Cooper
2Q/2011 Plant Inspection Findings

Initiating Events

Significance: G Mar 24, 2011
Identified By: NRC
Item Type: VIO Violation
Failure to Assess and Manage Risk for Maintenance That Could Impact Initiating Events
The inspectors identified a cited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the failure of work control and operations personnel to adequately assess and manage the increase in risk associated with maintenance activities. Specifically, on February 17, 2011, work control and operations personnel failed to adequately assess and manage the increase in risk associated with maintenance activities involving the use of heavy equipment in or near the electrical switchyard and offsite power components. Due to the licensee's failure to restore compliance from the previous NCV 050000298/2008005-02 and other subsequent violations within a reasonable time after the violations were identified, this violation is being cited in a Notice of Violation consistent with Section 2.3.2 of the NRC Enforcement Policy. This finding was entered into the licensee's corrective action program as condition reports CR-CNS-2010-09146, CR-CNS-2008-08645 and CR-CNS-2009-03714.

The performance deficiency associated with this finding involved the licensee's failure to adequately assess and manage the risk of planned maintenance activities. This finding is greater than minor because it affected the protection against external factors attribute of the Initiating Events Cornerstone, and directly 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 K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," could not be used due to the licensee's inability to quantify the increase in risk associated with the heavy equipment activity in the switchyard. The inspectors therefore used Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria." The inspectors performed a bounding qualitative evaluation using the best available information and determined that the finding was of very low safety significance because another qualified source of offsite power (the emergency transformer) was unaffected by this performance deficiency and provided sufficient remaining defense in depth in the event of a loss of offsite power. This finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not take appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity.
Inspection Report# : 2011002 *(pdf)*

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: FIN Finding
Failure to Implement Fire Protection Plan Requirements Related to Hot Work Activities
The inspectors identified two examples of a finding for the failure of contract personnel to properly implement the requirements of the station procedure for control of hot work activities, where one instance resulted in a fire. Specifically, between November 9 and December 4, 2010, two examples were identified where contractor personnel failed to properly implement the requirements of station Procedure 0.39, "Hot Work," Revision 42, Step 5.17.3 which required that all combustible material within 35 feet of the hot work area was removed, protected or additional fire watches stationed. Consequently, on December 4, 2010, during torch cutting activities on the central alarm station upgrade project, combustible material that had been introduced into the area was ignited by the hot work. These issues were entered into the corrective action program as Condition Reports CR-CNS-2010-8364, and CR-CNS-2010-9015.

The failure of contract personnel to follow the requirements of the stations control of hot work procedure was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated

with the protection against external factors attribute and directly affected the Initiating Events 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, and is therefore a finding. Additionally, if left uncorrected, the practice of conducting hot work in a manner that results in unintended combustion of uncontrolled combustible material within the procedurally specified exclusion area would have the potential to lead to a more significant safety concern, in that, it could result in a fire in or near risk important equipment. Using NRC Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," Phase 1 worksheet, the finding was determined to have very low safety significance because the condition represented a low degradation of a fire prevention and administrative control. This finding had a crosscutting aspect in the area of human performance associated with decision making, in that, the licensee failed to use conservative assumptions in their decision making and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action when allowing combustible material to be introduced into the procedurally specified exclusion area for hot work activities.
Inspection Report# : 2010005 *(pdf)*

Significance:  Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Assess and Manage Risk for Electrical Switchyard Impacting Maintenance
The inspectors identified a noncited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," for the failure of operations and work control personnel to adequately assess and manage risk associated with a planned maintenance activity. Specifically, on December 7, 2010, operations and work control personnel failed to adequately assess maintenance activities involving the use of a crane in the plants electrical switchyard. Following the inspectors' identification of this issue, the licensee adequately assessed and managed the increase in risk for the maintenance activities. The issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2010-9146.

The failure to perform an adequate risk assessment for planned maintenance activities was a performance deficiency. As such, the finding was more minor because it affected the protection against external factors attribute of the Initiating Events Cornerstone. Additionally, if left uncorrected the practice of not properly evaluating crane activities in the stations switchyard would have the potential to lead to a more significant safety concern, in that, it could result in a more than minimal increase in risk associated with other risk important equipment that would not be identified nor result in appropriate actions being taken to mitigate this increase in risk. The inspectors determined that the licensee does not maintain a probabilistic risk analysis model that incorporates the electrical switchyard, and as such, an incremental core damage probability cannot be estimated for the plant conditions that existed at the time of the performance deficiency. For this reason, the inspectors determined that Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 2, could not be used to determine the risk significance the finding. Using the qualitative review process of Manual Chapter 0609, Appendix M, "Significance Determination Process Using Qualitative Criteria," the finding is determined to have very low safety significance because the finding did not result in any additional loss of defense in depth systems. This finding had a crosscutting aspect in the area of human performance associated with decision making, in that, the licensee failed to use conservative assumptions in their decision making and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action.
Inspection Report# : 2010005 *(pdf)*

Significance:  Dec 31, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Assess and Manage Risk During Maintenance Activities
The inspectors documented a noncited violation of 10 CFR 50.65(a)(4), "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," associated with the licensee's failure to perform an adequate risk assessment for the planned maintenance activities. Specifically, on August 24, 2010, operations and work control personnel failed to adequately assess and manage the increase in risk associated with the breaker switching sequence to support maintenance on the station startup service transformer. Following identification of the issue, the licensee

adequately assessed and managed the increased risk associated with the maintenance activity. The issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2010-6100.

