Cooper
1Q/2010 Plant Inspection Findings

Initiating Events

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Surveillance Procedure Causes Near Toxic Gas Release
A self-revealing noncited violation of Technical Specification 5.4.1.d, “Fire Protection Program Implementation” was identified for the licensee’s failure to follow the requirements of Surveillance Procedure 6.FP.306, “Fire Detection Systems Semi-Annual Examination.” Specifically, licensee technicians actuated the wrong thermal detector during surveillance testing, causing the CO2 fixed flooding system timer to actuate. Technicians recognized the error when the local and remote alarms actuated, and removed the heat source from the detector prior to release of the CO2 gas. The licensee entered this issue in their corrective action program as CR-CNS-2009-07008.

The performance deficiency associated with this finding involved the licensee’s failure to follow the requirements of Surveillance Procedure 6.FP.306, “Fire Detection Systems Semi-Annual Examination.” Specifically, licensee technicians actuated the wrong thermal detector during surveillance testing, causing the CO2 fixed flooding system timer to actuate. The finding affects the initiating events cornerstone and is more than minor because it could be reasonably viewed as a precursor to a significant event, namely a toxic CO2 release in the Diesel Generator 1 room. Using the Manual Chapter 0609, Appendix F, Phase 1 screening worksheet, the inspectors determined that the finding has very low safety significance because it was associated with a low degradation rating. The finding has a crosscutting aspect in the area of human performance associated with work practices because maintenance technicians failed to use appropriate self or peer checking techniques, and proceeded in the face of uncertainty when unlabeled components were encountered [H.4(a)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: FIN Finding
Multiple Examples of a Failure to Follow Procedure For Extension Cord Configuration Control
The inspectors identified multiple examples of a finding for the licensee’s failure to initiate condition reports as required by Administrative Procedure 0.36.7, “Electrical Cord Control/GFCI Program,” to resolve extension cords which had been in place longer than 90 days. Had the condition reports been initiated, design engineering would have evaluated whether permanent power receptacles were needed to power plant equipment, such as security cameras. The licensee entered this issue in their corrective action program as CR-CNS-2009-08610.

The performance deficiency associated with this finding was the licensee’s failure to initiate condition reports for multiple examples of extension cords being used as a substitute for permanent wiring for greater than 90 days. The finding is more than minor because, if left uncorrected, the performance deficiency had the potential to lead to a more significant safety concern, such as electrical shock, equipment damage or fire. Because the plant was shutdown at the time this performance deficiency occurred, the inspectors used Manual Chapter 0609, Appendix G, ”Shutdown Operations Significance Determination Process.” Using Checklist 7 in Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Operational Checklists For Both PWRs and BWRs”, the inspectors determined that the finding had very low safety significance because every item on the checklist was met. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee’s procedure for control of extension cords does not require tracking of extension cord use to ensure that condition reports are initiated for cords in use greater than 90 days [H.2(c)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: FIN Finding
Maintenance Error Results in Recirculation Pump Trip
The inspectors identified a finding for the licensee's failure to follow the requirements of Administrative Procedure 0.40, "Work Control Program," Revision 68. Specifically, a maintenance technician violated the procedure by attempting corrective maintenance on the Reactor Recirculation Motor Generator A lubricating oil system without notifying the control room, resulting in a trip of the motor generator and the supported reactor recirculating pump. The licensee entered this issue in their corrective action program as CR-CNS-2009-09023.

The performance deficiency associated with this finding was the licensee's failure to follow the requirements of Administrative Procedure 0.40, "Work Control Program," on October 29, 2009. The finding is more than minor because it adversely affected the configuration control attribute of the initiating events cornerstone, and adversely 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 the plant was shutdown at the time this performance deficiency occurred, the inspectors used Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." Using Checklist 7 in Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Operational Checklists For Both PWRs and BWRs", the inspectors determined that the finding had very low safety significance because every item on the checklist was met. The finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee's maintenance technician did not use the procedurally-required Stop-Think-Act-Review step (error prevention tool) which would have required him to ensure that all energy had been removed from the recirculation motor generator oil system prior to performing maintenance on the system [H.4(a)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Follow Procedure For Control of Material
A self-revealing finding was identified for the licensee's failure to follow Administrative Procedure 0.47, "Control of In-Process Material," Specifically, a maintenance technician violated the procedure by obtaining a spare o-ring from an uncontrolled toolbox and that o-ring was then installed in the Main Turbine Control Valve 3 hydraulic fitting. The o-ring was the wrong size and caused a hydraulic leak that required taking the turbine off line and shutting down the reactor from 70 percent power. The licensee entered this issue in their corrective action program as CR-CNS-2009-09606.

