

# Cooper

## 3Q/2011 Plant Inspection Findings

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### Initiating Events

**Significance:**  Sep 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Assess and Manage Risk for Maintenance Near an Operating Reactor Feed Pump That Could Impact Initiating Events**

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 the licensee to adequately assess and manage the increase in risk associated with maintenance activities. Specifically, on June 3, 2011, the licensee failed to assess and manage the risk associated with leak injection work on a steam supply piping flange to the reactor feed pump. This finding was entered into the licensee’s corrective action program as condition reports CR-CNS-2011-09308, CR-CNS-2011-06363 and CR-CNS-2011-09452.

This finding is more 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 near an offsite power tower or the possibility of a reactor feed pump trip due to work in the area. The inspectors utilized Manual Chapter 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” to determine that the finding was of very low safety significance because there was a second reactor feed pump running that would have limited a plant transient. 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# : [2011004](#) (*pdf*)

**Significance:**  Sep 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Failure to Assess and Manage Risk for Maintenance Near Electrical Towers That Could Impact Initiating Events**

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 the licensee to adequately assess and manage the increase in risk associated with maintenance activities. Specifically, on May 31, 2011, licensee personnel failed to adequately assess and manage the increase in risk associated with a large trailer parked close to the 161kV line tower in the transformer yard area. This finding was entered into the licensee’s corrective action program as condition reports CR-CNS-2011-01439.

This finding is more 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 near an offsite power tower. The inspectors utilized Manual Chapter 0609, Appendix M, “Significance Determination Process Using Qualitative Criteria,” to determine that the finding was of very low safety significance because other qualified sources of offsite power (the emergency and main transformers) provided sufficient remaining defense in depth in the event of a loss of offsite power to the station transformer. This

finding had a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee failed to adequately define and effectively communicate expectations regarding procedural compliance and personnel failed to follow procedures.

Inspection Report# : [2011004](#) (*pdf*)

**Significance:**  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:**  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:**  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:**  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*)

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## Mitigating Systems

**Significance:**  Sep 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Place the Essential Servicer Water System Strainers in (a)(1)**

The inspectors identified a noncited violation of 10 CFR 50.65 (a)(2), requirements for monitoring the effectiveness of maintenance at nuclear power plants. Specifically the licensee failed to demonstrate that the performance of the essential service water strainer backwash system was effectively controlled through appropriate preventive maintenance. As a result, the licensee did not establish goals or monitor the performance of the essential strainers per 10 CFR 50.65 (a)(1) to ensure appropriate corrective actions were initiated following repeated failures of the strainer automatic backwash system. The licensee entered this issue in their corrective action program as Condition Report CR-CNS-2011-09030.

This finding is more than minor because it affected the equipment performance 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. The inspectors performed an Inspection Manual Chapter 0609, Attachment 4, Phase 1 Initial Screening and Characterization of Findings, and determined that the finding was of very low safety significance (Green) because the maintenance rule aspect of the finding did not cause an actual loss of safety function of the system nor did it cause a component to be inoperable. This finding had a cross-cutting aspect in the area of human performance associated with the resources component because the procedure used to perform functional failure evaluations was not complete, accurate, or up-to-date because it did not identify that automatic service water strainer backwash was an essential function.

Inspection Report# : [2011004](#) (*pdf*)

**Significance:**  Sep 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Scope Reactor Building Drain Components and Steam Exclusion Doors that Affect Safety-related Systems in the Maintenance Rule Monitoring Program**

The inspectors identified two examples of a noncited violation of 10 CFR 50.65 (b)(2) for the licensee's failure to monitor nonsafety-related components whose failure could prevent safety-related systems from fulfilling their safety-related function. Specifically, the licensee did not include reactor building quad sump drains components that could prevent internal flooding from affecting essential equipment in the quads nor did the licensee include steam exclusion doors whose failure could affect essential equipment in the scope of the maintenance rule monitoring program specified in 10 CFR 50.65 (a)(1). Licensee personnel entered this issue in the corrective action program as Condition Reports CR-CNS-2011-05251 and CR-CNS-2011-02021.

