Cooper
4Q/2007 Plant Inspection Findings

Initiating Events

Significance: G Jun 23, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Entry Into the Stability Exclusion Region of the Power to Flow Map
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified involving an inadequate procedure for transitioning to single recirculation loop operation during power operations. This procedural inadequacy resulted in operators entering the stability exclusion region after securing one reactor recirculation pump for maintenance activities. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2007-03555.

The finding is more than minor because if left uncorrected the finding could become a more significant safety concern. For example, operation in the stability exclusion region could result in core thermal-hydraulic instabilities and rapid power oscillations. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have a very low safety significance because it did not contribute to the likelihood that mitigating systems would be unavailable following a reactor trip. The cause of this finding is related to the human performance cross cutting component of resources because the system operating procedures did not provide guidance for establishing adequate margin to the stability exclusion region prior to securing a reactor recirculation pump (H.2(c)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 23, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Equipment Isolation Instructions Results in Unisolable Leak and Reactor Scram
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the inadequate isolation instructions contained in System Operating Procedure 2.2.8, "Control Rod Drive Hydraulic System." The use of these inadequate isolation instructions resulted in an unisolable leak from the control rod drive system and insertion of a manul reactor scram. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2007-03552.

This finding is more than minor because it is associated with the initiating events cornerstone attribute of procedure adequacy and affects the associated cornerstone objective to limit the likelihood of those events that upset plant stability. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding is determined to have a very low safety significance because it did not contribute to the likelihood that mitigating systems would be unavailable following a reactor trip. The cause of this finding is related to the human performance cross cutting component of resources because the licensee failed to ensure that the procedure was complete and accurate to assure proper component isolation from the reactor coolant system prior to performing maintenance activities (H.2(c)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Mar 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operating Procedures for Draining Main Steam Lines
A self revealing noncited violation of Technical Specification 5.4.1(a) was identified for licensee's failure to establish adequate operating procedures for filling, venting, draining, and startup of the main steam system. This procedural

inadequacy led to a water hammer event on November 21, 2006, resulting in damage to the main steam piping support system. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-09597.

The finding is more than minor because it is 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 shutdown as well as power operations. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding is determined to have a very low safety significance because the finding did not contribute to the likelihood that mitigation equipment or functions would not be available following a reactor trip.
Inspection Report# : 2007002 *(pdf)*

Significance: G Mar 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Maintenance Results in a Loss of Shutdown Cooling
A self revealing noncited violation of Technical Specification 5.4.1(a) was identified regarding the licensee’s failure to establish an adequate maintenance procedure for Reactor Protection System Motor Generator Set B. On November 19, 2006, the voltage regulator failed due to a lack of vendor recommended maintenance on the voltage adjustment potentiometer. This failure resulted in a loss of shutdown cooling. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-09451.

The finding is more than minor because it is 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 shutdown conditions. Appendix G, “ Shutdown Operations Significance Determination Process,” of Manual Chapter 0609 was used to conclude that the finding was of very low safety significance since it did not affect the licensee’s ability to monitor core conditions or recover shutdown cooling after it was lost. The cause of the finding is related to the resource component of the human performance crosscutting area in that the licensee did ensure that complete, accurate, and up-to-date procedures were available for periodic maintenance on the voltage regulator.
Inspection Report# : 2007002 *(pdf)*

Mitigating Systems

Significance: G Nov 28, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to correct battery surveillance requirements
The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI for failure to correct a nonconservative technical specification. The licensee determined on March 14, 2007 that Technical Specification Surveillance Requirements 3.8.4.2 and 3.8.4.5 were nonconservative, but did not initiate any corrective action to address the degraded condition. The licensee determined that these surveillance requirements were nonconservative with respect to safety related 125 Vdc battery intercell resistance measurements.

The failure to correct an inadequate technical specification surveillance requirement is a performance deficiency. This finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of procedure quality and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable circumstances (i.e., core damage). Using the Manual Chapter 0609, ASignificance Determination Process,@ Phase 1 Worksheet, the finding is determined to have a very low safety significance because it did not result in the loss of a mitigating system safety function. This finding has a cross-cutting aspect in the corrective action program component of the cross-cutting area of problem identification and resolution because the licensee did not take appropriate corrective action to address a condition adverse to quality (P.1(d)) (Section 4OA2).

