “Pressure Locking and Thermal Binding of Safety Related Power Operated Gate Valves.” The licensee entered this issue into its corrective action program.

Because this finding potentially impacted the NRC’s ability to perform its regulatory function, it was evaluated using the traditional enforcement process. The finding is greater than minor because the failure to provide complete licensing and design basis information in the USAR could result in either the licensee making an inappropriate licensing interpretation or the NRC making an inappropriate regulatory decision based on incomplete information in the USAR. NRC management determined that this issue is of very low safety significance (Green) because it is a design issue confirmed not to result in a loss of operability.

Inspection Report# : [2007011](#) (pdf)

G

Significance: Dec 19, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Extent of Condition Review of BF-66 Relays

The inspectors identified a non cited violation of 10 CFR 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” of very low safety significance, for failure by the licensee to follow procedural requirements for performing an adequate extent of condition following relay failures that led to reactor trips in 2006 and 2007.

Specifically, the licensee failed to perform an extent of condition action to inspect Engineered Safety Feature (ESF) relays when sufficient causal evidence was present that the same style relay in the ESF system (BF 66 relays) were susceptible to sulfidation, installation deficiencies, or manufacturing defects. The licensee entered this issue into its corrective action program.

The issue is greater than minor because, if left uncorrected, the failure to assess the other systems would become a more significant safety concern. Using Inspection Manual Chapter 0609, “Significance Determination Process,” the inspectors screened this issue as being of very low safety significance (Green) because no loss of safety function occurred.

Inspection Report# : [2007011](#) (pdf)

Significance: SL-IV Sep 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Update the Updated Safety Evaluation Report

The inspectors identified a finding of very low safety significance for the licensee's failure to adequately update the Updated Safety Analysis Report (USAR) in accordance to 10 CFR 50.71, "Maintenance of records, making of reports." The licensee failed to update the USAR to fully reflect changes and analyses made in response to license amendment 184. Once identified, the licensee entered this issue into its corrective action program.

Because this issue potentially impacted the NRC's ability to perform its regulatory function, this finding was evaluated using the traditional enforcement process. The finding is greater than minor because of the failure to provide complete licensing and design basis information in the USAR could result in either the licensee making an inappropriate licensing interpretation or the NRC making an inappropriate regulatory decision based on incomplete information in the USAR. The issue is of very low safety significance based upon a Phase 2 significance determination analysis of the associated technical issue. The issue was a NCV of 10 CFR 50.71(e), which required that the USAR be updated to include the effects of all safety evaluations performed by the licensee in support of requested license amendments. The primary cause of this violation is related to the cross-cutting area of problem identification and resolution because the extent of condition review performed for a recent and similar violation failed to identify the issue even though it was within the scope of the extent of condition review which had been performed

Inspection Report# : [2007004](#) (pdf)

Significance: SL-IV Jun 30, 2007

Identified By: NRC

Item Type: VIO Violation

Failure to Perform a 10 CFR 50.59 Evaluation for Compensatory Measures Associated with a Procedure Change

The inspectors identified a finding having very low safety significance and an associated Severity Level IV, Cited Violation of 10 CFR 50.59 while reviewing unresolved items URI 05000305/2006003-04, "Adequacy of Compensatory Actions for Potential Turbine Missile Strike of Control Room Ventilation Cooling"; and URI 05000305/2006016-01, "Adequacy of 10 CFR 50.59 Screening for Procedure Change." Specifically, the licensee failed to properly interpret design and licensing basis requirements associated with protection against external events and as a result did not perform a 10 CFR 50.59 evaluation. The cause of this finding is related to the cross-cutting area of problem identification and resolution because the licensee had similar prior problems that, if effectively evaluated and resolved, could have prevented this issue. (P.1(c))

This finding was determined to be more than minor because the inspectors determined that the procedure change would have ultimately required NRC approval. The procedure changes, in the form of compensatory operator actions, adversely impacted the operation of control room recirculation system following a tornado. A Phase 1 significance determination of this finding using IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," using the Severe Weather Screening Criteria questions was completed. Since the loss of the control room recirculation system would not result in an initiating event or degrade two or more trains of a multi-train safety system, the issue screened as Green.