The finding was more than minor because it was associated with the Mitigating Systems Cornerstone attribute of equipment performance and affected the cornerstone objective of ensuring the availability and reliability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed an Inspection Manual Chapter 0609, Attachment 4, Phase 1 Initial Screening and Characterization of Findings, and determined that the finding was of very low safety significance (Green) because the maintenance rule aspect of the finding it is not a design or qualification deficiency, did not represent a loss of system safety function, did not represent an actual loss of a single train system for greater than the Technical Specification allowed outage time, and was not made risk-significant because of external events. The finding does not have a cross-cutting aspect since the failure to scope this equipment into the maintenance rule was not recognized during the initial maintenance rule scoping activities (Circa 1996) and, as a result, is not indicative of current licensee performance.

**Significance:** **G** Sep 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Identify, Correct, and Prevent Recurrence of a Significant Condition Adverse to Quality**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to implement adequate corrective actions to preclude recurrence of a significant condition adverse to quality. Specifically, during the root cause evaluation performed for a previous issue where a hazard barrier was disabled which resulted in the inoperability of both emergency diesel generators, the licensee failed to adequately implement corrective actions to prevent recurrence of this significant condition adverse to quality. This resulted in multiple repeat instances where the licensee breached hazard barriers for routine monthly maintenance from October 2010 through March 2011, without either; assessing the risk incurred to the station, declaring the protected equipment inoperable, or providing an equivalent level of protection for the equipment being protected by the barriers. This issue was entered into the licensee's corrective action program as Condition Reports CR-CNS-2011-0684 and CR-CNS-2011-9217.

The failure to implement adequate corrective actions to preclude recurrence of a significant condition adverse to quality was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding had a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action component, in that, the licensee failed to; 1) thoroughly evaluate problems such that the resolutions addressed causes, and 2) for significant conditions, conduct effectiveness reviews of corrective actions to ensure that the problems were resolved.

Inspection Report# : [2011004](#) (pdf)

**Significance:** **G** Sep 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate Procedure Results in Inoperable Essential Pump**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion VII, Control of Purchased Material, Equipment, and Services, associated with the licensee's failure to have adequate receipt inspection procedures to establish measures to assure that purchased material, equipment, and services conform to the procurement documents. Specifically, using the station procedure for the receipt inspection of the essential motor for the residual heat removal service water booster pump, the licensee failed to identify loose bearing cap bolting. The motor was subsequently installed in the plant for ten months before the degraded condition was identified. The licensee entered this issue into their corrective action program with CR CNS 2011-04643. Corrective actions resulted in revised receipt inspection requirements.

The failure to have adequate receipt inspection procedures to establish measures to assure that purchased material, equipment, and services conform to procurement documents is a performance deficiency. The performance deficiency was more than minor because it adversely impacts the equipment performance 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 (i.e., core damage). Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding screened as potentially risk significant since the finding represents an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time. When evaluated per Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," and the Cooper Phase 2 pre-solved table item, "One RHRSWBP," the inspectors determined this finding to be potentially risk significant. The

finding was forwarded to a senior reactor analyst for review. The senior reactor analyst performed the Phase 3 analysis and determined that the finding was of very low safety significance. This finding did not have a cross-cutting aspect since the receipt inspection took place greater than three years ago and, therefore, the finding is not reflective of current performance.

Inspection Report# : [2011004](#) (pdf)

**Significance:**  Jun 24, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Promptly Identify and Correct Conditions Adverse to Quality**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” associated with four examples of the licensee’s failure to promptly identify and correct conditions adverse to quality. Specifically, the licensee failed to identify and correct excessive setpoint drift of reactor core isolation cooling system pressure switches, the leak of oil from the service water booster pump, a vulnerability that allowed non-quality controlled material to be installed in safety related applications, and the cause of a failure of the high pressure coolant injection steam line high flow instrument. The licensee entered the finding into the corrective action program as Condition Reports 2011-07060, 2011-07105, 2011 07151, and 2011-06653.