The failure to perform an adequate risk assessment for planned maintenance activities was a performance deficiency. The performance deficiency was greater than minor because it was associated with the protection against external factors attribute and directly affected the Initiating Events 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, and is therefore a finding. Using NRC Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 1, the finding was determined to have very low safety significance because the incremental core damage probability deficit and the incremental large early release probability deficit, used to evaluate the magnitude of the error in the licensee's inadequate risk assessment, were less than 1E-6 and 1E-7, respectively. This finding had a crosscutting aspect in the area of problem identification and resolution associated with operating experience, in that, the licensee uses operating experience information, including vendor recommendations and internally generated lessons learned, to support plant safety. Specifically, the licensee implements and institutionalizes operating experience through changes to station processes and procedures.
Inspection Report# : 2010005 *(pdf)*

Significance: G Oct 08, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Monitor the Performance of the Screen Wash System
The inspectors identified that the licensee failed to correctly determine that a plant power reduction caused by a clogged screen wash system for the circulating water system was a maintenance preventable functional failure that exceeded the plant level performance criteria. As a direct consequence, the licensee failed to assess this Maintenance Rule Program function per 10 CFR 50.65(a)(1) as required by station procedures. This issue was determined to involve a noncited violation of 10 CFR 50.65(a)(2) requirements for monitoring the effectiveness of maintenance at nuclear power plants. The licensee entered this issue in their corrective action program as CR-CNS-2010-05631.

This finding is more than minor because failure to monitor the effectiveness of the screen wash system function CW-F01 affects the protection against external factors attribute of the initiating events cornerstone, since this system was intended to limit the likelihood of events that upset plant stability. The inspectors determined that this performance deficiency was an additional, but separate consequence of the obstructed screen wash system. The inspectors determined that this finding occurred as a separate consequence of the licensee's functional failure assessment process, and that the system performance problem was not directly attributable to this finding. Therefore, this finding cannot be processed through the significance determination process, and was determined to be green using the guidance of Appendix B to Manual Chapter 0612 and Appendix D to Inspection Procedure 71111.12. The finding has a crosscutting aspect in the area of human performance associated with decision-making because the licensee did not use conservative assumptions in the functional failure evaluation of an obstructed screen wash system (Section 1R12).

Inspection Report# : 2010004 *(pdf)*

Significance: G Oct 08, 2010
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Follow Procedure Results in Repeat Equipment Failure
A self-revealing finding was identified for the licensee's failure to follow the guidance of Administrative Procedure 0.5.EVAL, "Preparation of Condition Reports," Revision 21. Specifically, corrective actions to fix the Reactor Recirculation Motor Generator field breaker failure from 2009 failed to meet the measurable and reasonable criteria when the actions did not prevent a repeat failure of the same breaker and resulted in a fire in the breaker. The licensee entered this issue in their corrective action program as CR-CNS-2009-04115.

The finding is more than minor because it adversely affected the protection against external factors (Fire), 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.

Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet (Initial Screening and Characterization of Findings) the finding was determined to have very low safety significance since it did not contribute to the likelihood of a primary or secondary system loss-of-coolant accident, did not contribute to a loss of mitigation equipment, and did not increase the likelihood of a fire or internal/external flood. This finding has a crosscutting aspect in the corrective action program component of the problem identification and resolution area due to licensee corrective actions that failed to implement a resolution of field breaker failures (Section 4OA3).
Inspection Report# : 2010004 *(pdf)*

Mitigating Systems

Significance: G Mar 24, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Evaluate All Senior Operator License Holders during Annual Operating Test
The inspectors identified a noncited violation of 10 CFR Part 55.59 (a)(2)(ii), “Requalification,” for the failure of the licensee to ensure that three senior operator license holders were evaluated during the annual operating test to the appropriate level of their license. This issue was entered into the licensee’s corrective action program as Condition Report CR-CNS-2010-09350.