The finding is more than minor because it adversely affected the configuration control attribute of the initiating events cornerstone, and adversely 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, in that this finding resulted in a condition that prompted a plant shutdown from 70 percent power. In accordance with Manual Chapter 0609, Attachment 4, the inspectors used the Phase 1 "Initial Screening and Characterization" worksheet to determine that the finding has very low safety significance because it did not result in the loss of any system safety function. The cause of this finding is related to human performance cross cutting component of work practices because the involved maintenance personnel proceeded in the face of uncertainty when obtaining replacement o-rings [H.4(a)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Procedure Noncompliance Causes Fire in Heater Bay
A self-revealing noncited violation of Technical Specification 5.4.1.d, "Fire Protection Program Implementation," was identified for the licensee's failure to follow Administrative Procedure 0.39, "Hot Work." Specifically, contractors

under the licensee's control failed to consider weld pre-heating as an activity requiring hot work controls, and as such did not take the appropriate precautions for a pre-heating activity. As a result, a degraded pre-heating blanket failed in service, started a fire in the heater bay and resulted in declaration of a Notice of Unusual Event. The licensee entered this issue in their corrective action program as CR-CNS-2009-08061.

The performance deficiency associated with this finding involved the licensee's failure to follow the requirements of Administrative Procedure 0.39, "Hot Work." Specifically, contractors performing work in the turbine building heater bay failed to consider weld pre-heating as an activity requiring hot work controls and did not take the appropriate precautions for the pre-heating activity. The finding is more than minor because it affected the external events aspect 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 determined that Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," could not be applied to shutdown plant conditions. Because the plant was shutdown at the time this performance deficiency occurred, the inspectors used Manual Chapter 0609, Appendix G, "Shutdown Operations Significance Determination Process." Using Checklist 7 in Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Operational Checklists For Both PWRs and BWRs", the inspectors determined that the finding had very low safety significance because every item on the checklist was met. This finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee personnel failed to maintain adequate supervisory control over contractors performing welding in the turbine building heater bay [H.4(c)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Jun 23, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Tagout Results in Draining of Turbine Equipment Cooling System
A self-revealing noncited violation of Technical Specification 5.4.1.a was reviewed when the licensee failed to follow the requirements of Administrative Procedure 0.9, "Tagout." This procedure violation resulted in an inadequate tagout for the station safety-related service water system and a subsequent partial draindown of the turbine equipment cooling system, causing receipt of the turbine equipment cooling surge tank low level alarm. The licensee entered this issue into their corrective action program as Condition Report CR-CNS-2009-00232.

This finding is more than minor because it could reasonably be viewed as a precursor to a more significant event in that a sustained loss of turbine equipment cooling would result in a reactor scram. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because it did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. Additionally, the cause of the finding was related to the human performance crosscutting component of work practices because the tagout originator and verifier failed to use adequate self and peer checking error prevention techniques when generating the tagout [H.4(a)].

Inspection Report# : 2009003 *(pdf)*

Mitigating Systems

Significance: G Mar 24, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Repeat Failure to Follow Procedure for Initiating Condition Reports
The inspectors identified a noncited violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures and Drawings," regarding the licensee's failure to follow the requirements of Administrative Procedure 0.5, "Conduct of the Condition Reporting Process." Specifically, plant engineers performing an extent of condition review for errors in the internal flooding analysis failed to initiate condition reports for additional degraded or nonconforming conditions as they were identified. The licensee entered this issue in their corrective action program as CR-CNS-2010-01596.

The inspectors determined that Manual Chapter 0612, Appendix E, “Examples of Minor Issues” provided no sufficiently similar examples, and that the finding is more than minor because it is associated with the design control attribute of the mitigating systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, “Phase 1 – Initial Screening and Characterization of Findings,” the inspectors determined that the finding has very low safety significance because all of the items in the Table 4a mitigating systems cornerstone checklist were answered in the negative. The finding has a crosscutting aspect in the area of problem identification and resolution because the licensee failed to take appropriate corrective actions to address previously identified examples of employees not initiating condition reports during extent of condition reviews [P.1(d)].
Inspection Report# : 2010002 *(pdf)*

Significance: G Mar 24, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Service Water Pump Room Loss of Heat Calculation
The inspectors identified a noncited violation of 10 CFR, Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s use of an incorrect post-accident service water flow rate in the design basis calculation of record. Calculation NEDC 91-232 determined the minimum service water pump room temperature following a loss of offsite power. The minimum service water flow during accident conditions is used to derive the heat input into the room by the service water pump motors. The calculation incorrectly assumed a value for the post-accident service water flow rate that was less conservative than the value defined in the updated final safety analysis report. In response to the inspectors’ concerns, the licensee initiated Condition Report CR-CNS-2009-10389 and revised the affected calculation.