The performance deficiency was determined to be more than minor because if left uncorrected, the continued failure to promptly identify and correct conditions adverse to quality could result in more risk significant equipment being inoperable, and is therefore a finding. This finding affected the Mitigating Systems Cornerstone. Using Manual Chapter 0609, Attachment 4, “Phase 1 - Initial Screening and Characterization of Findings,” the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a crosscutting aspect in the area of problem identification and resolution, associated with the corrective action program component, in that, the licensee failed to implement a corrective action program with a low threshold for identifying issues; issues are identified completely, accurately and in a timely manner commensurate with their safety significance.

Inspection Report# : [2011006](#) (pdf)

**Significance:**  Jun 24, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Take Action for an Ineffective Corrective Action**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the failure to correct a condition adverse to quality. Specifically, the licensee determined that an interim corrective action to prevent recurrence was ineffective, yet it took no effective corrective action. As a result, the licensee was vulnerable to a repetitive condition adverse to quality. The licensee entered the issue into the corrective action program as Condition Report 2011-07152.

The finding was determined to be more than minor because the performance deficiency could be reasonably viewed as a precursor to an event in that the interim action was not effective as a barrier to prevent recurrence of an event. The finding is associated with the Mitigating Systems Cornerstone. The inspectors performed a Phase 1 screening in accordance with Manual Chapter 0609, Attachment 4, “Phase 1 – Initial Screening and Characterization of Findings,” and determined that the finding was of very low safety significance (Green) because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The inspectors determined that this finding had a crosscutting aspect in the area of problem identification and resolution associated with corrective actions because the licensee failed to prioritize and thoroughly evaluate a condition report that documented an inadequate interim corrective action to prevent recurrence.

**Significance:**  Jun 24, 2011

Identified By: NRC

Item Type: VIO Violation

### **Failure to Correctly Translate Design Requirements into Installed Plant Configuration**

The inspectors identified a cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to assure that the applicable design basis for applicable structures, systems, and components were correctly translated into specifications, procedures, and instructions. Specifically, the licensee failed to justify through evaluation that the diesel generator fuel oil day tanks would be available following a tornado missile strike on the tank vents. The violation was cited because the licensee failed to restore compliance in a reasonable time following documentation of the issue as a noncited violation in NRC Inspection Report 2010007 (issued December 3, 2010). The licensee entered this issue into the corrective action program as Condition Report 2011-06655.

The performance deficiency was determined to be more than minor because it was associated with the protection against the external factors attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have 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 decision making and adopt a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate it is unsafe in order to disapprove the action.

Inspection Report# : [2011006](#) (pdf)

**Significance:**  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Assess Potential Adverse Effects On Internal Flooding Analysis**

The inspectors identified two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the failure of the licensee to ensure compliance with the requirements of station Procedure 3.3SAFE, "Safety Assessment." Specifically, licensee personnel failed to identify the potential adverse impact to the station internal flooding analysis for the installation of a temporary chemical decontamination skid associated with the fuel pool cooling system, and meshing material installed around the handrails. The licensee performed an evaluation for the skid which demonstrated compliance, and removed the meshing material when it was identified. These issues were entered into the licensee's corrective action program as Condition Reports CR-CNS-2011-2182, CR-CNS-2011-2232, CR-CNS-2011-2240, CR-CNS-2011-2242, CR-CNS-2011-2249, CR-CNS-2011-3551, CR-CNS-2011-5754, and CR-CNS-2011-5798.

The failure to comply with the requirements of station Procedure 3.3SAFE and identify and evaluate the potential adverse impact to the station's internal flooding analysis of several configuration changes was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding was determined to have a cross-cutting aspect in the area of human performance, associated with the decision making component, in that the licensee failed to use conservative assumptions in decision making. Specifically, the licensee's qualitative analysis comparing the two hatches failed to take into account configuration differences associated with

**Significance:**  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedure Results in Inadequate Operability Determinations**

The inspectors identified multiple examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," regarding the licensee's failure to follow the requirements of EN-OP-104, "Operability Determinations." Specifically, the inspectors identified examples in which operations failed to properly document the basis for operability when a degraded or nonconforming condition had been identified. The licensee entered these issues into their corrective action program with individual condition reports for each issue. Corrective actions resulted in revised operability reviews and corrective actions to processes and training to prevent similar operability determination problems.

