

Cooper

4Q/2003 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: FIN Finding

Failure to adequately model plant response in the simulator

A self-revealing finding was identified associated with the failure to evaluate and take corrective actions for a fire on the Booneville 345 kV transmission line in 1997. This led to a similar fire on a transmission tower between the main transformers and the main generator disconnect switches which induced a plant transient in October, 2003. This finding was more than minor since it induced a plant transient. Given the configuration of the switchyard, the fire did not pose a challenge to offsite power. Therefore, it was determined to have a very low safety significance since it did not contribute to the likelihood of a loss of coolant accident, it did not contribute to both the likelihood of a reactor trip and the loss of mitigation equipment, and it did not increase the likelihood of a fire or flooding event that would have adversely affected mitigating systems. In addition, it had crosscutting aspects associated with problem identification and resolution since the October, 2003 fire and transient could have been avoided had the 1997 fire been more thoroughly evaluated.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate procedure results in main turbine lube oil fire

A noncited violation of Technical Specification 5.4.1(a) was identified for a failure to establish an adequate system operating procedure for the turbine oil purification and transfer system during main turbine lube oil reservoir vapor extractor maintenance. This caused an oil leak resulting in a fire. This finding was greater than minor since inadequate system operating procedures could be reasonably viewed a precursor to a significant event and, if left uncorrected, could become a more significant safety concern. This finding was not suitable for SDP evaluation but has been reviewed by NRC management and was determined to be of very low significance. In addition, it had crosscutting aspects associated with problem identification and resolution since a number of opportunities were missed to identify the procedure error and prevent the subsequent fire.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow procedure results in an inoperable station air compressor

A noncited violation of Technical Specification 5.4.1(a) was identified regarding the failure to specify an adequate postmaintenance test following corrective maintenance on Station Air Compressor B. The air compressor was rendered inoperable by the maintenance and this fact was not discovered for 35 days. This finding was more than minor since it

was associated with the increased likelihood of a loss on instrument air which is an initiating event but was determined to have very low safety significance since it did increase the likelihood of a LOCA, the likelihood of an initiating event and the loss of mitigating equipment, or the likelihood of a fire or internal flooding.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Sep 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Tagout Procedure

A self-revealing noncited violation of Technical Specification 5.4.1(a) occurred when operators failed to follow the station tagout procedure. Operators failed to correctly restore a feedwater heater level control valve to automatic following corrective maintenance. This contributed to a loss of feedwater heating and a reactor power transient. This finding is more than minor since it involved human performance errors which contributed to a transient. This finding is of very low safety significance since it did not contribute to the likelihood of a loss of coolant accident, a reactor trip and loss of mitigation equipment, a fire, or a flooding event. In addition, it has crosscutting aspects associated with human performance. The operating crew did not follow station management expectations for use of human error prevention tools during this activity.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Jan 02, 2003

Identified By: NRC

Item Type: FIN Finding

Failure to take corrective or compensatory actions for a steam leak

The failure to take corrective or compensatory actions for a steam leak on Steam Jet Air Ejector A Steam Supply Valve MS-AOV-BAVA was determined to be a self-revealing, Green, finding. The steam leak was identified on September 14; however, no actions were taken to address it until October 13 when the steam leak caused a ground on a power supply which caused Valve MS-AOV-BAVA to fail closed, resulting in a plant transient. This finding was considered more than minor since it affected the availability and reliability of the power conversion system (main condenser and bypass valves), which initiated a plant transient. This finding was characterized under the significance determination process as having very low safety significance because there was no loss of safety function in either the main condenser or bypass valves

Inspection Report# : [2002004\(pdf\)](#)

Mitigating Systems

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate corrective actions result in degraded emergency diesel generator

A noncited violation of 10 CFR 50, Appendix B, Criterion XVI was identified regarding the failure to take adequate corrective actions for degraded conditions on the diesel fuel oil transfer system. In February, 2003, corrosion products from the fuel oil storage tank clogged the fuel oil strainer supplying Emergency Diesel Generator 1. Corrective actions for that event failed to preclude recurrence of the condition in November, 2003. This finding was more than minor

since it was associated with the operability, availability, and reliability of a mitigating system but was of very low safety significance since it did not represent the actual loss of a safety function. In addition, it had crosscutting aspects associated with problem identification and resolution since the corrective action only addressed symptoms of the problem and not the root cause which was corrosion of the fuel oil storage tank.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Nov 04, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Two Examples of Failure to Perform Operability Determinations