Inspection Report# : 2007006 *(pdf)*

Significance: G Sep 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Promptly Identify and Correct Flow Erosion in Service Water Piping
The inspectors identified a noncited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," regarding the licensee's failure to promptly identify and correct a condition adverse to quality. Specifically, a degraded condition that was discovered in the service water supply piping to Diesel Generator 2 on August 16, 2007 was not evaluated for its effect on the operability of Diesel Generator 2 until prompted by inspectors on August 17, 2007. As a result , additional unavailability time was necessary to repair the degraded condition. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2007-05590.

The finding is more than minor because if left uncorrected, the flow erosion of the Diesel Generator 2 service water supply piping could have become a more significant safety concern. Using Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," the finding was determined to be of very low safety significance because it did not represent an actual loss of safety function of the diesel generator for greater than its technical specification allowed outage time. The cause of this finding is related to the problem identification and resolution cross cutting component of corrective action program in that the licensee did not correct the degraded condition of the Diesel Generator 2 service water piping in a timely manner (P.1(a)).
Inspection Report# : 2007004 *(pdf)*

Significance: G Sep 22, 2007
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Requirements of Industrial Safety Procedures
The inspectors identified a Green finding regarding the licensee's failure to follow the requirements of industrial safety procedures. Specifically, licensee personnel violated the requirements of Administrative Procedure 0.36, "Industrial Safety Procedure," and Administrative Procedure 0.36.6, "Monitoring for Industrial Gases," during a chemical injection treatment in the service water system. Specifically, the licensee failed to properly post the hazardous work permit, the individuals performing the work did not review the permit, and licensee personnel did not immediately evacuate the work area as required following a toxic gas release. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2007-06421.

The finding is more than minor because if left uncorrected it could become a more significant safety concern in that failure to follow industrial safety procedures during chlorine dioxide injections could put personnel at significant risk of injury and could have resulted in a larger toxic gas release in the intake structure, inhibiting the operators' ability to access safety related equipment to mitigate the consequences of an accident. Using Inspection Manual Chapter 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," the finding was determined to be of very low safety significance because it did not result in a loss of safety function for any mitigating system. The cause of this finding is related to the human performance cross cutting component of work practices in that licensee personnel did not follow the requirements of industrial safety procedures as required (H.4(b)).
Inspection Report# : 2007004 *(pdf)*

Significance: G Jun 23, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Operator Error Leads to Draining RHR Loop
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified involving the failure to follow the procedural requirements of System Operating Procedure 2.2.69.3, "RHR Suppression Pool Cooling and Containment Spray." This procedural violation resulted in the inadvertent draining and unavailability of one train of the low pressure coolant injection (LPCI) system. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2007-03380.

This 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. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding is determined to have a very low safety significance because it did not result in the actual loss of safety function for the LPCI train for greater than its technical specifications allowed outage time. The cause of this finding is related to the human performance cross cutting component of work practices because neither self or peer checking actions prevented the reactor operator from violating the system operating procedure (H.4(a)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Apr 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedures for Conducting Maintenance on Emergency Diesel Generator 2
The team identified three examples of a noncited violation of Technical Specification 5.4.1.a involving the licensee’s failure to establish adequate maintenance procedures for maintenance activities on Emergency Diesel Generator 2. Specifically, these procedures were incomplete in that they failed to provide adequate guidance to allow maintenance personnel to identify a degraded condition affecting the voltage regulator off-manual-auto switch and to properly conduct voltage regulator tuning activities.

The finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of procedure quality and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, the performance deficiency resulted in (1) the failure to discover a degraded condition in the Emergency Diesel Generator 2 voltage regulator and, (2) an over-voltage trip during the tuning of Emergency Diesel Generator 2 on November 13, 2006. Using the Manual Chapter 0609 Appendix G, "Shutdown Operations Significance Determination Process," Phase 1 Checklist, the finding is determined to have very low safety significance because one operable diesel generator was still capable of supplying power to the class 1E electrical power distribution subsystems. This finding has a cross-cutting aspect in the area of human performance in that the licensee’s procedures were not complete and provided inadequate instructions for persons conducting maintenance on safety related equipment.
Inspection Report# : 2007007 *(pdf)*