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

Significance:  May 18, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Procedure Non-Compliance

The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to adequately implement procedure DNAP-1604, "Cause Evaluation Program," and the Cause Evaluation Handbook during investigative analyses of root cause, collective significance, and apparent cause evaluations. The licensee subsequently revised several apparent cause evaluations (ACEs), such as ACE 3374 on the diesel generator B fuel rack shaft binding, and completed industry benchmarking to improve root cause evaluation and ACE investigative analysis.

This finding was associated with the Mitigating Systems Cornerstone. The finding was more than minor because, if left uncorrected, the licensee's analyses of conditions adverse to quality, such as the investigation of the diesel generator B fuel rack shaft binding, as documented in ACE 3374, would not be performed at an appropriate investigative depth for cause determination. The inspectors assessed the significance of this finding as very low safety significance (Green) because the finding did not represent an actual loss of safety function of the equipment. The finding was associated with cross-cutting aspect P.1(c), in the area of problem identification and resolution, corrective action program, because the licensee failed to thoroughly analyze the sequence of events and the cause and effect

relationships potentially impacting the causal determination of CAP evaluations.
Inspection Report# : [2007008](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

No Motor Starting Analyses for Offsite Power Supply

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to perform motor starting studies to demonstrate that motors would successfully start when connected to the offsite power supply. Upon discovery, the licensee provided additional data and compensatory measures to justify operability.

The inspectors determined that the performance deficiency was more than minor because the lack of a formal motor starting calculations resulted in the adequacy of important aspects of the design not being demonstrated, such that further evaluation needed to be performed in order to demonstrate that the equipment could perform its safety function. Although, by the end of the inspection, the licensee was able to demonstrate operability, at the time of discovery there was reasonable doubt on the operability of motors. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Increased Cable Resistance Due to Accident Temperatures

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to consider the effects of accident temperatures on cable resistance in voltage drop calculations. Upon discovery, the licensee performed preliminary calculations to verify operability of the circuits.

This issue was more than minor because the calculational errors had more than a minimal effect on the outcome of the calculation, considerably impacting the available margin of the system such that further evaluation needed to be performed in order to demonstrate that the equipment could perform its safety function. Although, by the end of the inspection, the licensee was able to demonstrate operability; at the time of discovery there was reasonable doubt on the operability of the circuits. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Ensure Adequate 125-Volt Direct Current Breaker Interrupting Short Circuit Current Capability

The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to ensure that four of the 125-Volt Direct Current (DC) circuit breakers had adequate interrupting short circuit fault current capability. Upon discovery, the licensee performed a preliminary evaluation, and verified that the most likely fault would result in a lower short circuit fault current than the breakers rating.

This issue was more than minor because the failure could have affected the operability of the breaker/DC Bus and could have resulted in the loss of DC power to safe shutdown equipment in the event of short circuit faults. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Use Actual Minimum Voltage Value in 125-Volt Direct Current Voltage Drop Calculation

The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to use correct design input data into the 125-Volt Direct Current safeguard battery calculation. The licensee used a battery terminal voltage value of 117.49 volts for BRA-101 and 118.95 volts for BRB-101, for the first minute, and did not compensate for worse case conditions. Upon discovery, the licensee performed preliminary evaluation and verified that safe shutdown equipment have adequate voltage using the battery terminal voltage value of 113.87 volts.

This issue was more than minor because the failure to use correct design input had more than a minimal effect on the outcome of the voltage drop calculation, considerably impacting the available margin of the system such that further evaluation needed to be performed in order to demonstrate that equipment could perform its safety function.

Although, during the inspection, the licensee was able to demonstrate operability; at the time of discovery there was reasonable doubt on the operability of circuits. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (pdf)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Acceptance Criteria in 125-Volt Direct Current Station Battery Load Tests Procedures

The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings." Specifically, the licensee failed to include the acceptable minimum battery terminal voltage, during the first minute, into the acceptance criteria for battery load test procedures SP-38-102A/B "Station Battery Load Test." Upon discovery, the licensee entered the issue into its corrective action program to revise the acceptance criteria of procedures SP-38-102A/B to include this requirement.

