

Cooper

2Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance:  Jun 26, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Evaluate a Valve Degraded Condition before Returning the Valve to Service

Green. The team identified a non-cited violation of Technical Specification 5.4.1.a regarding implementation of maintenance procedures for work on safety-related motor-operated valves (MOV). Specifically, a degraded component within the actuator was not evaluated as acceptable to use as is before returning the valve to service. The Division 2 low-pressure coolant injection (LPCI) Throttle valve, RHR-MOV-MO27B, failed in the closed position during a surveillance test. The licensee's investigation revealed that the helical motor pinion gear in the Limatorque valve actuator broke in three parts. This failed pinion gear additionally caused damage to part of the motor shaft where the setscrew engaged the shaft to attach the pinion gear. The licensee's corrective action was to drill the setscrew hole slightly deeper, and reuse the motor shaft when reassembling the Limatorque motor actuator and returning the valve to an operable status. The licensee failed to document this process through an engineering evaluation to accept the setscrew and motor shaft repair use-as-is per their engineering change procedure. The evaluation was performed after the valve was returned to service and determined that the setscrew configuration was acceptable. The licensee entered this issue into the corrective action program as Condition Report CR CNS 2015-00880

The licensee's failure to perform an evaluation for a degraded condition when performing safety-related MOV maintenance in violation of Procedure 3-EN-DC-115, "Engineering Change Process," is a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the human performance attribute of the mitigating systems cornerstone 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 the reuse of the motor shaft in the actuator to Valve RHR-MOV-MO27B, as acceptable to use-as-is even though a degraded condition existed, returning the valve to operable status without performing the required engineering evaluation. Using Inspection Manual Chapter 0609, Appendix A, issued June 19, 2012, the Significance Determination Process for Findings At Power, the inspectors determined the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of a function of a single train for greater than the technical specification (TS) allowed outage time; and (4) did not represent an actual loss of a function of one or more non-TS trains of equipment. The finding has a cross-cutting aspect in the area of human performance associated with Teamwork: Individuals and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. Specifically, the licensee failed to perform an evaluation of the setscrew location to ensure that that location was properly drilled and tapped. This was due to a lack of coordination between the maintenance and engineering groups [H.4]. (Section 4OA2.5.a)

Inspection Report# : [2015008](#) (*pdf*)

Significance:  Jun 26, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Adequately Torque Fasteners on Emergency Diesel Generator Number 2

Green. The team reviewed a self-revealing non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” which occurred when the licensee failed to include specific instructions in work orders with respect to the use of lubrication during emergency diesel generator (EDG) fastener torquing. The failure to include specific lubrication instructions in work orders resulted in the inadequate torquing of bolting on the number 2 EDG and contributed to a lube oil leak during a surveillance run of the affected diesel. Procedures in effect during the time the fasteners were torqued required planners to include specific lubrication instructions in work orders for the EDGs. The licensee corrected the current issue by properly lubricating and torquing the fasteners for the right bank camshaft and restored the EDG 2 to operable status. The licensee entered this issue into the corrective action program as condition report CR-CNS-2014-06885.

The failure to specify lubricants in EDG work order instructions involving fastener torquing, in violation of Procedure 7.2.53.12, “Cooper Bessemer Bolting and Torque Program,” is a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the human performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Additionally, if left uncorrected, it has the potential to lead to a more significant safety concerns, in that the failure to include these instructions in work orders has resulted in, and could continue to result in loose fasteners on the emergency diesel generator. Using Inspection Manual Chapter 0609, Appendix A, issued June 19, 2012, the Significance Determination Process for Findings At Power; the inspectors determined the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of a function of a single train for greater than the technical specification (TS) allowed outage time, and (4) did not represent an actual loss of a function of one or more non-TS trains of equipment. The finding has a cross-cutting aspect in the problem identification and resolution area due to the organization’s failure to take effective corrective actions to address the deficiency after it was identified in a 2010 root cause evaluation and failure to recognize the ineffectiveness of the previous corrective actions until after the lube oil leak in 2014 (P.3). (Section 40A2.5.b)

Inspection Report# : [2015008](#) (*pdf*)

Significance:  Jun 26, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Main Steam Isolation Valve Scram Closure Condition Prohibited By Technical Specifications