Significance: W Apr 24, 2007
Identified By: NRC
Item Type: VIO Violation
Failure to Promptly Identify and Correct Defective Diesel Generator Voltage Regulator Components
The team identified an apparent violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the failure to promptly identify and correct a significant condition adverse to quality, and failed to assure that the cause of a significant condition adverse to quality was determined and that corrective aciton was taken to preclude repetition. Specifically, the licensee's inadequate procedural guidance for evaluating the suitability of parts used in safety related applications presented an opportunity in which the licensee failed to promptly identify a defective voltage regulator circuit board used in Emergency Diesel Generator 2 prior to its installation on November 8, 2006. Following installation of the defective voltage regulator circuit board, the licensee failed to determine the cause of two high voltage condtions which occurred on November 13, 2006, and failed to take corrective action to preclude repetition. As a result, an additional high voltage condition occurred resulting in a failure of Emergency Diesel Generator 2 on January 18, 2007.

The finding is greater than minor because it is associated with the equipment performance cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The NRC assessed this finding through Phase 3 of NRC Inspection Manual Chapter 0609, “Significance Determination Process,” and made a preliminary determination that the finding was of low to moderate safety significance. Based upon this analysis, discussions during a regulatory conference, and review of additional information, the staff determined that the final significance was of low to moderate safety significance (white). The final significance determination was communicated to the licensee on August 17, 2007. The cause of this finding is related to the problem identification and resolution cross cutting components of the corrective action program and

operating experience because the licensee failed to thoroughly evaluate the high voltage condition such that resolutions address the causes and the licensee failed to effectively use operating experience, including vendor recommendations, resulting in changes to plant equipment (P.1(c) and P.2(b)).
Inspection Report# : 2007007 *(pdf)*
Inspection Report# : 2007008 *(pdf)*

Significance: G Mar 24, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Correct Condition Adverse to Quality on Safety-Related 4160 V Switchgear
An NRC identified noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI was identified regarding the licensee's failure to correct a degraded condition on the safety-related switchgear. Misalignment between the breakers and the switchgear cubicles was documented in multiple condition reports dating back to 2002 but the license failed to correct the condition. As a result of this misalignment, a start-permissive interlock switch in the Service Water Pump D breaker cubicle failed, potentially rendering all four service water booster pumps unavailable during an accident. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2006-09166.

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 and reliability of systems that respond to initiating events. 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 represents an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time. Based on the results of the Phase 2 analysis, the finding is determined to have very low safety significance. 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 correct this degraded condition.
Inspection Report# : 2007002 *(pdf)*

Barrier Integrity

Significance: G Jun 23, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Control Rod Mispositioned During Reactor Startup
A self-revealing noncited violation of Technical Specification 5.4.1.a was identified for the inadequate isolation instructions contained in System Operating Procedure 2.2.8, “Control Rod Drive Hydraulic System.” The use of these inadequate isolation instructions resulted in an unisolable leak from the control rod drive system and insertion of a manul reactor scram. This issue was entered into the licensee’s corrective action program as Condition Report CR-CNS-2007-03552.

This finding is more than minor because it is associated with the initiating events cornerstone attribute of procedure adequacy and affects the associated cornerstone objective to limit the likelihood of those events that upset plant stability. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding is determined to have a very low safety significance because it did not contribute to the likelihood that mitigating systems would be unavailable following a reactor trip. The cause of this finding is related to the human performance cross cutting component of work practices because neither self or peer checking actions prevented the reactor operator from violating the prescribed rod withdrawal sequence (H.4(a)).
Inspection Report# : 2007003 *(pdf)*

Emergency Preparedness

Significance: G Sep 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Procedural Guidance to Implement the Emergency Plan
The inspectors identified a noncited violation of 10 CFR 50.47 (b)(4) regarding the licensee's failure to establish adequate procedural guidance to implement the emergency plan. Specifically, Emergency Plan Implementing Procedure 5.7.1, "Emergency Classification", Revision 35, contained inadequate procedural guidance in that it did not identify any specific entry criteria for Emergency Action Level 5.1.2. This issue was entered into the licensee's corrective action program as Condition Report CR-CNS-2007-05135.