This issue was more than minor because the failure to ensure that the battery terminal voltage during the first minute battery discharge did not drop below the design input value could have affected the operability of safety related equipments in the event of a design basis accident and or station blackout conditions. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (pdf)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Adequate Control Voltage for 4160-Volt Breaker's Closing Coil Was Not Assured

The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to assure that the minimum available control voltage at the 4160-Volt breakers was adequate to energize the closing coils during all conditions. Upon discovery, the licensee performed preliminary calculation and verified operability of the emergency diesel generators 4160-Volt breakers following loss of all alternating current power conditions.

This finding was more than minor because the failure to assure adequate control voltage was available to close the 4160-Volt breakers would have affected the capability of emergency diesel generators and other safety related equipments to respond to initiating events. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (pdf)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Safeguard Battery Load Profile Did Not Include Loss of Offsite Power/Loss of Coolant Accident Loads

The inspectors identified an NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control" having very low safety significance for the licensee's failure to assure that safeguard battery loads profile was adequate to meet all Updated Safety Analysis Report (USAR) requirements. Specifically, the licensee failed to verify that the battery loading profile for loss of coolant accident (LOCA) coincide with loss of all alternating current power condition (loss of offsite power) was bounded by the station blackout condition loading to ensure adequate battery sizing and testing. Upon discovery, the licensee was able to show that the charger will be available upon the start of the emergency diesel generator and will provide additional support. This issue was entered into the licensee's corrective action program to revise the battery calculation to include the LOCA loads.

This finding was more than minor because the failure to include the LOCA loads in the battery sizing and testing did not ensure the capability of the battery to provide adequate direct current power in accordance with USAR requirements. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (pdf)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Electrolytic Capacitors in Spare Safeguard Battery Charger Not Periodically Energized

The inspectors identified a finding having very low safety significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action." Specifically, the licensee failed to incorporate previously identified vendor recommendation to periodically energize the spare 125-volt direct current safeguard battery charger for at least a half-hour every 18 months to ensure the operability of the electrolytic capacitor in the charger. The licensee has previously entered the vendor recommendation into their corrective action in 2002, however, all actions were closed but the recommendation was never implemented. Following discovery, the licensee entered the issue into its corrective action program and declared the spare charger inoperable. The primary cause of this violation was related to the cross-cutting area of problem identification and resolution because the licensee failed to take appropriate corrective actions to address a previously failed charger. Specifically, the licensee developed corrective actions which included incorporating pertinent vendor recommendation into the preventive maintenance program but closed the action without ensuring completion (P.1.d)

This issue was more than minor because the failure to periodically energize the spare charger did not ensure the operability and reliability of the spare charger when needed. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (pdf)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Diesel Loading Calculations Non-Conservative

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to properly account for all loads on the diesel generators. Upon discovery, the licensee provided additional data and initiated procedure changes to ensure diesels were loaded within their ratings.

The inspectors determined that the performance deficiency was more than minor because the lack of adequate diesel generator loading calculations resulted in some diesel loads not being properly accounted for, such that further evaluation needed to be performed in order to demonstrate that the equipment could perform its safety function. Although, by the end of the inspection, the licensee was able to demonstrate operability, at the time of discovery there was reasonable doubt on the operability of equipment. The inspectors screened the finding using IMC 0609, Appendix A. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (pdf)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

RWST Level Instruments Do Not Protect SI and RHR Pumps from Excessive Air Entrainment

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to incorporate the results of design calculations with respect to minimum refueling water storage tank (RWST) level and transfer of suction sources into the appropriate emergency operating. Procedures allowed operators to transfer suction at 4 percent indicated level in the RWST; however, at this level, significant air entrainment may damage the pumps. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not thoroughly evaluate problems such that the resolution addresses the extent of condition (P.1.c).

This issue was more than minor because the existing margin was already low and as a consequence, the large error associated with the level instrument resulted in eliminating the entire margin, and jeopardized the functionality of the pumps taking suction from the RWST due to excessive air entrainment. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations" SDP Phase 1.

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Non-Conservative Assumption Used in Service Water Flow Model Calculation

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to appropriately account for service water strainer plugging in the service water system flow model. Upon discovery, the licensee placed this issue into their corrective action program and planned to formally revise the service water system flow model to reflect plugging of both strainers in a train.