The team identified a noncited violation of Technical Specification 5.4.1a. because the licensee staff failed to assess operability of instrument air accumulator check valves and the Feedwater Check Valve RF-CV-15CV as required by Procedure 0.5.OPS, "Operability Review of Notifications/Operability Determination," Revision 18. This finding is more than minor because the components were degraded and operability of those components was impacted. The finding was determined to be of very low safety significance since it did not result in the actual loss of a safety function or of one train of a safety function for greater than the Technical Specification allowed outage time. Also the finding was not risk-significant from a fire, seismic, flooding, or severe weather initiating event standpoint (instrument air accumulator check valves) nor did it represent a degradation of the barrier function of the control room or an actual open pathway of reactor containment or a reduction of the atmospheric pressure control function of reactor containment (Feedwater Check Valve RF-CV-15CV)

Inspection Report# : [2003002\(pdf\)](#)

Significance:  Nov 04, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Loss of Design Control for the Service Water Zurn Strainers

A self-revealing noncited violation was identified for inadequate design control of the service water Zurn strainer control panels, in accordance with 10 CFR Part 50, Appendix B, Criterion III. This failure resulted in the placement of nonessential components and loss of configuration control for a relay and motor starter in the strainer control panels. This finding is more than minor because the licensee staff failed to implement appropriate design control measures for the service water Zurn strainer control panels, resulting in errors significant enough to require an operability determination and a design change to resolve the concerns. The finding is of very low safety significance because it did not result in an actual loss of a safety function or the actual loss of one train of the service water system for greater than its Technical Specification allowed outage time. Also, the finding was not risk-significant from a fire, seismic, flooding, or severe weather initiating event standpoint

Inspection Report# : [2003002\(pdf\)](#)

Significance:  Nov 04, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Agastat Relay replaced with Relay Beyond Service Life

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI. The licensee staff failed to identify and correct a condition where a safety-related Agastat relay in the residual heat removal system was replaced with a relay that was determined to be beyond its accepted service life. Because of a lack of effective controls of replacement relays, a relay was issued and installed that was the same age as the original relay. The purpose of replacing the original relay was that it was beyond its accepted service life. This finding is greater than minor because if left uncorrected it would become a more significant safety concern. This finding is of very low safety significance

because it did not result in an actual loss of a safety function or the actual loss of one train of the residual heat removal system for greater than its Technical Specification allowed outage time. Also, the finding was not risk-significant from a fire, seismic, flooding, or severe weather initiating event standpoint
Inspection Report# : [2003002\(pdf\)](#)

Significance:  Nov 04, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Licensee Failed to Follow Preventive Maintenance Procedural Requirements When Replacing Safety-Related Agastat Relays

The team identified a noncited violation of Technical Specification 5.4.1a. Since February 2003, there were 17 examples where the licensee staff failed to follow preventive maintenance procedural requirements when replacing safety-related Agastat relays. The preventive maintenance program required safety-related Agastat relays to be replaced within 10 years from the date of manufacture. The team found that the requirement to adjust the start date for the next scheduled replacement activity in the preventive maintenance program was not followed. This finding is greater than minor because if left uncorrected it would become a more significant safety concern. This finding is of very low safety significance since the deficiency was confirmed to have not resulted in a loss of safety function

Inspection Report# : [2003002\(pdf\)](#)

Significance:  Sep 27, 2003

Identified By: NRC

Item Type: FIN Finding

Failure to adequately control maintenance on condensate storage tank outlet valve.

A self-revealing finding was identified regarding the licensee's failure to adequately control maintenance on a condensate storage tank outlet valve, which resulted in lowering of main condenser vacuum on three separate occasions. The valve position indication had been installed backward following maintenance which led to the valve being mispositioned. This finding is more than minor since it adversely affected the availability and reliability of the power conversion system (main condenser and bypass valves). This finding is of very low safety significance, since there was no loss of safety function of the main condenser or bypass valves. In addition, it has crosscutting aspects associated with problem identification and resolution based on the number of opportunities to identify the error during and after the maintenance.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Sep 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Maintain TS Bases Consistent with the USAR

The inspectors identified a noncited violation of Technical Specification 5.5.10(c) because the licensee failed to maintain the Technical Specification Bases consistent with the Update Final Safety Analysis Report. These inconsistencies led to the decision to unnecessarily declare Division II of the residual heat removal system inoperable for approximately 3 days. This finding is more than minor since it affected the availability of the residual heat removal system. This finding is of very low safety significance since it did not represent an actual loss of a safety function.