The failure of the licensee to properly evaluate the three senior operators to the level of their license in the annual operating test was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely impacted the human performance attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant in that allowing licensed operators to return to the control room without valid demonstration of appropriate knowledge on the biennial examinations could be a precursor to a significant event if undetected performance deficiencies develop. Using Manual Chapter 0609, “Significance Determination Process,” Phase 1 worksheets, and Appendix M, “Significance Determination Process Using Qualitative Criteria,” the finding was determined to have very low safety significance (Green) because, although the finding resulted in three senior operator license holders standing watch in the senior operator position without being properly evaluated during the annual operating test, there were no actual safety consequences. This finding has a crosscutting aspect in the area of human performance associated with the decision making component because the licensee failed to use conservative assumptions in decision making and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action.
Inspection Report# : 2011002 *(pdf)*

Significance: G Mar 24, 2011
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.CR, “Condition Report Initiation, Review and Classification.” to enter conditions adverse to quality into the corrective action program. Specifically, between January 12, 2011, and February 24, 2011, the inspectors identified multiple instances where licensee personnel were aware of conditions adverse to quality, but failed to appropriately enter them into the corrective action program until being prompted by the inspectors. The licensee entered this issue in their corrective action program as CR-CNS-2011-1239.

The performance deficiency associated with this finding involved the licensee’s failure to initiate condition reports as required by Administrative Procedure 0.5.CR, “Condition Report Initiation, Review and Classification.” The performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone, and directly affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Although the

examples mentioned above may be minor violations, the inspectors used Section 2.10.F of the NRC Enforcement Manual to determine that the performance deficiency was more than minor and is therefore a finding because the NRC has indication that the minor violation had occurred repeatedly. 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 associated with the corrective action program component, in that the licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner. Specifically, the licensee failed to take appropriate corrective actions to address previously identified examples of employees not initiating condition reports in response to conditions adverse to quality.
Inspection Report# : 2011002 *(pdf)*

Significance: W Mar 14, 2011
Identified By: NRC
Item Type: AV Apparent Violation
Inadequate Post-Fire Safe Shutdown Procedures
An apparent violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," and Criterion XVI, "Corrective Action," with a preliminary white significance, was identified for failure to ensure that some steps contained in Emergency Procedures at Cooper Nuclear Station would work as written and the concurrent failure to assure that a condition adverse to quality was promptly identified and corrected, respectively. Specifically, steps in Emergency Procedure 5.4 POST-FIRE, "Post-Fire Operational Information," and Emergency Procedure 5.4 FIRE-S/D, "Fire Induced Shutdown From Outside Control Room," intended to reposition motor operated valves from the motor starter cabinet, would not have worked as written because the steps were not appropriate for the configuration of three valve motor starters. This finding was entered into the licensee's corrective action program under Condition Reports CR-CNS-2010-08193 and CR-CNS-2010-08242, however the licensee failed to adequately correct the procedure and the procedure remained unworkable.

The failure to verify that procedure steps needed to safely shutdown the plant in the event of a fire would actually reposition motor operated valves to the required positions and the simultaneous failure to address the previous finding that the same procedure steps would not work as written, was a performance deficiency. This finding was more than minor safety significance because it impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (such as fire) to prevent undesirable consequences. This finding affected both the procedure quality and protection against external factors (such as fires) attributes of this cornerstone objective. This finding was determined to have a preliminary low-to-moderate safety significance (White) during a Phase 3 evaluation using best available information. This problem, which has existed since 1997, involves risk factors that were not dependent on specific fire damage. The scenarios of concern involve larger fires in specific areas of the plant which trigger operators to implement fire response procedures to place the plant in a safe shutdown condition. Since some of those actions could not be completed using the procedures as written, this would challenge the operators' ability to establish adequate core cooling. This finding had a crosscutting aspect in the Corrective Action Program component, under the Problem Identification and Resolution area (P.1(c) - Evaluation), because the licensee failed to properly evaluate the circuit operation or conduct verification tests to ensure that corrective actions for a previous violation would reliably position the three valves. Upon identification of this issue, both emergency procedures were revised to assure correct valve alignment by manually operating the valve locally. Therefore, this finding does not represent a current safety concern.

Inspection Report# : 2010006 *(pdf)*

Significance: G Mar 14, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Monitor the Performance of the Emergency Lights Against the Maintenance Rule Criteria
A noncited violation of 10 CFR 50.65(a)(2) was identified for the failure to monitor the performance of the emergency lighting system against the established performance criteria. The licensee included the emergency lighting system in the Maintenance Rule program and specified that the emergency light batteries must be capable of 8 hours of operation, as required by 10 CFR Part 50, Appendix R, Section III.J. The team identified that the licensee did not

perform tests that demonstrated the capability of the emergency lights to last for 8 hours; therefore, the licensee failed to monitor the performance of the emergency lights against the established performance criteria. This finding was entered into the licensee's corrective action program under Condition Reports CR-CNS-2010-08014 and CR-CNS-2010-08250.