The inspectors determined that this performance deficiency was sufficiently similar to the not-minor-if description of Example 3.a, 3.l, 3.j and 3.k of Manual Chapter 0612, Appendix E, “Examples of Minor Issues” due to the fact the effected calculation had to be re-performed to demonstrate the operability of the service water system. As such, the inspectors determined that the finding was more than minor because it was associated with the design control attribute of the mitigating systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to mitigating events to prevent undesirable consequences. The inspectors determined that this performance deficiency was dissimilar from any other examples in Manual Chapter 0612, Appendix E. Using the Manual Chapter 0609 Exhibit 1, "Initial Screening and Characterization of Findings," the issue screened as having very low safety significance because it was a design deficiency confirmed not to result in loss of operability in accordance with NRC Manual Chapter Part 9900, Technical Guidance, “Operability Determination Process for Operability and Functional Assessment.” The inspectors determined that no cross cutting aspect was applicable to this performance deficiency because the calculation error is not reflective of current performance.
Inspection Report# : 2010002 *(pdf)*

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Set Goals and Monitoring for the Diesel Generator Lubricating Oil System
The inspectors identified a noncited violation of 10 CFR 50.65(a)(1) for the failure to monitor the performance of the diesel generator lubricating oil system against licensee-established goals in a manner sufficient to provide reasonable assurance that the diesel generator lubricating oil system was capable of fulfilling its intended safety functions. Specifically, a revision to the root cause investigation report for a diesel generator 2 lubricating oil pipe crack failure resulted in an undetected repeat maintenance preventable functional failure that required an automatic (a) (1) status of the associated maintenance rule function. Although the diesel generator system was already in (a) (1) status for other reasons, the appropriateness of the existing goals required evaluation under 10 CFR 50.65(a) (1). The licensee entered this issue in their corrective action program as Condition Report CR CNS 2009 06392 and determined it was appropriate to establish and monitor an additional goal for the emergency diesel generator lubricating oil system.

This finding is more than minor because it affected the reliability objective of the equipment performance attribute under the mitigating systems cornerstone. The inspectors determined that this performance deficiency was an additional, but separate consequence of the degraded performance of the diesel generators lubricating oil systems. Following the guidance of Appendix B to Manual Chapter 0612 and Appendix D to Inspection Procedure 71111.12, the inspectors determined that this finding occurred as a consequence of actual problems with the diesel generator lubricating oil system, and that those actual problems were not attributable to this finding. The inspectors used Manual Chapter 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” to conclude that the finding was of very low safety significance. The finding has a crosscutting aspect in the area of human performance associated with resources because the licensee did not ensure that procedures were available and adequate to assure nuclear safety, in that the licensee did not ensure that Administrative Procedure 0.5.NAIT required reevaluation of maintenance rule failures following revisions of equipment cause analyses [H.2(c)].

Inspection Report# : 2009005 *(pdf)*

Significance:  Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement a Prescribed Risk Mitigating Action
The inspectors identified a noncited violation of 10 CFR 50.65.a (4) for the licensee’s failure to manage the increase in risk that may result from proposed maintenance activities. Specifically, inspectors discovered that after the licensee had designated Core Spray Pump B as “protected” in accordance with Administrative Procedure 0-PROTECT-EQP, “Protected Equipment Program,” the licensee removed the protected core spray pump from service for a maintenance activity. The licensee entered this issue in their corrective action program as CR-CNS-2009-09243.

The performance deficiency associated with this finding involved the licensee’s failure implement prescribed risk mitigating actions. Specifically, inspectors discovered that a protected train core spray pump had been made unavailable for a maintenance activity. The finding is more than minor because the licensee failed to implement a prescribed significant compensatory measure. A senior reactor analyst assisted with the significance determination process. For this finding, the analyst used the guidance in NRC Inspection Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” and Appendix K, “Maintenance Risk Assessment and Risk Management Significance Determination Process.” The analyst determined that the finding associated with an inoperable core spray pump, while that pump was specified as protected equipment, screened as having very low safety significance in both the Appendix K and Appendix G significance determination processes. This finding has a crosscutting aspect in the area of human performance associated work practices because operations personnel failed to follow the procedural requirements of Administrative Procedure 0-PROTECT-EQP [H.4(b)].