Inspection Report# : [2003006\(pdf\)](#)

Significance:  Sep 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Adequately Model Plant Response in Simulator

A self-revealing, noncited violation of 10 CFR 55.46(c) was identified regarding differences between the simulator and the plant in response to a manual reactor scram from high power levels. This resulted in negative training provided to licensed operators and contributed to problems during recovery from an actual reactor scram on May 26, 2003. This finding is more than minor since deficiencies in the operator training program could become a more significant safety concern if left uncorrected. The finding is of very low safety significance since it did not involve an exam or operating test but did involve a simulator fidelity issue which impacted operator actions.

Inspection Report# : [2003006\(pdf\)](#)



Significance: Sep 27, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures During Reactor Scram

Two examples of a noncited violation of Technical Specification 5.4.1(a) occurred regarding the failure to follow station procedures during recovery from a reactor scram. In the first example, operators failed to lower the reactor feed master level controller in accordance with the procedure. In the second example, operators secured the high pressure coolant injection system by an alternate means not allowed by the procedure in use at the time. This alternate means rendered the system inoperable. This finding is more than minor since it involved human performance errors during a transient. This finding is of very low safety significance since it did not represent an actual loss of safety function. In addition, it also has crosscutting aspects associated with problem identification and resolution since it was incorrectly classified in the corrective action program.

Inspection Report# : [2003006\(pdf\)](#)



Significance: Jun 28, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to implement station procedures

Three examples of a noncited violation of Technical Specification 5.4.1 (two in Mitigating Systems) were identified associated with the failure to implement station procedures. The two Mitigating Systems examples included the following:

The failure to implement the procedure to maintain foreign material exclusion inside the torus was a noncited violation of Technical Specification 5.4.1. During a walkdown of the torus, the inspectors discovered foreign material in the suppression pool for which there was no accounting by the licensee's foreign material control log. The licensee concluded there was a loss of foreign material control in the suppression pool based on the inspectors' observations and inadequate documentation in the foreign material exclusion control point log.

This finding was considered more than minor since it affected the cornerstone attribute of equipment performance and reliability and was of very low safety significance since it did not represent an actual loss of the safety function of the suppression pool. This finding also had crosscutting aspects associated with problem identification and resolution.

The failure to implement a surveillance test procedure was a noncited violation of Technical Specification 5.4.1. During the performance of a core spray logic relay test, personnel manually actuated the incorrect relays, which caused an inadvertent start of both core spray pumps and Emergency Diesel Generator 2.

This finding was more than minor since it affected a shutdown equipment lineup, which is a cornerstone attribute, and

was of very low safety significance since the plant was in cold shutdown so it did not significantly degrade the licensee's ability to recover shutdown cooling if it were lost. This finding had crosscutting aspects associated with human performance since the failure to use human error prevention tools such as self-checking and peer-checking was a contributing cause to the event.

Inspection Report# : [2003005\(pdf\)](#)



Significance: Jun 28, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Ineffective corrective actions resulted in recurrence of significant condition adverse to quality

Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI (one in Mitigating Systems), were identified associated with the failure to correct a significant condition adverse to quality. The Mitigating Systems example included the following:

The failure to correct a significant condition adverse to quality on the service water system was a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI. The Loop B service water pump discharge strainer was bypassed in January 2003, which introduced debris into the gland water lines for Pumps B and D. The lines were flushed; however, not all the debris was removed. Service Water Pump B was declared inoperable in March 2003 due to degraded gland water flow caused by an additional piece of debris which was most likely introduced into the system in January.

This finding was more than minor since it affected the availability and reliability of the service water system and was of very low safety significance since it did not result in the loss of a safety function of a single train of equipment for greater than the Technical Specification allowed outage time and did not screen as risk significant due to an external event. This finding also had crosscutting aspects associated with problem identification and resolution since corrective actions taken in January 2003 for blocked gland water lines were not thorough, as evidenced by the condition repeating itself in March 2003.

Inspection Report# : [2003005\(pdf\)](#)



Significance: Jun 28, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Failure to establish adequate procedures for operation and maintenance of the service water system

Two examples of a noncited violation of Technical Specification 5.4.1 were identified associated with the failure to establish an adequate procedure. The two examples included the following:

The failure to establish an adequate procedure for operation of the service water system with the discharge strainers bypassed was a noncited violation of Technical Specification 5.4.1. The operating procedure did not address the modes of operation for service water during strainer bypass which contributed to degraded gland water flow to Service Water Pump B in January 2003.