The failure to monitor the performance of the emergency lighting system against the performance criteria stated in the Maintenance Rule program was a performance deficiency. The performance deficiency was more than minor because it was associated with the protection against external events (fire) attribute of the Mitigating Systems Cornerstone and it adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to ensure that emergency lights would last for 8 hours could adversely affect the ability of operators to perform all of the manual actions required to support safe shutdown in the event of a fire. The significance of this finding was evaluated using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because the performance deficiency affected fire protection defense-in-depth strategies involving post fire safe shutdown systems. The finding was assigned a low degradation rating since the finding minimally impacted the performance and reliability of the fire protection program element. Specifically, the team determined that the licensee's preventive maintenance strategy provided reasonable assurance that the emergency lights would last sufficiently long for the operators to perform the most time-critical manual actions required to support safe shutdown in the event of a fire. The team also noted that operators were required to obtain and carry flashlights. Therefore, the finding screened as having very low safety significance (Green). This finding had a crosscutting aspect in the area of Human Performance associated with Decision Making because the licensee failed to identify possible unintended consequences of the decision to change the maintenance program for the emergency lights. Specifically, the licensee failed to identify that deleting emergency light testing impacted Maintenance Rule performance monitoring.
Inspection Report# : 2010006 *(pdf)*

Significance: G Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Translate Design and Operating Requirements into Procedures
The team identified four examples of a Green noncited violation of Technical Specification 5.4.1.a, which states in part that, "Written procedures shall be established, implemented, and maintained, covering the procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A.9.b," for the failure to establish adequate procedures. Specifically, as of August 12, 2010, the licensee failed to establish adequate procedures involving 4160 V breaker maintenance, safety related check valve maintenance, and the operation of residual heat removal pumps. This finding was entered into the licensee's corrective action program as Condition Reports CNS- 2010-05611, CNS-2010-05635, CNS-2010-05556, CNS-2010-05586, CNS-2010-05590, and CNS-2010-05342.

The failure to establish adequate procedures for 4160 V breaker maintenance, safety related check valve maintenance, and the operation of residual heat removal pumps was a performance deficiency. This finding was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of the 4160 Vac systems, core spray system and the residual heat removal system to respond to events and prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. The licensee placed the 4160 V breaker procedures on administrative hold, performed an evaluation of the affected check valves which determined that they would be able to perform their required functions, and revised the procedures related to residual heat removal pump operations. This finding had a crosscutting aspect in the area of human performance resources because the licensee did not provide complete, accurate, and up-to-date design documentation to plant personnel [H.2 (c)].
Inspection Report# : 2010007 *(pdf)*

Significance: G Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to promptly Correct Conditions Adverse to Quality

The team identified three examples of a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to ensure conditions adverse to quality were promptly corrected. Specifically, as of August 12, 2010, the licensee failed to promptly correct conditions adverse to quality involving the installation and testing of safety related station batteries and the design control process. This finding was entered into the licensee's corrective action program as Condition Reports CNS-2010-05674, CNS-2010-05647, and CNS-2010-5950

The failure to promptly correct conditions adverse to quality was a performance deficiency. This finding was more than minor because it was associated with the corrective actions attribute of the mitigating systems cornerstone and if left uncorrected would have the potential to lead to more significant safety concerns. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. This finding had a crosscutting aspect in the human performance decision-making because the licensee failed to use conservative assumptions in decision-making to correct the underlying cause of the many conditions adverse to quality [H.1(b)].
Inspection Report# : 2010007 *(pdf)*

Significance: G Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Test Control
The team identified three examples of a Green noncited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," for failure to ensure that design information was correctly translated into station test procedures. Specifically, as of August 12, 2010, the licensee failed to ensure that design information was correctly translated into station procedures involving capacity testing, service testing, and maintenance of safety related station batteries. This finding was entered into the licensee's corrective action program as Condition Reports CNS-2010-5445, CNS-2010-5564, CNS-2010-5674, and CNS-2010-5759.

The failure to correctly translate design requirements into station procedures involving capacity testing, service testing, and maintenance of safety related station batteries was a performance deficiency. This finding was more than minor because it was associated with the test control attribute of the mitigating systems cornerstone and impacted the cornerstone objective to ensure the availability, reliability, and capability of the affected system to respond to initiating events and prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. The licensee performed an evaluation and determined that the station batteries were capable of performing their safety functions. This finding had a crosscutting aspect in the area of human performance resources because the licensee did not provide complete, accurate and up-to-date design documentation to plant personnel [H.2(c)].
Inspection Report# : 2010007 *(pdf)*

Significance: G Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Design Control
The team identified seven examples of a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to establish measures to ensure that applicable regulatory requirements and the design bases were correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to ensure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled." Specifically, as of August 12, 2010, the licensee failed to correctly translate regulatory requirements and design bases information into specifications, drawings, procedures, and instructions involving emergency diesel generator frequency, service water pump, electrical cables for the residual heat removal pumps, seismic supports, the emergency diesel generator air start system testing, tornado and high wind impact on the emergency diesel generator fuel oil storage facilities and safety related Agast relay service life evaluations. This finding was entered into the licensee's corrective action program as Condition Reports CNS-2010-05301, CNS-2010-5763, CNS-2010-05222, CNS-2010-05281, CNS-2010-5294, CNS-2010-5350, and CNS-2010-5438.

