Cooper
3Q/2006 Plant Inspection Findings

Initiating Events

Significance: G Sep 23, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Risk Assessment for Safety-Related Undervoltage Relay Testing
The NRC identified a noncited violation of 10 CFR 50.65(a)(4) regarding the online risk evaluation for a surveillance test on safety-related undervoltage relays. On August 21, 2006, the licensee performed routine testing of the under-voltage relays for safety-related Bus 1G. The online risk assessment for August 21 reflected this testing but did not consider an increase in the likelihood of a loss of offsite power due to a modification of transmission towers inside the owner controlled area that was occurring at the same time. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-06099.

The finding affected the Initiating Events Cornerstone and is more than minor because the licensee's risk assessment failed to consider unusual external conditions that were present during the surveillance test. The finding is not suitable for significance determination process evaluation; however, it has been reviewed by NRC management and was determined to be a finding of very low safety significance. This determination took into consideration the short duration of the work activity and the fact that the relay testing and the transmission modifications were both completed without any adverse consequences. The cause of the finding is related to the crosscutting element of human performance in that the licensee's work control process did not appropriately incorporate risk insights regarding the transmission system work while planning Bus 1G undervoltage testing.
Inspection Report# : 2006004*(pdf)*

Significance: G Jun 24, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failures to Properly Control Combustibles in the Plant
The NRC identified a noncited violation of Technical Specification 5.4.1.d regarding the licensee's failure to implement fire protection program procedures. On April 11 and June 8, 2006, the inspectors identified a total of four examples of transient combustible material in reactor building fire zones which did not meet the requirements of plant fire protection procedures. This issue was entered into the licensee's corrective action program as CR-CNS-2006-04622.

The finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of protection against external factors such as fire. Using Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the finding is determined to have very low safety significance because the reliability and effectiveness of the plant combustible materials program is only minimally affected by the finding. The causes of this finding are related to the crosscutting element of human performance. In the case of the scaffolding planks, a human error resulted in the inadvertent deletion of the material from the transient combustible data base without its removal from the reactor building. In the other examples, personnel failed to properly control combustibles in accordance with procedures and failed to adhere to postings regarding the placement of combustibles in the plant.
Inspection Report# : 2006003*(pdf)*

Mitigating Systems

Significance: G Sep 23, 2006

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Requirements for Scaffolding Construction
The NRC identified a noncited violation of Technical Specification 5.4.1.a regarding the licensee's failure to follow procedures for maintenance affecting the performance of safety-related equipment. Specifically, the inspectors discovered three examples of scaffolding constructed within the minimum separation distance to operable safety-related equipment as defined in Maintenance Procedure 7.0.7, "Scaffolding Construction and Control." The licensee documented the procedural violations in CR-CNS-2006-06763.

The finding affected the Mitigating Systems Cornerstone and is more than minor because, if left uncorrected, the failure to maintain the standards of Procedure 7.0.7 could become a more significant safety concern. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not represent the loss of a safety function of a single train for greater than its Technical Specification allowed outage time. This finding has a crosscutting aspect in the area of human performance in that the licensee did not effectively communicate expectations regarding work practices to workers constructing scaffolding or to supervisors who routinely monitor these activities.
Inspection Report# : 2006004*(pdf)*

Significance: G Sep 23, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedure for Tracking Failed Control Room Annunciators
The NRC identified a noncited violation of Technical Specification 5.4.1.a regarding the licensee's inadequate procedure for tracking abnormal, off-normal or alarm conditions. On August 11, 2006, during a review of operator work arounds, the inspectors identified that a failed control room annunciator was not being controlled as required by Alarm Procedure 2.3.1, "General Alarm Procedure," Revision 51. The annunciator had been marked with a green flag since June 11, 2006, to indicate that it had failed even though it was still performing its function. The licensee documented the procedural violation in Condition Report CR-CNS-2006-05852 on August 14, 2006.

The finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of equipment performance and affects the associated cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not represent the loss of a safety function of a single train for greater than its Technical Specification allowed outage time. This finding has a crosscutting aspect in the area of human performance in that the licensee did not provide personnel with adequate resources for tracking abnormal, off-normal or alarm conditions. Specifically, Procedure 2.3.1 required daily checks of failed or continuously alarming annunciators but did not specify a method to perform these checks.
Inspection Report# : 2006004*(pdf)*

Significance: G Jun 29, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Appropriately Respond to Control Room Alarms in Accordance with Plant Procedures
The NRC identified two examples of a noncited violation of Technical Specification 5.4.1.a. In the first example, on June 20, 2006, operators failed to sound the fire alarm, announce the fire, and dispatch the fire brigade, as required by plant procedures, in response to a fire alarm in the reactor building. In the second example, personnel failed to take appropriate actions for a degraded control room annunciator associated with a fire alarm, as required by plant procedures. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-04815.

The finding is more than minor because the failure to appropriately respond to alarm indications could be viewed as a precursor to a significant event. The failure to implement the plant fire procedure is not suitable for significance determination process evaluation but has been reviewed by NRC management and is determined to be a finding of very low safety significance since there were no actual consequences as a result of this event. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the failure to address a degraded fire alarm is determined to have very low safety significance because it did not involve the loss of a safety function and did not screen as potentially

risk significant due to seismic, flooding, or a severe weather initiating event. The cause of the finding is related to the crosscutting element of human performance in that these procedure requirements were unambiguous and it was within the licensee's ability to have correctly implemented those requirements.
Inspection Report# : 2006003*(pdf)*

Significance: G May 17, 2006
Identified By: NRC
Item Type: FIN Finding
Failure to Implement Fire Fighting Standards
The NRC identified a finding regarding the failure to implement fire fighting standards when responding to a possible fire in the radwaste building. On May 17, 2006, operators entered their emergency procedure for fires and dispatched the fire brigade in response to a report of smoke in the radwaste building. Contrary to the plant's firefighting standards, the licensee declared the fire out prior to determining the source of the smoke and completing a thorough search of the area to determine the extent of the fire. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-03651.

The finding is more than minor because it could be viewed as a precursor to a significant event in that the failure to adequately inspect an area prior to declaring a fire out could allow a fire to continue to burn unnoticed, resulting in a much larger and more significant fire. Because the finding is not suitable for significance determination process evaluation, NRC management reviewed the finding and determined that it is of very low safety significance since the performance deficiency was not pervasive, based on previous observations of fire brigade performance, and there were no actual consequences as a result of this event. The cause of the finding is related to the crosscutting element of problem identification and resolution in that the corrective actions for previous fire brigade performance deficiencies were not fully effective in preventing this similar performance deficiency. In addition, the licensee did not identify or initiate any corrective actions in response to this performance deficiency.
Inspection Report# : 2006003*(pdf)*

Significance: G Mar 24, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Maintain Design Control of Service Water Discharge Strainers
The NRC identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," regarding the use of unqualified parts in the service water discharge strainers. Specifically, between 1994 and 2004, the mechanical components used in the strainers were classified as nonessential. This contributed to the failure of Service Water Discharge Strainer B on May 30, 2004. The licensee entered this issue into their corrective action program as Condition Report CR-CNS-2004-04050.

The finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of design control and affects the associated 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 Phase 1 worksheets in Manual Chapter 0609, "Significance Determination Process," were used to conclude that a Phase 2 analysis was required because the finding also increased the likelihood of a loss of service water which is an initiating event for Cooper Nuclear Station. The inspectors performed a Phase 2 analysis using Appendix A, "Technical Basis For At Power Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," and the Phase 2 worksheets for Cooper Nuclear Station. Based on the results of a Phase 3 analysis, the finding is determined to have very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that, following a similar violation documented in NRC Inspection Report 05000298/2003002-05, the licensee had an opportunity to identify and correct this issue prior to the failure of the strainer.
Inspection Report# : 2006002*(pdf)*

Significance: G Mar 14, 2006
Identified By: NRC
Item Type: FIN Finding
Failure to Implement Commitment in Response to Generic Letter 89-13

The inspectors identified a Green finding for failure of the licensee to implement a commitment made to the NRC. Specifically, the licensee did not carry out the programmatic service water intake bay inspections described in their response to NRC Generic Letter 89-13, “Service Water System Problems Affecting Safety-Related Equipment.”