This finding was more than minor since it affected the cornerstone attribute of equipment performance and reliability and was of very low safety significance because there was no loss of safety function of the service water system.

The failure to establish an adequate procedure for service water pump maintenance was a noncited violation of Technical Specification 5.4.1. The existing maintenance procedure did not have an adequate acceptance criterion for the replacement of corroded enveloping tube sections, which led to the failure of a tube section in Service Water Pump D in December 2002.

This finding was more than minor since, if left uncorrected, it could have led to premature bearing degradation and affected long-term reliability of the pump. The finding was of very low safety significance since it did not represent an actual loss of the safety function.

Inspection Report# : [2003005\(pdf\)](#)



Significance: Apr 03, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to implement the procedural requirements of Administrative Procedure 0.39 "Fire Watches," Revision 27, affected the mitigating systems cornerstone.

The failure to implement the requirements of the station's fire watch procedure was considered to be a Green, noncited violation of Technical Specification 5.4.1.d. The inspectors observed a fire watch who had allowed hot work to commence prior to removing all combustible materials from the area as required by station procedures. Furthermore, the fire watch procedure requires annual requalification training for fire watches. The fire watch in question had not completed this training. This finding was more than minor since failure to implement the fire watch procedure could become more safety significant if left uncorrected.

This noncited violation was characterized as a "green" finding using the significance determination process. The failure to implement the station's fire watch procedure had very low safety significance since the fire ignition frequency for the area in question was low and fire mitigation capability (operator action) remained.

Inspection Report# : [2003004\(pdf\)](#)



Significance: Apr 03, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to develop and implement a procedure to cope with an act of nature, such as accumulation of ice in the intake structure determined to be a violation of TS 5.4.1

Frazil ice conditions were observed on the Missouri River on February 25 as well as a patch of ice on the service water intake trash rack. The licensee was not able to support the claim that the intake structure was not susceptible to ice accumulation during shutdown conditions nor did they have a procedure to address ice accumulation or loss of service water due to blockage of the trash racks. The failure to develop and implement a procedure to cope with an act of nature, such as the accumulation of ice in the intake structure, was determined to be a violation of Technical Specification 5.4.1. This finding was considered more than minor since the formation of ice at the intake structure could reasonably be viewed as a precursor to a significant event.

This noncited violation was characterized as a "green" finding using the significance determination process. The failure to develop and implement a procedure for ice accumulation had very low safety significance since there was no loss of safety function for the service water system.

Inspection Report# : [2003004\(pdf\)](#)



Significance: Jan 02, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to assess operability of five degraded cells in two 250 Vdc safety-related batteries

Five degraded cells in the two 250 Vdc safety-related batteries were identified by the licensee but not assessed for operability for more than 3 months when inspectors questioned why they were operable. The majority of the cells in these two batteries were identified in 1999 to be nonconforming due to improper alloying of the positive plates, which caused swelling and eventual loss of capacity. The licensee failed to promptly replace the affected cells and failed to justify not taking prompt corrective action during the two intervening refueling outages. Therefore, this was considered

to be a violation of 10 CFR Part 50, Appendix B, Criterion XVI. This finding also had crosscutting aspects associated with problem identification and resolution.

This finding was characterized under the significance determination process as having very low safety significance because there was no loss of function in either 250 Vdc battery. This finding was more than minor because the problem would become more significant if left uncorrected due to the time-dependent degradation mechanism. Because of the very low safety significance and because the licensee included the item in their corrective action program as Notification 10180712, this violation is being treated as a noncited violation (50-298/0204-01) consistent with Section VI.A of the NRC Enforcement Policy.

Inspection Report# : [2002004\(pdf\)](#)

Significance: SL-IV Dec 14, 2000

Identified By: NRC

Item Type: VIO Violation

Failure to Maintain Environmental Qualifications of Safety-Related Equipment

Cooper Nuclear Station NRC Inspection Report 50-298/00-07

This special inspection report covered the activities associated with inspection and assessment of environmental qualification issues.

The failures to environmentally qualify, maintain the qualification of, and document qualifications in an auditable form, for equipment important to safety, constituted an apparent violation of 10 CFR 50.49 (Section 2.02).

This item was originally opened as an apparent violation in IR 00-07. It was later closed per letter from Nebraska Public Power District dated November 8, 2001, Reference #NLS2001104 and reopened as a violation, Severity Level IV.