The performance deficiency is more than minor because the condition of performing inadequate operability determinations could become more significant if left uncorrected. Unrecognized degradation of essential equipment impacts the equipment performance 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 (i.e., core damage). Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the finding was determined to have very low safety significance because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. This finding was determined to have a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action component, in that, the licensee failed to thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions. Specifically, licensee personnel failed to thoroughly evaluate conditions adverse to quality and perform meaningful operability determinations.

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 23, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Failure to Correctly Translate Design Requirements into Installed Plant Configuration**

The inspectors documented a self revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," associated with the licensee's failure to assure that the applicable design basis for structures, systems, and components were correctly translated into specifications, procedures, and instructions. Specifically, the licensee failed to correctly translate the design requirements for the service water zurn strainer's reduction gear to motor shaft into the installed plant equipment. This resulted in instances where the strainer motor was not able to perform its function of strainer backwash, an essential function, due to a failure of the wiper arm motor-to-gear box coupling. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2010-2213.

The licensee's failure to ensure that design requirements were correctly translated into installed plant equipment was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Attachment 4, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined that a Phase 2/3 assessment was required because this was a design or qualification deficiency that did result in a loss of operability or functionality. The inspectors received support from the regional senior reactor analyst to evaluate this issue. As a bounding analysis, the analyst assumed: (1) the only time this design deficiency would cause an issue would be when strainer backwash was required due to debris loading; (2) the licensee had procedures already in place for manual actions in the event of a coupling failure; (3) the licensee would implement these actions before the strainer became inoperable due to debris loading; and (4) these actions were not complex and could easily be implemented. Given these assumptions the

analyst determined that the finding was of very low safety significance (Green). This finding did not have a cross-cutting aspect because the most significant contributor did not reflect current licensee performance.

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Adequately Assess and Manage Risk When Disabling A Hazard Barrier**

The inspectors identified 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 a planned maintenance activity. Specifically, on August 19, 2010, during maintenance activities on emergency diesel generator 2, maintenance personnel inappropriately blocked open the steam exclusion boundary door N-103 that protected both emergency diesel generators, without properly assessing the potential effects on the emergency diesel generators and without appropriate compensatory measures in place. As such, this resulted in both emergency diesel generators being inoperable. These issues were entered into the licensee's corrective action program as Condition Report CR-CNS-2011-7660.

The licensee's failure to adequately assess and manage the risk of planned maintenance activities was a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences, and is therefore a finding. Using Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," the finding was determined to have very low safety significance. Specifically, Flowchart 1, "Assessment of Risk Deficit," requires the inspectors to determine the risk deficit associated with this issue. The senior reactor analyst performed a bounding analysis and determined that the probability that a high energy line breaks, causing the failure of both emergency diesel generators and initiating a consequential loss of offsite power, can be calculated as  $3.0 \times 10^{-7}$ . Given that the change in core damage frequency would be lower than this probability, the analyst determined that the finding was of very low safety significance (Green). The inspectors determined that this finding did not represent current performance because the guidance that formed the basis for the licensee's decision making was developed and approved over two years ago.

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Follow Procedure Results in Degraded Emergency Diesel Generator**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," regarding the licensee's failure to follow written work instructions. Specifically, the inspectors identified that maintenance personnel, when unable to follow written instructions on torquing emergency diesel generator bolting due to mechanical interference, then used alternate methods. These methods contributed to the subsequent loosening of the bolting and degrading the capability of the emergency diesel generator. The licensee entered this issue into their corrective action program as Condition Report CR-CNS-2011-07653.