The failure to correctly translate regulatory requirements and design bases information into specifications, drawings, procedures, and instructions for the emergency diesel generator frequency, service water pump, electrical cables for the residual heat removal pumps, emergency diesel generator room ventilation seismic supports, emergency diesel generator air start system testing, tornado and high wind impact on the emergency diesel generator fuel oil storage facilities and safety related Agast relay service life evaluations was a performance deficiency. This finding was more than minor because it was associated with the design control attribute of the mitigating systems cornerstone and impacted the cornerstone objective to ensure the availability, reliability, and capability of the affected system to respond to events and prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. The licensee performed evaluations which determined that the affected components and systems were capable of meeting their design functions. The finding had a crosscutting aspect in the area of problem identification and resolution, associated with operating experience because the licensee failed to properly evaluate and apply various industry events associated with the above systems and incorporate the information into plant procedures and training [P.2(b)].
Inspection Report# : 2010007 *(pdf)*

Significance:  Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Ice Deflector Pontoon Barge Storage in Service Water Discharge Canal
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to verify the adequacy of design for the service water system. Specifically, prior to August 10, 2010, the licensee did not have a calculation to support storage of an ice deflector pontoon barge in the service water discharge canal during design tornado or high wind conditions. This finding was entered into the licensee's corrective action program under Condition Report CNS-2010-5763.

The failure to establish appropriate design controls by having a calculation for storage of a pontoon barge in the safety-related service water discharge canal is a performance deficiency. 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 the service water system to respond to events to prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. The licensee performed a calculation (NEDC 10-057) which demonstrated the current storage of the pontoon barge in the service water discharge was sufficient, such that it will not to adversely affect the service water system. The finding had a crosscutting aspect in the area of human performance decision making because the licensee failed to use conservative assumptions in decision making and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action because the licensee failed conduct an effective review of safety-significant decisions associated with the ice deflector barge storage to verify the validity of the underlying assumptions, identify possible unintended consequences, and determine how to improve future decisions [H.1(b)].

Inspection Report# : 2010007 *(pdf)*

Significance: SL-IV Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
Faulty General Electric Switches
The team identified a severity level IV noncited violation of 10 CFR Part 21, "Notification of Failure to Comply or Existence of a Defect and its Evaluation," for the failure of the licensee to evaluate the deviations in 13 of 23 safety-related switches within 60 days. Specifically, prior to August 10, 2010, the licensee failed to submit a report as required by paragraph 21.21 (a)(1) of 10 CFR Part 21 when 13 of 23 General Electric control switches purchased to support a station modification to the safety related 4160 kV switchgear were discovered to have a defect that was later determined to create a substantial safety hazard. The defective switches were discovered and documented on Condition Report CNS-2009-09985 dated November 25, 2009 and the evaluation was not completed until August 10,

2010. After the evaluation determined the defect did create a substantial safety hazard, the NRC was notified via an event notification on August 10, 2010. Using the Traditional Enforcement Policy and Manual, this was determined to be a Severity Level IV noncited violation. This finding was entered into the licensee's corrective action program as Condition Report CNS-2010-5629. The finding had a crosscutting aspect of problem identification and resolution, alternative process, because the licensee failed to ensure appropriate and timely resolution of identified problems [P.1 (e)].
Inspection Report# : 2010007 *(pdf)*

Significance: G Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
URI 05000298/2007011-07, Fuel Oil Storage Tank Required Submergence To Prevent Vortexing And Available Volume Are Marginal Without Accounting For Instrument Uncertainties
The team identified a Green noncited violation of CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of the licensee to verify the adequacy of design for the diesel fuel oil transfer system. Specifically, the licensee failed to demonstrate an adequate supply of fuel oil was available in the tanks to support the safety function of the emergency diesel generators because the licensee failed to consider the potential for vortex formation in the two diesel fuel oil storage tanks and the two day tanks and net positive suction head of the associated pumps. This finding was entered into the licensee's corrective action program under Condition Report CNS-2010-5763.