Inspection Report# : 2009005 *(pdf)*

Significance:  Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct Diesel Generator 2 Oil Leakage
A self-revealing noncited violation of 10 CFR 50 Appendix B, Criterion XVI, “Corrective Action,” occurred for the licensee’s failure to assure that a condition adverse to quality was corrected. Specifically, the licensee identified oil leakage on Diesel Generator 2 mechanical overspeed governor drive flange as a condition adverse to quality on June 23, 2009, and failed to correct the condition of oil leakage as demonstrated by a September 9, 2009, failure of the Diesel Generator 2 due to loose fasteners at this location. The licensee entered this issue in their corrective action program as CR-CNS-2009-06716.

The finding is more than minor because it is associated with the equipment performance attribute of the mitigating systems cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using the screening worksheet in Manual Chapter 0609, Attachment 4, “Phase 1 – Initial Screening and Characterization of Findings”, the inspectors determined that the finding has very low safety significance because it was not a design or qualification deficiency and did not result in the loss of any system safety function. This finding has a crosscutting aspect in the corrective action program component of the Problem

Identification and Resolution area because the licensee's periodic trends and assessments did not identify programmatic and common cause problems, in that the licensee's periodic trends and assessments did not recognize the significance of precursor events related to fasteners loosening and prompt action to prevent further problems on the emergency diesel generators [P.1(b)]

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Preclude Repetition of Loss of Shutdown Cooling
A self-revealing noncited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the licensee's failure to preclude repetition of a significant condition adverse to quality, namely the loss of shutdown cooling caused by drawing a vacuum in the reactor pressure vessel. Specifically, corrective actions taken after a March 17, 1994, loss of shutdown cooling event were inadequate to prevent a similar event from occurring on November 7, 2009. The licensee entered this issue in their corrective action program as CR-CNS-2009-09486.

The finding is more than minor because it affected 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). The inspectors determined that Manual Chapter 0609, Appendix G was applicable due to the fact that at the time of the performance deficiency was discovered, the plant was in a forced outage with residual heat removal system in service. Using Checklist 8 in Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Operational Checklists For Both PWRs and BWRs", the inspectors determined that although the residual heat removal mitigation capability on the checklist was not met, the criteria for requiring a phase 2 or phase 3 analysis were not satisfied. The inspectors determined that no cross cutting aspects were appropriate for this finding due to the fact that the performance deficiency occurred in 1994 and is not reflective of current performance.

Inspection Report# : 2009005 *(pdf)*

Significance: G Sep 23, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Scaffold Procedure Threatens Fire Protection Equipment
The inspectors identified a Green noncited violation of Technical Specification 5.4.1.a regarding regarding the licensee's failure to follow the requirements of Maintenance Procedure 7.0.7, "Scaffolding Construction and Control." Specifically, licensee personnel failed to perform a meaningful pre-construction walkdown to ensure that a scaffold would not affect critical plant equipment. When this scaffold was completed it threatened the operability of fire detection equipment required by the Technical Requirements Manual. The licensee entered this issue in their corrective action program as Condition Report CR-CNS-2009-06471.

The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using the Manual Chapter 0609 Phase 1 screening worksheet, the inspectors determined that the finding has very low safety significance because it did not result in the loss of any system safety function. The cause of this finding is related to the human performance cross cutting component of work control because operations and maintenance personnel failed to coordinate to ensure that interferences with fire protection equipment were identified in the pre-construction walkdown
[H.3 (b)].

Inspection Report# : 2009004 *(pdf)*

Significance: G Sep 23, 2009
Identified By: NRC

Item Type: NCV NonCited Violation
Incorrect Assumptions and Loss of Configuration Control in Internal Flooding Analysis
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” regarding the licensee’s failure to ensure that the design basis of certain structures, systems and components were translated into specifications, drawings, procedures, and instructions. Specifically, licensee personnel failed to ensure that the design basis flooding calculations accurately reflected the configuration of the plant. Additionally, licensee personnel failed to maintain configuration control structures, systems and components that were credited in the design basis flooding calculations. The licensee entered this issue in their corrective action program as Condition Report CR-CNS-2009-05449.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. Using the Manual Chapter 0609 Phase 1 screening worksheet, the inspectors determined that the finding has very low safety significance because it did not result in the loss of any system safety function. The cause of this finding is related to the problem identification and resolution cross cutting component of corrective action because licensee personnel failed to take timely and appropriate corrective action for previously discovered errors in the design basis flooding calculations [P.1(d)].