The performance deficiency is more than minor since this failure to follow procedures resulted in a degraded emergency diesel generator which impacts the equipment performance 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 (i.e., core damage). The finding was evaluated using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," and was determined to be of very low safety significance (Green) because there was not a design or qualification deficiency that resulted in a loss of operability or functionality, it did not create a loss of system safety function or of a single train for greater than the technical specification allowed outage time, it did not represent an actual loss of risk significant equipment, and it did not affect seismic, flooding, or severe weather initiating events. The finding was determined to have a cross-cutting aspect in the area of human performance, associated with the work practices component, in that, personnel do not proceed in the face of uncertainty or unexpected circumstances. Specifically, when unable to torque emergency diesel generator bolting by following their written procedures, licensee personnel

proceeded in the face of uncertainty by using alternate torque methods.

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Initiate Condition Reports for Nonconformances Identified During System Walk Downs**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the failure of licensee personnel to follow the requirements of Procedure 0.5, "Conduct of the Condition Report Process." Specifically, licensee personnel failed to initiate condition reports for adverse conditions related to the inability to remove air from emergency core cooling system piping. Licensee personnel identified that high pressure coolant injection system had an incorrect slope and that the core spray system had concentric reducers that could trap gas; however, personnel failed to initiate a condition report that documented the deficiency.

The performance deficiency associated with this finding involved failure of personnel to follow the requirements of Procedure 0.5. Specifically, licensee personnel failed to initiate condition reports for adverse conditions that could result in gas voids in the emergency core cooling systems that could affect operability. The first and third examples are more than minor because the condition of not initiating condition reports for adverse conditions could become more significant if left uncorrected. Using Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the finding is determined to have very low safety significance because neither example resulted in any loss of safety function of any technical specification required equipment. This finding was determined to have a cross-cutting aspect in the problem identification and resolution area associated with the corrective action program component because licensee personnel failed to implement a corrective action program with a low threshold for identifying issues.

Inspection Report# : [2011003](#) (pdf)

**Significance:**  Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Promptly Correct an Adverse Condition Related to Emergency Core Cooling System Venting**

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for the failure of licensee personnel to take actions to promptly correct a condition adverse to quality. Specifically, the licensee did not take any interim actions to eliminate procedure steps that allowed venting of emergency core cooling systems without determining the amount of gas accumulated and the potential impact on system operability.

The performance deficiency associated with this finding involved the failure to correct a condition adverse to quality. This finding was more than minor because it affected the equipment performance attribute of the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of the emergency core cooling systems to respond to initiating events and prevent undesirable consequences. Specifically, licensee personnel failed to promptly correct the previously identified condition adverse to quality of not tracking emergency core cooling system gas accumulation and its potential effects on system operability during surveillance testing. The inspectors performed the significance determination using NRC Inspection Manual Chapter 0609, Attachment 0609.04, "Phase 1 – Initial Screening and Characterization of Findings." The finding was determined to be of very low safety significance (Green) because it was not a design or qualification deficiency confirmed not to result in loss of operability or functionality; did not result in loss of a safety function, did not result in loss of safety function of a single train for longer than its allowed outage time, did not result in loss of a risk-significant non-technical specification system per 10 CFR 50.65, and did not screen as potentially risk significant because of a seismic, flooding or severe weather initiating event. The finding was determined to have a crosscutting aspect in the area of human performance, associated with the resources component, in that, the licensee failed to provide maintenance of design margins. Specifically, the licensee did not ensure that station procedure were adequate to assure nuclear safety, in that they did require measuring of the amount of entrained gas and any impact on equipment operability.

Inspection Report# : [2011003](#) (pdf)

**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:**  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:**  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:**  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:**  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:**  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:**  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)

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## **Barrier Integrity**

**Significance:**  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)

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## Emergency Preparedness

**Significance:**  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)

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# Occupational Radiation Safety

**Significance:**  Sep 23, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

## **Failure to Follow Procedure Results in Personnel Contaminations**

The inspectors reviewed a self revealing, noncited violation of Technical Specification 5.4.1, resulting from a plant individual who failed to follow radiation work permit requirements and was contaminated as a result. The condition was detected when the contamination monitor alarmed during the individual's attempt to process out of the radiologically controlled area. The individual was then decontaminated prior to exiting. The licensee entered the issue into the corrective action program as Condition Report CR-CNS-2011-8582.