Inspection Report# : [2000007\(pdf\)](#)

Barrier Integrity

Significance:  Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate procedure results in unintentional transfer of reactor coolant to condensate storage tank

A noncited violation of Technical Specification 5.4.1(a) was identified regarding the failure to establish an adequate procedure for operation of the residual heat removal system. Within the guidance of the existing procedure, operators inadvertently established a flow path between the reactor vessel and the condensate storage tank which resulted in draining 300 gallons of reactor coolant to the condensate storage tank. This finding was more than minor since it was associated with the cornerstone attribute of procedure quality but was determined to have very low safety significance since the drain down rate was small and decay heat removal capabilities were not challenged. In addition, it had crosscutting aspects of problem identification and resolution since operators did not recognize this as a significant event and accepted changes in vessel level during this evolution as expected system response.

Inspection Report# : [2003007\(pdf\)](#)

Significance:  Jul 02, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

The licensee failed to translate the design basis into the surveillance test procedures associated with Technical

Specification Surveillance Requirement 3.6.4.3.4.

The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," regarding the surveillance test procedures associated with Technical Specification Surveillance Requirement 3.6.4.3.4. The surveillance test procedures used to periodically verify that bypass flow through the idle train of the standby gas treatment system did not include adequate allowances for test measurement uncertainty in the acceptance criteria. The damper provided some flow in the idle train to prevent fire in the charcoal filter medium, but idling the train means a lower filtering efficiency in the idle train.

The finding is greater than minor because the standby gas treatment system bypass flow did not meet the design limits for control room dose rate concerns (See Example 3.i of Appendix E of Inspection Manual Chapter 0612). The licensee's engineering staff recalculated the maximum allowable flow. The new analysis demonstrated that control room habitability remained assured. The inspectors considered this finding to be of very low safety significance because it did not represent an actual loss-of-safety function (Section 1R21.6).

Inspection Report# : [2003003\(pdf\)](#)



Significance: Jun 28, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Failure to implement station procedures (Note: Not a separate NCV, but one of three examples. Other examples listed in "Mitigating Systems" 2003005-04)

Three examples of a noncited violation of Technical Specification 5.4.1 (one in Barrier Integrity) were identified associated with the failure to implement station procedures. The Barrier Integrity example included the following:

The failure to implement the procedure for core alterations was a noncited violation of Technical Specification 5.4.1. While performing core alterations, refueling personnel incorrectly marked a procedure step as complete. This was revealed during the next step when they discovered a fuel assembly in the core location which should have been removed by the previous step.

This finding was more than minor since it affected the cornerstone attribute of design control (Core Reload Analysis) and was of very low safety significance since it did not represent an actual degradation of any fission product barriers. This finding also had crosscutting aspects associated with human performance since inadequate use of self-checking and place-keeping techniques were contributing causes.

Inspection Report# : [2003005\(pdf\)](#)



Significance: Jun 28, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Ineffective corrective actions resulted in recurrence of significant condition adverse to quality (Note: Not a separate NCV, but one of two examples. Other example in "Mitigating Systems" 2003005-5)

Two examples of a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI (one in Barrier Integrity), were identified associated with the failure to correct a significant condition adverse to quality. The Barrier Integrity example included the following:

The failure to implement corrective actions to prevent dropping items in the spent fuel storage pool was a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI. During preparations for the refueling outage, the licensee dropped a control rod blade in the pool. This was similar to an event in 1999 when a shroud head bolt was dropped in the pool. The root causes of these two events were similar; however, the corrective actions for the 1999 event failed to preclude the most recent event.

This finding was more than minor since dropping a control rod blade in the spent fuel pool could be viewed as a precursor to a significant event and was of very low safety significance since it did not represent an actual degradation of any fission product barriers. This finding also had crosscutting aspects associated with problem identification and resolution.

Inspection Report# : [2003005\(pdf\)](#)



Significance: Apr 03, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to implement a procedure affecting the fuel cladding fission product barriers as consistent with Section VI.A of the NRC Enforcement.

On February 20, the drain valve for Feedwater Heater 4A failed closed, causing a partial loss of feedwater heating. According to station procedures, reactor power should have been reduced below 25 percent within 2 hours following this valve failure. However, power was not reduced until approximately 15 hours after the partial loss of feedwater heating, and then, only after repeated questioning by the inspectors regarding procedural adherence. This was considered to be a violation of Technical Specification 5.4.1 for failure to implement a procedure. This finding was considered more than minor since, if left uncorrected, could have become a more safety significant event. This finding had cross-cutting aspects of human performance since it dealt with procedure adherence. This noncited violation was characterized as a "green" finding using the significance determination process. The failure to reduce reactor power had very low safety significance since it only affected one of the three fission product barriers.