The finding was more than minor since not performing the inspections could become a more significant safety concern if left uncorrected, as degraded conditions in the service water intake bay could affect the operability of the ultimate heat sink for the facility. This finding is not suitable for significance determination process evaluation, but was reviewed by NRC management and determined to be of very low safety significance due to the fact that it did not result in an increase in the likelihood of an initiating event and did not result in the actual degradation of a mitigating system. The inspectors identified crosscutting aspects in problem identification and resolution in that this disparity was identified by the NRC in 1994 and again by the licensee in 2003 without any corrective actions being taken.
Inspection Report# : 2005015*(pdf)*

Significance: G Jan 23, 2006
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Procedure Renders Emergency Diesel Generator and One Offsite Power Source Inoperable
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified regarding the failure of operations personnel to follow procedures for testing safety-related undervoltage relays. Specifically, on January 23, 2006, two licensed operators failed to install a jumper correctly while performing Surveillance Test 6.2EE302, “4160V Bus 1G Undervoltage Relay and Relay Timer Functional Test (Div 2),” Revision 13. This rendered Emergency Diesel Generator 2 and the emergency stations service transformer inoperable. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-00485.

The finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of human performance and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it did not represent the loss of a safety function of a single train for greater than its Technical Specification allowed outage time. The cause of the finding is related to the crosscutting element of human performance in that operations personnel failed to follow the surveillance procedure.
Inspection Report# : 2006002*(pdf)*

Significance: G Dec 31, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
FAILURE TO IMPLEMENT FOREIGN MATERIAL CONTROLS FOR SERVICE WATER INTAKE BAY
An NRC identified non-cited violation of 10 CFR 50, Appendix B, Criterion V was identified regarding the failure to implement procedure requirements for foreign material exclusion. The licensee failed to establish Zone 1 controls in accordance with Administrative Procedure 0.45, "Foreign Material Exclusion Program," during modification of the service water intake bay traveling water screens. This resulted in the introduction of foreign material into the intake bay which had the potential to adversely affect the service water system. This was entered into the licensee's corrective action program as Condition Report CR-CNS-2005-08930.

The finding is greater than minor because if left uncorrected, the continued introductionof foreign material into the service water intake bay would become a more significant safety concern. The continued failure to implement this program could result in the loss of safety function of a safety-related system. The finding affected the Mitigating Systems cornerstone. Using the Phase 1 worksheets in Manual Chapter 0609, "Significance Determination Process," the finding was determined to have very low safety significance because there was no loss of function for the service water.
Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation

FAILURE TO CORRECT A DEGRADED CONDITION RESULTS IN INOPERABILITY OF THE REACTOR EQUIPMENT COOLING SYSTEM.

A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified regarding the failure to correct a degraded condition on the reactor equipment cooling system. A leaking manual isolation valve was identified in the corrective action program in July 2002, but the condition was never corrected and the corrective action documents were closed. In August 2005, this valve was relied upon to maintain system integrity during maintenance. The leaking valve resulted in the system being declared inoperable and required entry into Technical Specification 3.0.3. The licensee entered this into their corrective action program as Condition Report CR-CNS-2005-05588.

The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of equipment performance and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because the licensee was able to demonstrate that there was no loss of safety function for any mitigating systems and the finding did not screen as risk significant due to external initiating events. The cause of the finding is related to the crosscutting element of problem identification and resolution in that a condition adverse to quality was not corrected in 2003.