The failure to follow radiation work permit requirements is a performance deficiency. The finding was more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute (exposure control) of program and process and affected the cornerstone objective, in that, working outside the scope of the radiation work permit resulted in personnel contamination and contamination levels in the area had the potential to increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined the finding to have very low safety significance because: (1) it was not associated with ALARA planning or work controls, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with the work practices component, when the licensee failed to assure that human error prevention techniques, such as self checking, are used to assure that work activities are performed safely when an individual failed to self check requirements prior to entering the radiation controlled area and was contaminated.

Inspection Report# : [2011004](#) (*pdf*)

**Significance:**  Jun 23, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

## **Failure to Follow Procedure Results in Personnel Contaminations**

The inspectors reviewed a self-revealing, noncited violation of Technical Specification 5.4.1, resulting from workers who entered a posted contamination area without required protective clothing and were contaminated as a result. The condition was detected when contamination monitors alarmed during the workers attempt to process out of the radiologically controlled area. The workers were then decontaminated prior to exiting. The licensee entered the issue into the corrective action program as Condition Report CR-CNS-2011-03311. The corrective actions included communication of the issue throughout the department.

The failure to follow radiation work permit requirements is a performance deficiency. The finding was more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute (exposure control) of program and process and affected the cornerstone objective, in that, working in an area outside the scope of the radiation work permit and not following protective clothing requirements resulted in personnel contaminations. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined the finding to have very low safety significance because: (1) it was not associated with ALARA planning or work controls, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding was determined to have a cross-cutting aspect in the area of human performance, associated with the work control component, in that, the licensee failed to appropriately coordinate work activities by incorporating actions to address plant conditions that may affect work activities. Specifically, the radiation protection technician failed to verify current conditions prior to briefing workers on expected plant conditions that may affect work activities.

Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  Jun 23, 2011

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

## **Failure to Follow Radiation Work Permit Requirements**

The inspectors reviewed a self-revealing, noncited violation of Technical Specification 5.4.1, resulting from workers who failed to follow radiation work permit requirements and entered a high radiation area, after climbing from one scaffold to another. As corrective action, the licensee posted the area, searched for similar situations in the plant, and entered the issue into the corrective action program as Condition Reports CR-CNS-2011-0318 and -03217.

The failure to follow radiation work permit requirements is a performance deficiency. The finding was more than minor because it was associated with the Occupational Radiation Safety Cornerstone attribute (exposure control) of program and process and affected the cornerstone objective, in that, working in an area outside the scope of the radiation work permit and not knowing the dose rates in the high radiation area had the potential to increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined the finding to have very low safety significance because: (1) it was not associated with ALARA planning or work controls; (2) there was no overexposure; (3) there was no substantial potential for an overexposure; and (4) the ability to assess dose was not compromised. The finding has a human performance cross-cutting aspect associated with work practices component because the individuals did not use peer or self-checking before climbing to the second scaffold. Inspection Report# : [2011003](#) (*pdf*)

**Significance:**  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:**  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:**  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:**  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:**  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:**  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)].

## Public Radiation Safety

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### Physical Protection

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

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### Miscellaneous

**Significance:** SL-IV Jun 24, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Report Conditions Prohibited by Technical Specifications and Safety System Functional Failures**

The inspectors identified a noncited violation of 10 CFR 50.73, "Licensee Event Report System," associated with the licensee's failure to submit a licensee event report within 60 days following discovery of an event meeting the reportability criteria as specified. Specifically, a condition prohibited by technical specifications occurred when a zurn strainer failure rendered the service water system inoperable for longer than the action statement and would have prevented fulfillment of a safety function. The licensee entered the finding into the corrective action program as Condition Report 2011-06778.

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 a violation determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program. Therefore, 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 problem identification and resolution associated with the corrective action component, in that, the licensee failed to appropriately and thoroughly evaluate for reportability aspects all factors associated with the equipment failure.