The issue was more than minor because the error had more than a minimal effect on the outcome of the calculation, considerably impacting the available margin of the system such that further evaluation needed to be performed in order to demonstrate that the service water system could perform its safety function. The issue was of very low safety significance because the issue was a design issue confirmed to not result in a loss of operability.

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Screen House Ventilation Damper Maintenance

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Paragraph (b)(2), for the licensee's failure to scope the closing function of the screenhouse ventilation dampers into the monitoring program. Specifically, the degraded screen-house dampers fail to close and maintain ambient temperatures > 60 °F such that service water system would remain operable and available after a station blackout event with severely cold outside temperatures. Following discovery, the licensee entered the issue into its corrective action program for resolution.

This issue was more than minor because the licensee had not included the closing function of the screen-house ventilation dampers within the scope of its program for implementation of the Maintenance Rule. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Non-Conservative Assumption Used for "B" Component Cooling Water Pump Room Heat Gain Calculation

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III. Specifically, the licensee failed to account for component cooling water (CCW) piping temperatures as high as 176°F in the CCW "B" pump room and the impact upon the temperature in the CCW "B" pump room. As a result, the licensee used the non-conservative results in an operability evaluation for the auxiliary building fan coil unit (FCU). Upon discovery, the licensee placed this issue into their corrective action program, performed an immediate operability evaluation, and planned to perform a more thorough evaluation. This finding has a cross-cutting aspect in the area of human performance associated with decision making because the licensee did not use conservative assumptions. Specifically, the licensee failed to account for higher CCW piping temperatures because the licensee did not model the CCW room properly and did not use the maximum expected temperature under accident conditions when revising calculation C11156 (H.1.b).

The issue was more than minor because the error because, if left uncorrected, the finding would become a more safety significant concern. The use of a non-conservative value as a basis for operability could allow FCU performance to degrade to unacceptable levels without being detected and corrected. The issue was of very low safety significance because the issue was a design issue confirmed to not result in a loss of operability.

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Safety Injection Pump Lube Oil Coolers Testing Deficiencies

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control." Specifically, the licensee failed to establish a testing program capable of identifying an unacceptable condition of the safety injection (SI) lube oil coolers. Upon discovery, the licensee initiated a change to the test program methodology and performed back-flushing and inspection on the two SI lube oil coolers. The licensee also assessed that as a result of the very cold temperature of the water of Lake Michigan during the inspection, the cooler was considered operable. This finding has a cross-cutting aspect in the area of problem identification and resolution associated with self- and independent assessments because during a 2005 audit of licensing commitments, the licensee failed to identify that the commitment to perform inspection and maintenance of the SI lube oil coolers in accordance with the licensee's response to Generic Letter 89-13 was not kept (P.3.a).

This issue was more than minor because when later assessed, the licensee realized that the coolers would have failed previous tests when reevaluated performance factors were less than the acceptance criterion of 0.9. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Barrier Integrity

Significance:  Mar 31, 2008

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow the Provisions of Corrective Action Procedure PI-KW-200 Following Surveillance Testing of Containment Isolation Valve LOCA-31

A finding of very low safety significance (Green) and an associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified by the inspectors following surveillance testing of containment isolation valve LOCA 3A in accordance with plant procedure SP 55 167 4B, "Post LOCA Valves Timing Test (IST) from Local Panel-Train B." Specifically, the licensee failed to initiate a condition report in accordance with procedure PI-KW-200, "Corrective Action," following a review of the test results by the inservice testing program engineer who subsequently identified a potential condition which called into question the operability of LOCA-3A.

The finding was more than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Screening," dated September 20, 2007, because the finding was associated with the structure, system and

component (SSC) and barrier performance attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective to provide reasonable assurance that the physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the licensee failed to implement the provisions of Corrective Action Procedure, PI-KW-200, which resulted in a failure to ensure operability of containment isolation valve LOCA-3A. The inspectors also determined that the primary cause for this finding was related to the cross cutting area of human performance, work practices, because personnel have been trained in need for procedural use and adherence but did not follow applicable procedures.
Inspection Report# : [2008002](#) (pdf)

Significance:  Sep 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Preconditioning of Safety-Related Motor-Operated Valves Prior to Performance of Technical Specification Required Surveillance Testing