The failure to establish appropriate design controls for the safety-related diesel fuel oil transfer pump net positive suction head calculation was a performance deficiency. 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 the diesel fuel oil transfer system to respond to events and prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. The licensee performed an evaluation which determined that the system was capable of meeting its design function. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.
Inspection Report# : 2010007 *(pdf)*

Significance: G Oct 20, 2010
Identified By: NRC
Item Type: NCV NonCited Violation
URI 05000298/2007011-08, High Pressure Coolant Pump Swap-Over from Emergency Condensate Storage Tank to Torus Vortex Calculation
The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure of the licensee to verify the adequacy of design for the high pressure coolant injection system. Specifically, prior to December 2007, the licensee did not have vortex calculations for the high pressure coolant injection system during swap-over from the emergency condensate storage tank to the torus. The calculation was required to establish that the high pressure coolant injection pumps have adequate net positive suction head to operate in accordance with design. This finding was entered into the licensee's corrective action program under Condition Report CNS-2010-5763.

The failure to establish appropriate design controls for the safety-related high pressure coolant injection pump net positive suction head calculation was a performance deficiency. 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 the high pressure coolant injection system to respond to events and prevent undesirable consequences. Using the Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," the issue screened as having very low safety significance (Green) because it was not a design or qualification deficiency and did not represent a loss of safety function. The licensee performed an evaluation which determined that the system was capable of meeting its design function. This finding did not have a crosscutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : 2010007 *(pdf)*

Barrier Integrity

Significance: G Mar 24, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Implement Foreign Material Exclusion Controls
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” associated with the licensee’s failure to adequately implement Procedure 0.45, “Foreign Material Exclusion Program,” Revision 33. Specifically, between November 24, 2010, and March 24, 2011 multiple occasions were identified where licensee personnel failed to implement appropriate foreign material exclusion controls in areas designated as Zone 1 areas around safety related equipment (e.g., failure to appropriately log material into and out of the zone, or appropriately lanyard material in the zone) as required by station procedure. This issue was entered into the licensee's corrective action program as Condition Reports CR-CNS-2010-9173, CR-CNS-2010-9678, CR-CNS-2011-2775 and CR-CNS-2011-3214.

The failure of station personnel to follow Procedure 0.45, “Foreign Material Exclusion Program,” when working in Zone 1 foreign material exclusion areas around safety related equipment/areas, was a performance deficiency. The performance deficiency was more than minor because it affected the human performance attribute of the Barrier Integrity Cornerstone, and directly affected the cornerstone objective of providing reasonable assurance that physical barriers protect the public from radionuclide releases caused by accidents or events, and is therefore a finding. Furthermore, station personnel’s continued failure to implement appropriate foreign material exclusion controls could result in the introduction of foreign material into critical areas, such as the spent fuel pool or the reactor cavity, which in turn could result in degradation and adverse impacts on materials and systems associated with these areas. Using Inspection Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheets (at power issues), and Manual Chapter 0609, Appendix G, “Shutdown Operations Significance Determination Process,” Phase 1 guidance (shutdown issues), this finding was determined to have a very low safety significance because; the finding was only associated with the fuel barrier (at power), and did not result in an increase in the likelihood of a loss of reactor coolant system inventory, degrade the ability to add reactor coolant system inventory, or degrade the ability to recover decay heat removal (shutdown). This finding had a crosscutting aspect in the area of human performance associated with the work practices component, in that the licensee failed to define and effectively communicate expectations regarding procedural compliance and personnel follow procedures.
Inspection Report# : 2011002 *(pdf)*

Emergency Preparedness

Significance: G Dec 31, 2010
Identified By: NRC
Item Type: VIO Violation
Failure to Have Guidelines for the Choice of Protective Actions During an Emergency Consistent with Federal Guidance
A cited violation of 10 CFR 50.47(b)(10) was identified for failure to develop and have in place guidelines for the choice of protective actions during an emergency that were consistent with federal guidance. Federal guidance for the choice of protective actions during an emergency is described in EPA-400-R-92-001 and states, in part, that evacuation is seldom justified when doses are less than protective action guides. The licensee’s automatic process that extended existing protective action recommendations with changes in wind direction without considering radiation dose was identified as a performance deficiency.

This finding is more than minor because it affects the Emergency Preparedness Cornerstone objective of

implementing adequate measures to protect the health and safety of the public during a radiological emergency, and is associated with the cornerstone attributes of emergency response organization performance and procedure quality. This finding was determined to be of very low safety significance because it was a failure to comply with NRC requirements, was associated with risk significant planning standard 10 CFR 50.47(b)(10), and was not a risk significant planning standard functional failure or a planning standard degraded function. This finding is a cited violation of 10 CFR 50.47(b)(10) because the licensee failed to restore compliance with NRC requirements in a timely manner. The finding is related to the corrective action element of the problem identification and resolution crosscutting aspect because the licensee failed to take corrective actions to address the safety issue in a timely manner.
Inspection Report# : 2010005 *(pdf)*

Occupational Radiation Safety

Significance: G May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Unclear Work Instruction
The inspectors identified a noncited violation of Technical Specification 5.4.1, for a failure to implement procedures described in Regulatory Guide 1.33, Appendix A. Specifically, the licensee failed to implement procedures that provide guidance on creating clear, accurate work instructions. As a result, the work instructions were not able to be completed as written and needed parts were not available. This directly contributed to three instrumentation and control technicians receiving an unexpected radiation dose. A site stand-down was held to discuss the lessons learned and the event was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-4431.