Inspection Report# : 2005005*(pdf)*

Significance:  Dec 31, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation

FAILURE TO IMPLEMENT SCRAM ACTIONS RESULTS IN LEVEL 8 REACTOR FEED PUMP TRIP

A self-revealing, noncited violation of Technical Specification 5.4.1.a was identified regarding implementation of the scram procedure during response to a manual reactor scram on September 23, 2005. During scram recovery actions, operators failed to minimize feedwater to the reactor which resulted in the only operating reactor feed pump tripping on high reactor vessel water level. The licensee entered this into their corrective action program as Condition Report CR-CNS-2005-06960.

The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of human performance and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because there was no loss of safety function for the mitigating system and the finding did not screen as risk significant due to external initiating events. The cause of the finding is related to the crosscutting element of human performance in that it was reasonable to have expected the reactor operator to correctly prioritize the scram actions and prevent the loss of reactor feed.
Inspection Report# : 2005005*(pdf)*

Significance:  Dec 31, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation

INEFFECTIVE CORRECTIVE ACTION RESULTS IN EMERGENCY DIESEL GENERATOR INOPERABILITY

A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified regarding inadequate corrective actions for repetitive failures of a lube oil instrument line on Emergency Diesel Generator 1. Between 1989 and 2004, the configuration of this instrument was susceptible to high-cycle fatigue failures and experienced three such failures. Corrective actions only replaced the failed material; the line remained in a configuration susceptible to further failures. On December 30, 2004, the line catastrophically failed during a monthly surveillance test, resulting in 100-150 gallons of oil spraying into the room. The licensee entered this into their corrective action program as Condition Report CR-CNS-2004-07947.

The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of equipment performance and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase 1 worksheets in Manual Chapter 0609,

"Significance Determination Process," were used to conclude that a Phase 2 analysis was required because the inspectors determined that there was a loss of safety function of the single train for greater than the Teachnical Specification allowed outage time. The inspectors performed a Phase 2 analysis using Appendix A, "Technical Basis for At-Power Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," and the Phase 2 worksheets for Cooper Nuclear Station. Based on the results of a Phase 3 analysis, the finding is determined to have very low safety significance. The cause of this finding is related to the crosscutting element of problem identification and resolution in that the licensee failed to take corrective actions to preclude repetitive failures of the lube oil instrument line.

Inspection Report# : 2005005*(pdf)*

Significance: G Dec 31, 2005
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
INEFFECTIVE CORRECTIVE ACTION RESULTS IN THE FAILURE OF A SAFETY-RELATED 4160 V BREAKER
A self-revealing, noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified regarding inadequate corrective actions for a repetitive failure of a safety-related 4160 volt breaker. In December 2000, a safety-related breaker failed to operate due to inadequate clearances between internal components. Corrective actions for this failure did not prevent an identical failure of the breaker for Service Water Pump A in December 2004. The licensee entered this into their corrective action program as Condition Report CR-CNS-2004-07938.

The finding is greater than minor because it is associated with the Mitigating Systems cornerstone attribute of equipment performance and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, the finding is also associated with the Initiating Events cornerstone attribute of equipment performance and affects the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The Phase 1 worksheets in Manual Chapter 0609, "Significance Determination Process," were used to conclude that a Phase 2 analysis was required because two reactor safety cornerstones were affected. The inspectors performed a Phase 2 analysis using Appendix A, "Technical Basis for At-Power Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," and the Phase 2 worksheets for Cooper Nuclear Station. Based on the results of a Phase 3 analysis, the finding is determined to have very low safety significance. The cause of the finding is related to the crosscutting element of problem identification and resolution in that a corrective action designed to prevent recurrence of the failure in 2004 was closed without being implemented.
Inspection Report# : 2005005*(pdf)*

Significance: G Dec 02, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Unauthorized Modification to Safety-Related Motor-Operated Valves
The inspector identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, regarding the unauthorized modification of two safety-related motor-operated valves. On September 25, 2005, the licensee modified the mechanical interlocks inside the motor starters for these valves without following the requirements in their modification procedure. As a result, the required torque values specified in the seismic qualification report for this equipment were not used during the modification. The licensee entered this into their corrective action program as CR-CNS-2005-07542 and remounted the interlocks using the appropriate torque values.