Inspection Report# : [2011006](#) (pdf)

**Significance:** SL-IV Jun 24, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Perform 10 CFR 50.59 Evaluation for Design Change**

The inspectors identified a noncited violation of 10 CFR 50.59, "Changes, Tests, and Experiments," associated with the failure to adequately evaluate a change in order to ensure that it did not require prior NRC approval. Specifically, the licensee revised a residual heat removal pump motor cable sizing calculation to a smaller sized cable without a change evaluation. The licensee entered the issue into the corrective action program as Condition Report 2011-01730.

The finding was determined to be more than minor because the licensee failed to perform a 10 CFR 50.59 evaluation when required. Specifically, the NRC relies on 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, and is therefore more than minor. Violations of 10 CFR 50.59 are considered to impede or

impact the regulatory process, so they are dispositioned using the traditional enforcement process. The enforcement manual specifies that the severity level is determined in parallel with the Significance Determination Process (SDP). The inspectors performed a Phase 1 screening in accordance with Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green) because the finding: (1) was not a design or qualification issue confirmed not to result in a loss of operability or functionality; (2) did not represent an actual loss of safety function of the system or train; (3) did not result in the loss of one or more trains of nontechnical specification equipment; and (4) did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. Therefore, the inspectors categorized the finding as Severity Level IV in accordance with the enforcement manual. The finding was a violation determined to be of very low safety significance, was not repetitive or willful, and was entered into the corrective action program. Therefore, this violation is being treated as a noncited violation consistent with the NRC Enforcement Policy. The inspectors determined the cause of the finding through interviews and document reviews. This finding was determined to have a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program in that the licensee failed to appropriately and thoroughly evaluate all factors associated with the design change.

Inspection Report# : [2011006](#) (*pdf*)

**Significance:** N/A Jun 24, 2011

Identified By: NRC

Item Type: FIN Finding

**Cooper Nuclear Station, 2011, Biennial Problem Identification and Resolution Inspection Assessment**

The inspectors reviewed approximately 400 condition reports, work orders, cause evaluations, self-assessments and audits, operating experience evaluations, system health reports, trending reports, metrics, and other supporting documentation to determine if problems were being properly identified, prioritized, evaluated, and resolved.

The inspectors concluded that the licensee generally identified, evaluated, and corrected problems according to their safety significance. The licensee generally analyzed operating experience appropriately, performed effective self-assessments, and maintained an effective safety conscious work environment.

The inspectors identified weaknesses in the areas of operability evaluations, thorough evaluations, and the effectiveness of corrective actions. This was evidenced most notably by repetitive diesel failures in 2009 and three recent cited violations. The inspectors noted that the previous Problem Identification and Resolution inspection, documented in NRC Inspection Report 2009007, identified weaknesses in operability evaluations and that some root causes could have been more thorough. Therefore, the inspectors considered the weaknesses in operability evaluations and thorough evaluations to be repetitive weaknesses. In addition, NRC Inspection Report 2011002 documents a repetitive weakness in initiating condition reports evidenced by multiple noncited violations. The inspectors concluded that the licensee needs to be more effective at correcting the observed corrective action program weaknesses in identification, operability evaluations, and thorough evaluations.

Inspection Report# : [2011006](#) (*pdf*)

**Significance:** SL-IV Jun 23, 2011

Identified By: NRC

Item Type: NCV NonCited Violation

**Communication of an NRC Inspector's Presence by Station Personnel**

The inspectors identified a Severity Level IV noncited violation of 10 CFR 50.70, "Inspections," associated with the licensee's failure to ensure that the arrival and presence of NRC inspectors was not communicated to persons at the facility. Specifically, a radiation protection technician manning the access point to the drywell informed other individuals entering the drywell to perform work of inspector's presence and location during an unannounced walkdown of the drywell to observe licensee work activities. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2011-4124.

Licensee personnel's action of announcing the presence and location of NRC inspectors during an unannounced walkdown inspection was 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 its ability to perform unannounced inspections to evaluate licensee performance, and communicating the presence and location of NRC inspectors affects their ability to perform these inspections, and as such 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. The inspectors determined that there was no cross-cutting aspect associated with this finding because this issue was not indicative of current performance because the violation did not affect any of the safety culture components.

Inspection Report# : [2011003](#) (*pdf*)

**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 rationale, 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 : January 04, 2012