Green. The team identified two examples of a non-cited violation of Technical Specification 3.3.1.1, “Reactor Protection System Instrumentation,” required Action A, for the licensee’s failure to place inoperable main steam isolation valve closure scram channels in trip within 12 hours when Surveillance Requirement 3.3.1.1.9 to perform channel functional testing was not met. Specifically, on January 31 and May 16, 2015, the licensee tested inboard main steam isolation valves MS AOV 80A and MS AOV 80B limit switches associated with main steam isolation valve closure scram channel multiple times prior to declaring them operable. The licensee did not evaluate for pre-conditioning of the limit switches to determine if the actual as found condition was masked, and did not ensure the discrepancy was corrected, before repeating the surveillance test. This resulted in repetitive testing to achieve acceptable results that led to declaring the limit switches operable. The station did enter the required action statements for Technical Specification 3.3.1.1 for MS AOV 80A limit switch A on May 16, 2015, and MS AOV 80B limit switch A on May 19, 2015. All inboard main steam isolation valve limit switches in question were replaced during Planned

Outage 2015 01 conducted from May 30 to June 1, 2015. The licensee entered this issue into the corrective action program as condition reports CR CNS 2015 03456, CR CNS 2015 03483, and CR CNS 2015 03484.

The licensee's failure to adequately assess operability during multiple performances of channel functional surveillance testing for reactor protection system main steam isolation valve closure scram function in violation of Technical Specification 3.3.1.1, "Reactor Protection System Instrumentation," is a performance deficiency. The performance deficiency was determined to be more than minor, and therefore a finding, because it was associated with the human performance attribute of the mitigating systems cornerstone and affects the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. Specifically, the licensee did not evaluate for pre-conditioning of the limit switches to determine if the actual as-found condition was masked, and ensure the discrepancies were corrected, before repeating the surveillance test. This resulted in repetitive testing to achieve acceptable results that led to declaring the limit switches operable. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Finding At-Power," dated June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) because the finding: (1) did not affect a single reactor protection system trip signal to initiate a reactor scram and the function of other redundant trips or diverse methods of reactor shutdown (e.g. other automatic reactor protection system trips, alternate rod insertion, or manual reactor trip capacity); (2) did not involve control manipulations that unintentionally added positive reactivity (e.g., cold-water injection, inadvertent control rod movement, recirculation pumps speed control); and (3) did not result in a mismanagement of reactivity by the operator(s) (e.g., reactor power exceeding the licensed power limit, inability to anticipate and control changes in reactivity during crew operations). The finding has a cross-cutting aspect in the area of human performance associated with procedural adherence because individuals did not follow processes, procedures, and work instructions [H.8]. (Section 4OA2.5.c)

Inspection Report# : [2015008](#) (pdf)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Inadequate Operations Procedure

The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, associated with the inadequate Operation's Procedure 2.2.7, "Condensate Storage and Transfer System," Revision 56. Specifically, the procedure did not require that the affected system, either the high pressure coolant injection system or the reactor core isolation cooling system, be declared inoperable when one or more of the high pressure coolant injection or reactor core isolation cooling test return line isolation valves, HPCI-MOV-21, HPCI-MOV-24, RCIC-MOV-30, or RCIC-MOV-33, were moved off of their closed (passive safety function position) seats. The license entered this deficiency into their corrective action program for resolution as Condition Report CR-CNS-2015-00274.

The failure to establish and maintain a correct filling procedure required by Technical Specification 5.4.1.a. was a performance deficiency and resulted in the licensee's failure to declare the high pressure coolant injection and reactor core isolation cooling systems inoperable when required to do so. The performance deficiency is more than minor, and therefore a finding, because it is associated with the procedural quality attribute of the Mitigating Systems Cornerstone, and affected the associated cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the high pressure coolant injection and reactor core isolation cooling systems were not declared inoperable when their test return line isolation valves, HPCI-MOV-21, HPCI-MOV-24, RCIC-MOV-30, and RCIC-MOV-33, were taken off their normally closed (passive safety function position) seats. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Finding At-Power," dated June 19, 2012, inspectors determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design or qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of

at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more non-technical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program. The finding has a cross-cutting aspect in the area of human performance associated with Avoid Complacency: Individuals recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes. Individuals implement appropriate error reduction techniques. Specifically, licensee personnel fell into a pattern of acceptance regarding Procedure 2.2.7. This resulted in a failure to question the lack of an operability caution statement, even though there was other guidance in the inservice inspection program to that effect.