Inspection Report# : [2003004\(pdf\)](#)

Emergency Preparedness



Significance: Jan 02, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to conduct emergency response organization training in accordance with emergency plan requirements

A noncited violation of 10 CFR 50.54(q) was identified by the inspector because the licensee did not conduct emergency response organization training in accordance with emergency plan requirements. Specifically, lesson plans were not developed or used to conduct emergency response organization training as required by the emergency plan for training required by 10 CFR Part 50, Appendix E.IV.F. Because lesson plans were not developed, they also were not identified, revised, and maintained as required by the emergency plan.

This finding was determined to be a performance deficiency associated with the attributes of the emergency response organization readiness (training). This finding was evaluated to be more than minor using the Emergency Preparedness Significance Determination Process because it affects the emergency preparedness cornerstone objective in that a licensee may not be capable of implementing adequate measures to protect the health and safety of the public if emergency response organization training is incomplete or inadequate. This finding was evaluated as having very low safety significance (Green) since it was a failure of a regulatory requirement, but not a failure to meet an emergency planning standard as defined by 10 CFR 50.47(b). This finding is being treated as a noncited violation (50-298/0204-02) in accordance with Section VI.A of the NRC Enforcement Policy

Inspection Report# : [2002004\(pdf\)](#)



Significance: Apr 01, 2002

Identified By: NRC

Item Type: VIO Violation

Failure to Perform Timely Offsite Notification during Alert

(NOTE: The Degraded Cornerstone Inspection (IR 50-298/2002-05) held this violation open pending further review of corrective actions. The original date was July 25, 2001. The event date was modified so that this item would continue to be indicated as an open White finding.)

The licensee failed to notify state and local governmental agencies within 15 minutes of declaring an Alert on June 25, 2001. This was a violation of 10 CFR 50.54(q) and the licensee's emergency plan.

This violation was evaluated under the risk significance determination process as having low to moderate safety significance based on the following: (1) the failure to notify state and local governmental agencies in a timely manner, following declaration of an Alert, during an actual event on June 25, 2001; and (2) this finding represents a failure to implement the risk significant planning standard 10 CFR 50.47(b)(5) (Section 40A3.1).

Final SDP letter sent March 1, 2002.

Inspection Report# : [2001009\(pdf\)](#)



Significance: Apr 01, 2002

Identified By: NRC

Item Type: VIO Violation

Failure to Meet Planning Standard 10 CFR 50.47(b)(2)

(NOTE: The Degraded Cornerstone Inspection (IR 50-298/2002-05) held this violation open pending further review of corrective actions. The original date was July 25, 2001. The event date was modified so that this item would continue to be indicated as an open White finding.)

The licensee failed to activate the emergency response facilities within approximately one hour following declaration of an Alert on June 25, 2001. This was a violation of 10 CFR 50.54(q) and 10 CFR 50.47(b)(2).

This violation was evaluated under the risk significance determination process as having low to moderate safety significance based on the following: (1) the finding is a violation of 10 CFR 50.54(q); and (2) this finding was a failure to meet nonrisk significant planning standard 10 CFR 50.47(b)(2) (Section 40A3.2)

Final SDP letter issued March 1, 2002.

Inspection Report# : [2001009\(pdf\)](#)



Significance: Apr 01, 2002

Identified By: NRC

Item Type: VIO Violation

Failure to correct a risk-significant EP performance weakness

(NOTE: The Degraded Cornerstone Inspection (IR 50-298/2002-05) held this violation open pending further review of corrective actions. The original date was June 27, 2001. The event date was modified so that this item would continue to be indicated as an open White finding.)

Corrective actions implemented to prevent recurrence of a dose assessment performance weakness identified during the August 29, 2000, biennial exercise were not fully effective in that they were narrowly focused. The dose assessment

team failed to recognize a degraded core condition and to revise its dose projections for the degraded condition. As a result, protective action recommendations were not upgraded. Corrective actions for the performance weakness concentrated on procedural inconsistencies that contributed to the failure and did not sufficiently recognize the need for additional personnel training. As a result, the performance weakness was repeated during an April 11, 2001, drill. This was an apparent violation of 10 CFR Part 50, Appendix E, Paragraph IV.F.2.g.