Inspection Report# : 2009004 *(pdf)*

Significance: SL-IV Sep 23, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
"Willful Failure to Implement the Fitness for Duty Program"
The inspectors identified a noncited Severity Level IV violation of 10 CFR 26.27 for the willful failure of a nonlicensed operator to comply with the licensee's fitness for duty requirements. As a result, the nonlicensed operator failed to complete required reactor building logs. Specifically, between June 3-6, 2008, a non-licensed operator failed to complete required reactor building rounds. Subsequent rounds verified no missed equipment deficiencies. The licensee initiated Condition Report CR CNS 2009-06883 to place this item into the corrective action program.

The failure to comply with the licensee's requirements affecting fitness for duty is a performance deficiency. This issue was dispositioned using traditional enforcement due to the willful aspects of the performance deficiency. In accordance with Section IV.A.4 of the Enforcement Policy, this issue is considered more than minor due to the willful aspects of the performance deficiency. In accordance with the guidance in Supplement I of the Enforcement Policy, this issue is considered a Severity Level IV violation. There were no crosscutting aspects associated with this performance deficiency.

Inspection Report# : 2009004 *(pdf)*

Significance:  Jun 23, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Monitor the Performance of the Diesel Generator Fuel Oil Transfer System
The inspectors identified a Green noncited violation of 10 CFR 50.65(a)(2) for the failure by the licensee to demonstrate that the Train A diesel generator fuel oil transfer system performance was being effectively controlled through preventive maintenance and not placing the system in a(1) status. The licensee maintained the function in a Maintenance Rule a(2) status despite the fact that the function had exceeded its performance criteria and that the functional failures were maintenance preventable. The licensee entered this issue in their corrective action program as Condition Report CR-CNS-2009-04895.

The finding was more than minor because it involved degraded safety system performance which, if left uncorrected, could become a more significant safety concern. The inspectors determined that this performance deficiency was an additional, but separate consequence of the degraded performance of the diesel generator fuel oil transfer system. Following the guidance of Inspection Procedure 71111.12, this issue was determined to be a maintenance rule Category II finding and is of very low safety significance. The cause of this finding is related to the human performance crosscutting component of decision making in that engineering personnel failed to use conservative

assumptions in the decision to characterize the October 30, 2008 failure of diesel generator 1 as not being maintenance preventable [H.1(b)].

Inspection Report# : 2009003 *(pdf)*

Significance: G Jun 23, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Freeze Protection Procedure Results in Loss of Condensate Storage Tank Vent Path
A self-revealing noncited violation of very low safety significance (Green) of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” was reviewed involving the licensee’s failure to develop an adequate procedure for freeze protection of the condensate storage tank vent and overflow paths. Specifically, the licensee failed to ensure that the high efficiency particulate air vent filter and the overflow catch barrel were protected from severe freezing weather conditions which led to an overpressure condition of the condensate storage tank on February 3, 2009. The licensee documented the condensate storage tank vent paths freezing in Condition Report CR-CNS-2009-05246.

The finding is more than minor because the inadequate freeze protection procedure had the potential to lead to a more significant safety concern if left uncorrected. Frozen condensate storage tank vents would prevent its use as an alternate emergency core cooling systems suction source when shutdown. This finding affects the Mitigating Systems Cornerstone attribute of procedure quality and adversely 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). Using the Manual Chapter 0609 Phase 1 screening worksheet, the inspectors determined that the finding had very low safety significance because it did not result in the loss of any system safety function. The finding had a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee did not thoroughly evaluate condensate storage Tank A vent icing concerns in 2007 resulting in icing of the tank vent paths during severe cold winter conditions [P.1(c)].

Inspection Report# : 2009003 *(pdf)*

Significance: G May 12, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate corrective actions to repair a lubricating oil pipe
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for inadequate corrective actions to prevent recurrence of a significant condition adverse to quality. The licensee inappropriately changed the root cause for the Emergency Diesel Generator 2 lubricating oil discharge S pipe failure on February 13, 2008, from high cycle fatigue to four piping overstress events. Consequently, the licensee implemented corrective actions that resulted in a high cycle fatigue failure of the Emergency Diesel Generator 1 lubricating oil discharge S pipe on January 27, 2009. The licensee entered this deficiency in their corrective action program as Condition Report 2009 00098.

The performance deficiency involved the failure of the licensee to take adequate corrective actions to prevent recurrence of a significant condition adverse to quality. The finding was determined to be more than minor because it is associated with the mitigating systems cornerstone attribute of equipment performance and affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was found to have very low safety significance (Green) because it was not a qualification deficiency; did not represent loss of a safety function, loss of a single train for greater than its allowed outage time, or loss of a non technical specification train of equipment; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The 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 the Emergency Diesel Generator 2 failure such that the specified corrective actions addressed the causes of the failure.