This deficiency was reasonable for the licensee to foresee and prevent occurrence. The finding was more than minor because it is associated with the human performance attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The inspectors evaluated this finding using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." The inspectors determined that the finding is of very low safety significance (Green) because it was not associated with ALARA planning or work controls, there was no overexposure, there was no substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The finding has a cross-cutting aspect in the work practices component of the human performance area because the licensee did not effectively communicate expectations regarding procedural compliance and that personnel follow procedures. Specifically, the licensee displayed a cultural behavior that unacceptable behaviors, such as failing to follow procedures, are acceptable as long as the outcome is desirable [H.4.(b)].

Inspection Report# : 2011008 *(pdf)*

Significance: G May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Recognize Work Order Risk
The inspectors identified a noncited violation of Technical Specification 5.4.1, for failure to implement procedures described in Regulatory Guide 1.33, Appendix A. Specifically, the licensee failed to implement procedures that provide guidance on recognizing risk associated with a maintenance activity and properly accounting for that risk. This directly contributed to three instrumentation and control technicians receiving an unexpected radiation dose. A site stand-down was held to discuss the lessons learned and the event was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-4435.

This deficiency was reasonable for the licensee to foresee and prevent occurrence. The finding was more than minor because it is associated with the human performance attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The inspectors determined that

the finding is of very low safety significance (Green) because it was not associated with ALARA planning or work controls, there was no overexposure, there was no substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The finding has a cross-cutting aspect in the work control component of the human performance area because the licensee did not plan work activities by incorporating risk insights. Specifically, the licensee developed a work package that failed to recognize the risk associated with the activity [H.3(a)].

Inspection Report# : 2011008 *(pdf)*

Significance: G May 03, 2011
Identified By: NRC
Item Type: FIN Finding
Failure to Implement Human Performance Procedure
The inspectors identified a finding for a failure to implement human performance procedures. Specifically, the licensee failed to implement procedures that provided guidance on conducting pre-job briefs, preparing work in the field, and informing technicians on what to do when the workers encountered a problem. This contributed to three instrumentation and control technicians receiving an unexpected radiation dose. A site stand-down was held to discuss the lessons learned from the event. This was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-4258.

The finding was more than minor because it is associated with the human performance attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The inspectors evaluated this finding using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." The inspectors determined that the finding is of very low safety significance (Green) because it was not associated with ALARA planning or work controls, there was no overexposure, there was no substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The inspectors determined that the apparent cause of this finding was the licensee's failure to promote the use of human performance tools to ensure job tasks were properly completed. Therefore, this finding has a cross-cutting aspect in the work practices component of the human performance area because the licensee did not adequately communicate human error prevention techniques such that work activities are completed safely [H.4(a)].

Inspection Report# : 2011008 *(pdf)*

Significance: G May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Revise An Unclear Work Instruction
The inspectors identified a noncited violation of Technical Specification 5.4.1, for a failure to comply with procedures described in Regulatory Guide 1.33, Appendix A. Specifically, the licensee failed to implement procedures and a work order instruction that required the work order to be returned to work planners and revised if the original work scope is changed or a problem is encountered. This directly contributed to three instrumentation and control technicians receiving an unexpected radiation dose. A site stand-down was held to discuss the lessons learned from the event. This was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-4428.

The finding was more than minor because it is associated with the human performance attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The inspectors evaluated this finding using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process." The inspectors determined that the finding is of very low safety significance (Green) because it was not associated with ALARA planning or work controls, there was no overexposure, there was no substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. The finding has a cross-cutting aspect in the decision making component of the human performance area because the licensee did not use conservative assumptions in decision-making. Specifically, the licensee did not validate the assumptions made when considering the change in work scope [H.1(b)].
Inspection Report# : 2011008 *(pdf)*

Significance: G May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate High Radiation Area Briefing
The inspectors identified a noncited violation of Technical Specification 5.7.2, for the failure to adequately brief radiation workers entering a locked high radiation area. Specifically, the radiation protection pre-job briefing failed to make workers knowledgeable of the radiation dose rates that may be encountered when pulling the intermediate range monitor shuttle tube from under the reactor pressure vessel and failed to identify any change in work scope or breach of the nuclear instrument system. This resulted in the workers being exposed to higher than expected dose rates. The workers immediately evacuated the area and contacted radiation protection. The licensee held a site stand-down to discuss lessons learned and this finding was entered into the licensee's corrective action as Condition Report CR-CNS-2011-04441.