The finding is more than minor because it is associated with the Emergency Preparedness cornerstone attribute of procedural quality and affects the associated cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Using Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," the finding was determined to be of very low safety significance since the EAL classification process that was in place prior to August 30, 2007 could have resulted in a failure to declare a Notification of Unusual Event when it should have been declared. The cause of this finding is related to the human performance cross cutting component of resources in that complete and accurate procedures were not adequately maintained to support the emergency plan (H.2(c)).
Inspection Report# : 2007004 *(pdf)*

Occupational Radiation Safety

Significance: G Jun 23, 2007
Identified By: NRC
Item Type: FIN Finding
ALARA Finding with three examples
The inspector reviewed a self-revealing ALARA finding with three examples. The collective dose of three work activities exceeded five person-rem and the planned doses by more than 50 percent. Valve work accrued 34.829 person-rem and exceeded the dose estimate by approximately 86 percent. Refueling floor work accrued 22.271 person-rem and exceeded the dose estimate by approximately 56 percent. Drywell support work accrued 31.638 person-rem and exceeded the dose estimate by 55 percent. The primary reasons were the use of an inexperienced contract work force which used poor ALARA practices and extensive rework caused by human performance errors. The licensee was in the process of developing screening and supplemental training programs for selected contract maintenance workers.

This finding is greater than minor because it is associated with the occupational radiation safety program attribute of exposure control and affected the cornerstone objective, in that it caused increased collective radiation dose. Using the Occupational Radiation Safety significance determination process, the inspector determined this finding had very low safety significance. Although the finding involved ALARA planning and work controls, the licensee's latest, official three-year rolling average collective dose was less than 240 person-rem. Additionally, this finding had a crossing-cutting aspect in the human performance area associated with resources, in that procedures and other resources were not available and adequate to train personnel before allowing them in radiological working conditions (H.2(c)).
Inspection Report# : 2007003 *(pdf)*

Public Radiation Safety

Significance: G Sep 22, 2007
Identified By: NRC
Item Type: NCV NonCited Violation

Failure to Survey Radioactive Elllluents
The inspector identified a noncited violation of 10 CFR 20.1302(a) because the licensee's surveys of effluents containing radioactive particulates originating in the multi-purpose facility were not adequate to ensure compliance with the dose limits for individual members of the public required by 10 CFR 20.1301. The surveys were not adequate because the configuration of the radioactive effluent monitoring system in the multi-purpose facility was changed in 2007, and the sampling lines in the new configuration were not analyzed for line loss. The licensee documented the situation in the corrective action program and declared the multi-purpose facility effluent monitoring system inoperable. Further corrective action is being evaluated.

The finding is greater than minor because it is associated with the Public Radiation Safety Cornerstone attribute of equipment and instrumentation and affects the cornerstone objective in that the failure to perform adequate surveys of radioactive effluents could result in increased public dose. When processed through the Public Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it: (1) was not a radioactive material control finding, (2) was an effluent release program finding, (3) impaired the licensee's ability to assess dose, (4) it did not result in a failure to assess dose, (5) did not result in public doses that exceeded the values of 10 CFR Part 50, Appendix I, or 10 CFR 20.1301(d). In addition, this finding had cross-cutting aspects in the area of human performance and the component of resources because the licensee did not ensure complete, accurate, and up-to-date design documentation requests and specifications were supplied to outsourced engineering providers. (H.2.(c))
Inspection Report# : 2007004 *(pdf)*

Physical Protection

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

Miscellaneous

Significance: N/A Nov 28, 2007
Identified By: NRC
Item Type: FIN Finding
Assessment of the licensee's problem identification and resolution program
The team reviewed approximately 208 risk significant issues, apparent and root cause analyses, and other related documents, to assess the effectiveness of the licensee=s problem identification and resolution processes and systems. The team concluded that the licensee=s management systems were effective, although several examples (historical and current) of failure to implement appropriate and timely corrective actions existed, especially early in the assessment period. But, overall, corrective actions were appropriate to the circumstances. The licensee implemented an effective program for evaluating operational experience. However, three examples existed where ineffective use of operating experience contributed to issues. The licensee overall performed effective and critical self assessments.

The team concluded that the licensee maintained an overall safety-conscious work environment. An increasing trend in anonymous condition reports written was being addressed by the licensee to ensure that issues affecting the safety conscious work environment did not exist. In addition, the team (as well as a licensee self-assessment) received isolated comments that it was easier to quickly repair items upon identification, rather than entering the items into the corrective action program. Plant personnel interviewed generally considered the employee concerns program a viable option to pursue safety issues. However, the team received isolated comments that individuals lacked confidence in the ability of the employee concerns program to resolve issues.

Inspection Report# : 2007006 *(pdf)*

Last modified : February 04, 2008