Inspection Report# : 2009008 *(pdf)*

Significance: G May 12, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to perform effective common mode failure evaluation
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," regarding failure to follow the requirements of Procedure ENN OP 104, "Operability Determinations," Revision 2. Specifically, the team determined that operations personnel did not obtain necessary information to determine with reasonable assurance that Emergency Diesel Generator 2 remained operable and not subject to a common mode failure mechanism. The Emergency Diesel Generator 1 lubricating oil discharge S pipe cracked as a result of vibrations in the X direction and the common mode failure evaluation did not account for vibrations in the X direction for Emergency Diesel Generator 2. Subsequent measurements confirmed that the vibrations remained within the normal operating range. The licensee documented this deficiency in Condition Report 2009 00655.

The performance deficiency associated with this finding involved the failure of operations personnel to perform an adequate operability assessment. The finding was determined to be more than minor because it would become a more significant event if left uncorrected in that the failure of Emergency Diesel Generator 2 by the same high cycle fatigue mechanism increased the likelihood that both emergency diesel generators could be inoperable concurrently. The finding affected the mitigating systems cornerstone. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was found to have very low safety significance (Green) because it was not a qualification deficiency; did not represent loss of a safety function, loss of a single train for greater than its allowed outage time, or loss of a non technical specification train of equipment; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross cutting aspect in the area of human performance associated with decision making because the licensee failed to use conservative assumptions when determining operability.

Inspection Report# : 2009008 *(pdf)*

Significance: G May 12, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify a condition adverse to quality
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," for the failure of maintenance personnel to initiate a condition report, as required by Procedure 0.5, "Conduct of The Condition Report Process," Revision 63, Section 7.1.3. Specifically, maintenance personnel failed to initiate a condition report for an adverse condition related to a significant change in vibration levels on Emergency Diesel Generator 1 between readings. The licensee documented this deficiency in Condition Report 2009 00694.

The performance deficiency associated with this finding involved the failure of maintenance personnel to initiate condition reports for adverse conditions as required by Procedure 0.5. The team determined that the performance deficiency was more than minor in accordance with Manual Chapter 0612, Appendix B, because the finding was associated with the human performance attribute of the mitigating systems cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding affected the mitigating systems cornerstone. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was found to have very low safety significance (Green) because it was not a qualification deficiency; did not represent loss of a safety function, loss of a single train for greater than its allowed outage time, or loss of a non technical specification train of equipment; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross cutting aspect in the area of human performance associated with work practices because the licensee did not effectively communicate expectations regarding following procedures for initiating condition reports for adverse conditions

Inspection Report# : 2009008 *(pdf)*

Significance: G May 12, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to provide adequate work instructions to perform maintenance
The team identified two examples of a noncited violation of Technical Specification 5.4.1.a for the failure of the licensee to provide work instructions appropriate to the circumstances. In the first example, the work orders generated to monitor vibrations on the emergency diesel generator lubricating oil discharge S pipe did not have adequate quantitative acceptance criteria. The second example involved four instances of inadequate maintenance instructions, which resulted in deficiencies in emergency diesel generator Amphenol connectors. The licensee documented these deficiencies in Condition Reports 2009 01513 and 2009 02684.

The performance deficiency associated with this finding involved the failure to ensure maintenance personnel took the appropriate actions when performing maintenance. The team determined that the performance deficiency was more than minor in accordance with Manual Chapter 0612, Appendix B, because it is associated with the mitigating systems cornerstone attribute of equipment performance and it affects the cornerstone objective of ensuring availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was found to have very low safety significance (Green) because it was not a qualification deficiency; did not represent loss of a safety function, loss of a single train for greater than its allowed outage time, or loss of a non technical specification train of equipment; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross cutting aspect in the area of human performance associated with decision making because incorrect assumptions by the licensee regarding the skills and knowledge level of the craft resulted in maintenance procedures that had insufficient instructions.

Inspection Report# : 2009008 *(pdf)*

Significance: G May 12, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failures to identify nonconforming design characteristics
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components," for the failure of engineering personnel to review and accept a nonconforming pipe configuration. Specifically, when replacing the lubricating oil discharge S pipe on Emergency Diesel Generator 1 for an extent of condition evaluation, engineers failed to evaluate critical characteristics and determine why the replacement characteristics did not match the installed configuration or why this configuration did not match the existing drawings. The licensee documented this deficiency in Condition Report 2009 00613.