The finding was more than minor since configuration control and the maintenance of the plant's design basis is a basic principle of safe plant operation and, if left uncorrected, could become a more significant safety concern. The finding was determined to be of very low safety significance since it only involved a design or qualification deficiency that did not result in the loss of a safety function. The finding also had cross-cutting aspects associated with human performance based on the fact that appropriate administrative barriers were in place to ensure that the modifications were performed in accordance with procedures
Inspection Report# : 2005014*(pdf)*

Significance: G Dec 02, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions for Motor-Operated Valve Failures
The inspector identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, regarding inadequate corrective actions for motor-operated valve failures. Eight similar valve failures occurred over a 6-year period; however, corrective actions for those failures did not prevent two similar failures in September 2005. The licensee entered this into their corrective action program as CR-CNS-2005-06968.

The finding was more than minor since it affected the cornerstone attributes of availability and reliability of mitigating equipment as well as the operational capabilities of primary containment. The safety significance was assessed using Phase 2 of the Significance Determination Process; however, the performance deficiency did not increase the initiating event frequencies or degrade the mitigating functions described in the Phase 2 analysis. Therefore, the finding was determined to be of very low safety significance. There were also crosscutting aspects associated with problem identification and resolution based on the fact that it was within the licensee's capability to have determined and corrected the valve failure mechanism 2 months prior to the failures in September 2005, yet they failed to do so.
Inspection Report# : 2005014*(pdf)*

Significance: G Oct 20, 2005
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Corrective Actions for Service Water Plugging Events
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, for failure of the licensee to take adequate and timely corrective action to prevent recurrence of a significant condition adverse to quality. Specifically, the licensee’s corrective actions taken since a service water strainer clogging event in November 2004 did not preclude the event from occurring in October 2005. The effect of these events was to cause a loss of both trains of service water for a short period of time and potentially challenge the cooling function to downstream components.

This finding affected the Initiating Events and Mitigating Systems Cornerstones since the loss of service water is an initiating event and the service water system is required to mitigate the consequences of an accident. The finding was more than minor since it could reasonably be viewed as a precursor to a significant event and it affected the cornerstone attribute of availability and reliability of mitigating equipment. Since two cornerstones were affected by the finding, a Significance Determination Process Phase 2 analysis was required. The finding was determined to be Green. Crosscutting aspects associated with problem identification and resolution were identified based on the fact that it was within the licensee's capability to have determined and corrected the problem prior to the failures in October 2005, yet they failed to do so.
Inspection Report# : 2005015*(pdf)*

Barrier Integrity

Significance: G Sep 23, 2006
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify Reactor Operation in Excess of Licensed Thermal Power Limits
The NRC identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, regarding the failure to promptly identify a significant condition adverse to quality regarding operation of the reactor above the licensed thermal power limits for 3 days. On June 20, 2006, licensee personnel inadvertently introduced a nonconservative error into the core thermal power calculation which was not discovered until June 23. As a result, the reactor was operated above the licensed thermal power limit of 2381 MW for 3 days. Reactor power remained below 102 percent during the entire period; therefore, the reactor was not operated outside its design limits. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-04573.

The finding is more than minor because it is associated with the Barrier Integrity cornerstone attribute of human performance (procedure adherence) and affects the associated cornerstone objective to provide a reasonable assurance that physical design barriers, such as fuel cladding, protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have very low safety significance because it only involved the potential to affect the fuel barrier. The cause of the finding is related to the corrective action component of the crosscutting area of problem identification and resolution in that the licensee failed to identify this issue in a timely manner.
Inspection Report# : 2006004*(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Physical Protection information not publicly available.

Miscellaneous

Last modified : December 21, 2006