This finding had greater than minor significance because the failure to use a degraded core in dose calculations had a credible impact on safety, in that it resulted in incorrect protective action recommendations which could have caused offsite populations to receive unnecessary radiation dose. It had been preliminarily determined to have low to moderate safety significance (White) using the Emergency Preparedness Significance Determination Process because it represented a failure to correct a performance weakness associated with a risk-significant emergency preparedness planning standard. This violation was entered into the licensee's corrective action program as RCR 2001-0331. The final determination for a white finding and notice of violation were issued for EA-01-154 on August 13, 2001.
Inspection Report# : [2001004\(pdf\)](#)

Occupational Radiation Safety

Significance:  Apr 03, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

Failure to wear an alarming device that could be heard in a High Radiation Area.

A self-revealing noncited violation was identified because the licensee failed to follow the requirements of Technical Specification 5.7.1b. Specifically, a worker failed to wear an alarming dosimeter that could be heard while working in the Steam Jet Air Ejector Room, an area with general radiation levels greater than 100 millirem per hour.

The failure to wear an alarming dosimeter that could be heard is a performance deficiency. The issue was more than minor because it is associated with a cornerstone attribute (program and process) and affected the occupational radiation safety cornerstone objective (to ensure the adequate protection of the worker's health and safety from radioactive material). The finding involved the failure to control radiological work that was contrary to Technical Specification requirements. When processed through the Occupational Radiation Safety Significance Determination Process, the finding was found to have very low safety significance because there was no overexposure or substantial potential for an overexposure and the ability to assess dose was not compromised.

Inspection Report# : [2003004\(pdf\)](#)

Significance:  Apr 03, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to follow a maintenance procedure regarding conduct of spot maintenance consistent with Section VI.A of the NRC Enforcement Policy.

On February 20, a radiation protection technician and a mechanic entered the steam jet air ejector room, which was a locked high radiation area, to perform spot maintenance on a main steam valve. Continuous coverage of the job by the technician was required due to dose rates in the room. The station's conduct of maintenance procedure prohibited the performance of spot maintenance under these conditions. This was considered to be a violation of Technical Specification 5.4.1 for failure to implement the maintenance procedure. This finding had cross-cutting aspects of human performance since it dealt with procedure adherence. The finding was considered more than minor because it affected a cornerstone objective.

This noncited violation was characterized as a "green" finding using the significance determination process. The failure to follow a station maintenance procedure had very low safety significance since there was no over-exposure or substantial potential for an over-exposure and the ability to assess dose was not compromised.

Inspection Report# : [2003004\(pdf\)](#)

Public Radiation Safety

Physical Protection

Miscellaneous

Significance: N/A Nov 04, 2003

Identified By: NRC

Item Type: FIN Finding

3rd Quarter 2003 CAL Inspection

In the area of emergency preparedness, the licensee performance indicators, NRC performance indicators, and baseline inspection results indicated a satisfactory level of performance. In the area of human performance, efforts to improve performance have been less effective. Nevertheless, some improvements have been noted. In the four remaining Confirmatory Action Letter areas, the team concluded, by reviewing licensee performance indicators, NRC performance indicators, licensee self-assessments and baseline inspection results, that actions implemented have not resulted in sustained improved performance. Specifically, in the area of material condition and equipment reliability, actions completed to date have provided the necessary processes for improvement as demonstrated by the numerous equipment improvements recently completed. However, many of the licensee's performance indicators did not meet their performance goals, and the licensee continued to experience equipment reliability problems resulting in forced shutdowns or power reductions. Also problems have continued in the areas of configuration control, operability determinations, and with the evaluation of issues identified and the effectiveness of corrective actions. Lastly, engineering program improvements are in place, but more time is needed to implement the programs and evaluate effectiveness.

Inspection Report# : [2003002\(pdf\)](#)



Significance: Nov 04, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

Ineffective Corrective Actions Taken for Operability Determination Concerns

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI. The licensee staff failed to correct a previously identified problem with conducting operability determinations. The NRC identification and resolution of problems inspections (NRC Inspection Reports 05000298/2000010 and 2001010), conducted August 2000 and September 2001, both identified multiple examples of failure to perform operability determinations as required by Procedure 0.5.OPS, "Operability Review of Notifications/Operability Determination." Previous Inspection Reports 05000298/2001008 and 2002004 each had one example of a noncited violation associated with the failure to perform an operability determination. These noncited violations combined with the two additional examples of failure to perform operability determinations, for the instrument air accumulator check valves and Feedwater Check Valve RF-

CV-15CV, reflect inadequate corrective actions taken to address the repeated failure of site personnel to recognize degraded or nonconforming conditions. This issue is more than minor because it involved a credible impact on safety in that the failure to recognize when degraded structures, systems, or components require an operability determination or evaluation could have resulted in continued operation of the facility with systems, structures, and components not capable of performing their intended safety function. This finding is of very low risk significance because the unevaluated degraded conditions of the affected systems did not affect operability.