The inspectors identified a finding of very low safety significance and an associated non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," during plant preparations to perform Surveillance Procedure SP-23-100B, "Train B Containment Spray Pump and Valve Test - IST." Specifically, the inspectors noted on August 8, 2007, that shortly prior to performing the surveillance procedure, the plant had hung safety tags on the containment spray system in order to perform repair activities on IDS-102, a check valve in that system. These tags required that normally open motor-operated valves IDS-202 and IDS-2B be cycled closed and tagged in order to isolate the check valve. Because these motor-operated valves were required to be stroke and time-tested during the performance of the surveillance procedure, and the effects of preconditioning on these valves was not considered prior to implementation of the maintenance activity, the inspectors determined that plant procedures were inadequate to assess preconditioning implications associated with station activities. The licensee entered the issue into their corrective action program. Corrective actions included completion of the surveillance procedure with acceptable results and a evaluation of the test results, which determined that the surveillance test was acceptable.

The finding is greater than minor because it was associated with the configuration control attribute of the Barrier Integrity Cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. The inspectors evaluated the finding using IMC 0609, Appendix A, "Significance Determination Process," and determined that this finding is of very low safety significance by answering "No" to all questions in the containment barriers cornerstone column. The inspectors also determined that the primary cause for this finding is related to the cross-cutting area of human performance. Specifically, under the component of resources, procedures to assess and prevent preconditioning of safety-related components were not complete, accurate, and up-to-date

Inspection Report# : [2007004](#) (pdf)

Significance:  Jun 30, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Procedure for Surveillance Testing of Auxiliary Building Special Ventilation Zone

The inspectors identified a finding having very low safety significance and an associated non-cited Violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," while reviewing surveillance testing procedures for the auxiliary building special ventilation zone (Zone SV). Specifically, the licensee procedure for tracking the amount of in-leakage into the Zone SV did not have adequate criteria to capture degraded conditions, nor ensure that the acceptance criteria reflected the design requirements of the system. The cause of this finding is related to the cross-cutting area of problem identification and resolution because the licensee failed to properly evaluate multiple condition reports for operability and extent of condition. (P1(c))

This finding was determined to be more than minor because, if left uncorrected, the failure to evaluate barrier breaches that did not have breach permits could become a more significant safety concern. Specifically, if left unmonitored the breaches without barrier permits could potentially exceed the allowable design limits. The finding was evaluated using IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations." The answer to Question 1 in the Significance Determination Process Phase 1 Screening Worksheet in the Containment Barrier Cornerstone column was "yes"; therefore, this finding is of very low safety significance (Green). Corrective actions to date included revisions to procedure FPP-08-09, to track barrier breaches that result

from degraded conditions and provide conservative acceptance criteria.

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

Significance:  Apr 17, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Loss of Coolant Environment Improperly Considered in Containment Fan Coil Unit Calculation

The inspectors identified a finding having very low significance and an associated NCV of 10 CFR Part 50, Appendix B, Criterion III, "Design Control." Specifically, the licensee failed to use the correct data when determining the most limiting conditions on the safety related motors of the containment fan coil units (CFCUs). The engineers failed to use the combination of the greatest density of the air-steam mixture following a loss of coolant accident (LOCA) with the greatest flow rate attributed to the fans by testing. As a result, the licensee was not aware that post-LOCA, the motors will be operating at 113 percent of their design rating, and drawing 13 additional kilowatts from each diesel generator. Upon discovery, the licensee recalculated the motors' horsepower, recalculated the service factor (percent above continuous design rating) at which the motors will be operating, and recalculated the elevated current that will be drawn by the motors, and the elevated current at degraded voltage. In addition, the licensee had to reevaluate whether the over-current trip setpoint of the motors will be exceeded.

This issue was more than minor because the assumed power drawn by the motors was significantly less, the existing margin was already low, and as a consequence, the error resulted in a significant reduction in margin. This issue also impacted the capability of the emergency diesel generators to supply the required power to the CFCU's motors. The issue was of very low safety significance based on a Phase 1 screening in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations."

Inspection Report# : [2007006](#) (*pdf*)

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

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

Last modified : June 05, 2008