The performance deficiency associated with this finding involved the failure to thoroughly evaluate and control configuration changes on the emergency diesel generator lubricating oil piping. The team determined that the performance deficiency was more than minor in accordance with Manual Chapter 0612, Appendix B, because the finding was associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was found to have very low safety significance (Green) because it was not a qualification deficiency; did not represent loss of a safety function, loss of a single train for greater than its allowed outage time, or loss of a non technical specification train of equipment; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross cutting aspect in the area of human performance associated with decision making because licensee personnel did not verify the critical characteristics of the replacement lubricating oil discharge S pipe section, which had a different configuration than the pipe being removed for analysis.

Inspection Report# : 2009008 *(pdf)*

Significance: G May 12, 2009

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to identify root cause of a significant condition adverse to quality
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify the root cause of a significant condition adverse to quality as required by Procedure 0.5.Root Cause, "Root Cause Analysis Procedure," Revision 8. Specifically, following an Emergency Diesel Generator 2 governor magnetic pickup unit Amphenol connector failure on April 21, 2008, the licensee incorrectly attributed the failure to a speed gear striking the magnetic probe without identifying that a faulty Amphenol connector caused voltage spikes. Consequently, the same defective Amphenol connector caused voltage fluctuations during testing on Emergency Diesel Generator 2 on November 10, 2008. In addition, the corresponding governor magnetic pickup unit Amphenol connector on Emergency Diesel Generator 1 caused a breaker trip on January 31, 2009, similar to the April 21, 2008, event. The licensee documented this deficiency in their corrective action program as Condition Report 2009 00778.

The team determined that the failure to identify the correct root cause for the emergency diesel generator Amphenol connector failures was a performance deficiency. The team determined that the performance deficiency was more than minor in accordance with Manual Chapter 0612, Appendix B, because the finding was associated with the design control attribute of the mitigating systems cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Manual Chapter 0609.04, "Phase 1 Initial Screening and Characterization of Findings," the finding was found to have very low safety significance (Green) because it was not a qualification deficiency; did not represent loss of a safety function, loss of a single train for greater than its allowed outage time, or loss of a non technical specification train of equipment; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding has a cross cutting aspect in the area of human performance associated with decision making because the licensee did not use conservative assumptions to ensure that they performed an effective root cause evaluation for failures of the emergency diesel generator Amphenol connectors.

Inspection Report# : 2009008 *(pdf)*

Significance: G Apr 10, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedure Results in Inadequate Operability Determinations of Degraded Agastat Timer Relays
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow the requirements of Procedure ENN OP 104, "Operability Determinations." Specifically, between 2005 and 2009 operations personnel failed to perform adequate operability determinations of degraded and potentially degraded conditions associated with essential Agastat time delay relays with internal foreign material contamination that either needed an immediate operability determination or needed more information to reasonable assurance of operability. This included a potential degraded condition of the installed essential Relay 27X15-1G that the inspection team noted had a trend similar to relays that had previously failed with internal foreign material contamination. The licensee documented this condition with CR-CNS-2009-02844 and replaced the potentially degraded relay ten days later.

This finding is more than minor because it affected the reliability objective of the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The cause of this finding is related to the problem identification and resolution crosscutting aspect associated with the corrective action program because licensee personnel failed to thoroughly evaluate conditions adverse to quality and perform meaningful operability determinations.

Inspection Report# : 2009007 *(pdf)*

Barrier Integrity

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Identify Foreign Material in the Reactor Core
The inspectors identified a noncited violation of 10 CFR 50 Appendix B, Criterion XVI, “Corrective Action,” for the licensee’s failure to identify a condition adverse to quality. Specifically, the licensee failed to identify of foreign material in the reactor core during the core verification process of Procedure 10.2, “Core Verification.” This foreign material was identified by inspectors during a review of the core verification video following vessel reassembly. The licensee entered this issue in their corrective action program as CR CNS 2009 08890.

The finding is more than minor because it was associated with the cladding performance 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. Using the Manual Chapter 0609, Appendix A, Phase 1 screening worksheet, the inspectors determined that the finding has very low safety significance because it is associated with a potential failure of the fuel barrier. This finding has a crosscutting aspect in the area of human performance associated with resources because the licensee’s procedure for the core verification process is silent on potential identification of foreign material in the core [H.2(c)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Procedure Violation Results in Loss of Fuel Pool Cooling
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified regarding the licensee’s failure to follow the requirements of System Operating Procedure 2.2.18, “4160V Auxiliary Power Distribution System.” Specifically, operators preparing the 4160 F bus for a maintenance outage secured the wrong fuel pool cooling pump. When the bus was subsequently de-energized, a loss of fuel pool cooling occurred. The licensee entered this issue in their corrective action program as CR-CNS-2009-07770.