Inspection Report# : [2003002\(pdf\)](#)

Significance: N/A Jun 06, 2003

Identified By: NRC

Item Type: FIN Finding

2nd Quarter 2003 CAL Inspection

The team evaluated the licensee's performance in emergency preparedness between June 2002 and May 2003 as indicated by audit reports, self-assessments, peer-assessments, drill and exercise reports, results from emergency response organization pager and drive-in drills, the initiation of condition reports, and data reported for NRC and internal performance indicators. Licensee performance was evaluated to determine whether previous corrective actions related to classification, notification, dose assessment and protective action recommendations, and the staffing of emergency response facilities had been effective in preventing recurrence. The team determined that the licensee's corrective actions had been effective in addressing performance issues in the area of emergency preparedness.

The team reviewed the licensee's actions to improve human performance at Cooper Nuclear Station and concluded that little improvement has occurred in this area. The licensee has programs in place or planned to address human performance problems; however, the team determined that a more intensive training program, and other actions as appropriate, may be needed in the area of human performance.

A total of 67 performance indicators had been developed or identified by the licensee to be used in tracking schedule completion and effectiveness of the Strategic Improvement Plan. The team reviewed 36 of these performance indicators. In the area of emergency preparedness performance, the performance indicators indicated a satisfactory level of performance, which was generally consistent with other assessment data in the emergency preparedness area. The team determined that not enough time has passed to assess long-term trends as shown by the performance indicators in the areas of material condition/equipment reliability, plant modifications/configuration control, corrective action program/utilization of industry operating experience/self-assessments and engineering programs.

Inspection Report# : [2003009\(pdf\)](#)

Significance: N/A Mar 26, 2003

Identified By: NRC

Item Type: FIN Finding

1st Quarter 2003 CAL Inspection

The team concluded that the licensee completed steps in the improvement plan as scheduled and satisfied the intent of all steps reviewed during this inspection. In addition, the licensee was meeting the provisions outlined in the NRC Confirmatory Action Letter dated January 30, 2003. The team, however, identified a number of implementation problems. Of the 60 improvement plan closure packages reviewed, 5 contained insufficient documentation; additional information was required to assess completion of these items and one item was closed by the licensee with known discrepancies. Procedure revisions did not always include annotations to indicate those revisions associated with the improvement plan. The engineering evaluation performed to support improvements in the service water system did not include consistent descriptions of system parameters or a clear justification for the adequacy of replacement check valves. A Design Basis Information/Licensing Basis Information database was created; however, there was no step to require its use by engineering and operations personnel. Several completed actions did not completely address the issue or were not adequately justified. For example, preventive maintenance frequencies for the main transformers and

service air compressors were not technically supported and vital bus undervoltage relay setpoints were changed but no periodic setpoint verification was established. The 67 performance indicators used by the licensee for tracking schedule completion and effectiveness of the improvement plan were appropriate. Observations identified in the Procedure 95003 supplemental inspection were incorporated into the improvement plan.

Inspection Report# : [2003008\(pdf\)](#)



Significance: Aug 25, 2000

Identified By: NRC

Item Type: VIO Violation

Failure to Take Prompt Corrective Actions

The licensee did not take timely corrective actions for restoration of environmentally qualified electrical and controls equipment control panels for the high pressure coolant injection system, which were not properly secured. Furthermore, the licensee did not implement measures through maintenance procedure revisions and corrective actions to address environmental qualification aspects of maintenance on safety-related equipment. This issue had previously been identified as a Non-Cited Violation in NRC Inspection Report 50-298/9916-01, yet actions to revise maintenance procedures and restore compliance had not been promptly taken and continued to be uncorrected 9 months after initial identification. No formally reviewed and approved analysis had been performed to justify not correcting the discrepant condition, which could affect equipment operability. Nonconformance conditions are required to be promptly corrected or sufficient interim compensatory measures established, or technical evaluations performed to justify the existing condition. The failure to establish prompt corrective actions for conditions adverse to quality was a violation of 10 CFR Part 50, Appendix B, Criterion XVI (50-298/0010-03) (Section 4OA2.3.b). This issue was characterized as a green finding using the significance determination process. The issue was determined to have very low risk significance because of redundant systems and the actual impact on the affected equipment was low.

Inspection Report# : [2000010\(pdf\)](#)

Last modified : March 02, 2004