The finding was more than minor because it is associated with the human performance attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation because workers were exposed to higher dose rates. The inspectors evaluated the significance of the finding using NRC Inspection Manual 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors determined that the finding is of very low safety significance because it was not associated with ALARA planning or work controls, there was no overexposure, there was no substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. In addition, the finding had a cross-cutting aspect in the work control component of the human performance area because the licensee did not appropriately communicate, coordinate, and cooperate with each other during the radiation protection pre-job briefing and failed to keep personnel apprised of plant conditions that may affect work activities to ensure radiological safety was maintained [H.3(b)].
Inspection Report# : 2011008 *(pdf)*

Significance: G May 03, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Radiation Protection Job Coverage Procedures
The inspectors identified a noncited violation of Technical Specification 5.4.1(a), for the failure to follow Radiation Procedure 9.EN-RP-141, "Job Coverage," Revision 8. Specifically, the radiation protection personnel were monitoring workers pulling the intermediate range monitor shuttle tube from under the reactor pressure vessel and failed to implement radiation protection job coverage requirements that resulted in the workers being exposed to dose rates as high as 39 rem per hour at 30 centimeters from the tip of the shuttle tube. The licensee immediately evacuated and restricted access to the area. This finding was documented in the licensee's corrective action program as Condition Reports CR-CNS-2011-04442, CR-CNS-2011-04255, CR-CNS-2011-04595, CR-CNS-2011-05443, CR-CNS-2011-05444, CR-CNS-2011-05446, CR-CNS-2011-05447, and CR-CNS-2011-05448.

The finding was more than minor because it is associated with the human performance attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation because workers were exposed to higher dose rates. The inspectors evaluated the significance of the finding using NRC Inspection Manual 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008. The inspectors determined that the finding is of very low safety significance because it was not associated with ALARA planning or work controls, there was no overexposure, there was no substantial potential for an overexposure, and the licensee's ability to assess dose was not compromised. In addition, the finding has a cross-cutting aspect in the work practices component of the human performance area because the licensee failed to use human error prevention techniques such as self-checking and peer-checking to ensure that job coverage procedures were followed [H.4(a)].

Inspection Report# : 2011008 *(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: SL-IV Mar 24, 2011
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Notify the NRC within Eight Hours of a Nonemergency Event
The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.72, “Immediate Notification Requirements for Operating Nuclear Power Reactors,” for the licensee’s failure to notify the NRC Operations Center within 8 hours following discovery of an event meeting the reportability criteria as specified. Specifically, on January 18, 2011, while the B train of residual heat removal was inoperable for scheduled maintenance the A train experienced a fault which rendered it inoperable for its low pressure coolant injection function. As a result, both trains of residual heat removal were incapable of performing their system specified safety function of residual heat removal. The licensee’s evaluation of this condition determined that it was not a reportable event because both core spray pumps were operable and the D residual heat removal pump was available therefore the overall function of decay heat removal was maintained. The inspectors questioned this rational, because the apparent intent of the reporting criteria as described in NUREG 1022, “Event Reporting Guidelines 50.72 and 50.73,” Revision 2, section 3.2.7, was to cover an event or condition where structures, components, or trains of a safety system could have failed to perform their intended safety function as described in the plant safety analysis. Consultation with the Office of Nuclear Reactor Regulation determined that this was the intent of the criteria. As such, the inspectors determined that the licensee had failed to make a non-emergency 8 hour report as required by 10CFR 50.72(b)(3)(v). The licensee submitted the 8 hour report on January 21, 2011 and entered this issue into the corrective action program as Condition Report CR-CNS-2011-0618.

The failure to make an applicable non-emergency 8-hour event notification report within the required time frame was determined to be a performance deficiency. The inspectors reviewed this issue in accordance with NRC Inspection Manual Chapter 0612 and the NRC Enforcement Manual. Through this review, the inspectors determined that traditional enforcement was applicable to this issue because the NRC's regulatory ability was affected. Specifically, the NRC relies on the licensees to identify and report conditions or events meeting the criteria specified in regulations in order to perform its regulatory function; and when this is not done, the regulatory function is impacted. The inspectors determined that this finding was not suitable for evaluation using the significance determination process, and as such, was evaluated in accordance with the NRC Enforcement Policy. The finding was reviewed by NRC management and because the violation was determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program, this violation is being treated as a Severity Level IV noncited violation consistent with the NRC Enforcement Policy. This finding had a crosscutting aspect in the area of human performance associated with the decision making component, in that, the licensee failed to use conservative assumptions in their decision making.
Inspection Report# : 2011002 *(pdf)*

Last modified : October 14, 2011