The finding is more than minor because it is associated with barrier integrity cornerstone attribute of configuration control, and adversely affected the cornerstone objective of maintaining functionality of the spent fuel pool cooling system to provide reasonable assurance that the fuel cladding physical design barrier protects the public from radionuclide releases caused by accidents or events. Because the plant was shutdown at the time this performance deficiency occurred, the inspectors used Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process.” Using Checklist 7 in Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Operational Checklists For Both PWRs and BWRs”, the inspectors determined that the finding had very low safety significance because every item on the checklist was met. The finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee failed to effectively use required self-checking error prevention tools [H.4(a)].

Inspection Report# : 2009005 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish an Adequate Procedure to Ensure Constant Communications in a Locked High Radiation Area
The inspectors identified a noncited violation of Technical Specifications 5.4.1 for a failure to establish a procedure with adequate provisions to control work inside a locked high radiation area. Specifically, although the licensee's procedure required constant communications with workers in a locked high radiation area, the procedure had no provisions for providing a reasonable assurance that constant communications was being maintained during the duration the workers were inside the area. As a result, on October 6, 2009, the licensee lost constant communications with workers inside a locked high radiation area when the workers unknowingly bumped the cell phone and de-energized it. The licensee's immediate corrective action was to lock the keyboard on the cell phones to prevent them from inadvertently being turned off. The licensee entered the finding into the corrective action program as Condition Report CR-CNS-2009-07718.

The inspectors determined that the failure of licensee procedures to contain adequate provisions that work inside a locked high radiation area would be controlled through constant communications is a performance deficiency. The finding was more than minor because, if left uncorrected, the performance deficiency has the potential to lead to a more significant safety concern. Using the Occupational Radiation Safety Significance Determination Process the inspectors determined this finding had very low safety significance because the finding did not involve ALARA planning and work controls, did not result in an overexposure, did not involve a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose. Additionally, the finding had a crosscutting aspect in the area of human performance, resources component, because the licensee failed to ensure that equipment used to control work inside a posted locked high radiation area was adequate for environment and working conditions [H.2(d)].

Inspection Report# : 2009005 *(pdf)*

Significance: G Dec 31, 2009
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Radiation Work Permit Requirements in Two Instances
The inspectors reviewed a self-revealing, noncited violation of Technical Specifications 5.4.1 involving two examples of a failure to follow Radiation Work Permit requirements. In the first example, workers were not monitored with telemetry and constant coverage by a radiation protection technician was not provided as required by the radiation work permit. In the second example, a worker was not monitored with telemetry as required by the special work permit. As a result, the licensee conducted a stand-down to reinforce expectations for compliance with radiation work permits, instituted management challenges at the access control point, and began conducting an apparent cause evaluation. This was entered into the licensee's corrective action program as Condition Report CR-CNS-2009-08197 and CR-CNS-2009-08623.

The inspectors determined that the failure to meet radiation and special work permit requirements was a performance deficiency. The finding is more than minor because it involved multiple failures of radiation protection measures which, if left uncorrected, could become a more significant safety concern. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined this finding had very low safety significance because the finding involved an ALARA planning and work controls and the licensee's average collective dose is less than 240 person-rem per unit. The finding had a crosscutting aspect in the area of human performance associated with work practices because of the lack of self and peer checking to ensure work activities were performed safely [H.4(a)].

Inspection Report# : 2009005 *(pdf)*

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

Significance: N/A Apr 10, 2009
Identified By: NRC
Item Type: FIN Finding
Identification and Resolution of Problems
The team reviewed approximately 450 condition reports, work orders, engineering evaluations, root and apparent cause evaluations, and other supporting documentation to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The team reviewed a sample of system health reports, self assessments, trending reports and metrics, and various other documents related to the corrective action program.

The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee used industry operating experience when performing root cause and apparent cause evaluations. However, a majority of personnel interviewed during the safety-conscious work focus group interviews stated that they felt on occasion that licensee management had preconceived notions of root cause evaluation outcomes, and that sometimes the independent objectiveness of the root cause evaluations have been hindered. The licensee performed effective quality assurance audits and self assessments, as demonstrated by self identification of poor corrective action program performance and identification of ineffective corrective actions.

Inspection Report# : 2009007 *(pdf)*

Last modified : May 26, 2010