Inspection Report# : [2015001](#) (*pdf*)

Significance:  Sep 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow Operability Procedure

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, Drawings," associated with the licensee's failure to assess and document the basis for operability when a degraded or nonconforming condition was identified in accordance with Station Procedure 0.5OPS, "Operations Review of Condition Reports/Operability Determination." Specifically, the licensee failed to adequately evaluate and document the basis for operability when opening the inner railroad airlock door, which serves as a tornado missile barrier for safety-related equipment inside the reactor building. To correct this issue, the licensee performed an operability evaluation and designated compensatory actions. The licensee entered this deficiency into their corrective action program for resolution as Condition Reports CR-CNS-2014-05207 and CR-CNS-2014-05366.

The failure to properly assess and document the basis for operability when a degraded or nonconforming condition was identified was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to properly assess and document the basis for operability resulted in a condition of unknown operability for a degraded nonconforming condition. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, inspectors determined that the finding was of very low safety significance (Green) because the finding: (1) was not a deficiency affecting the design and qualification of a mitigating structure, system, or component, and did not result in a loss of operability or functionality; (2) did not represent a loss of system and/or function; (3) did not represent an actual loss of function of at least a single train for longer than its technical specification allowed outage time, or two separate safety systems out-of-service for longer than their technical specification allowed outage time; and (4) did not represent an actual loss of function of one or more nontechnical specification trains of equipment designated as high safety-significance in accordance with the licensee's maintenance rule program. The finding has a cross-cutting aspect in the area of human performance associated with avoiding complacency because individuals did not recognize and plan for the possibility of mistakes, latent problems, or inherent risk, even while expecting successful outcomes.

Inspection Report# : [2014004](#) (*pdf*)

Barrier Integrity

Significance:  Dec 31, 2014

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Follow Procedure for Post Maintenance Testing

The inspectors reviewed a self-revealing, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” associated with the licensee’s failure to follow Special Procedure GEH-TP-116, “Procedure for the Operation and Maintenance of the REM*TAKE-2/D-100 Modified REM*TAKE 2,” Revision 3, for postmaintenance testing following corrective maintenance. Specifically, the licensee did not follow post-maintenance testing requirements associated with the calibration of the bleeder valve for the REM*TAKE-2/D-100 tool following corrective maintenance to address water intrusion. This resulted in the bleeder valve being misadjusted and nullifying the fail-safe feature of the REM*TAKE-2/D-100 tool. With the fail-safe nullified, Control Rod Blade 30-47 became disengaged from the REM*TAKE-2/D-100 tool and dropped onto the reactor core top guide when the supplemental employee inadvertently pressed the disengage button. No reactor fuel was damaged as indicated by normal radiation levels and air samples on the refuel floor and reactor water coolant samples. The licensee’s immediate corrective actions for the event was to suspended all in-vessel maintenance activities and remove REM*Take-2/D-100 grapple from service and determined functionality of the tool. The licensee entered this deficiency into their corrective action program for resolution as Condition Report CR-CNS-2014-06809.

The licensee’s failure to follow the post-maintenance testing requirements in Special Procedure GEH-TP-116 was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the human performance attribute of the Barrier Integrity Cornerstone and affected the associated objective of maintaining functionality of fuel cladding. Specifically, with the fail-safe nullified, Control Rod Blade 30-47 became disengaged from the REM*TAKE-2/D-100 tool and dropped onto the reactor core top guide when a supplemental employee inadvertently pressed the disengage button. Using Inspection Manual Chapter 0609, Appendix G, Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Initial Screening and Characterization of Findings,” dated May 09, 2014, inspectors determined that the finding was of very low safety significance (Green) because the finding did not impact the fuel barrier because it: (1) does not increase the potential for failure of the freeze seal or if unmitigated have the potential to cause a disruption of residual heat removal/decay heat removal or a loss of inventory event; (2) does not involve two or more adjacent control rods with the potential to, or actually, add positive reactivity; and (3) does not degrade the ability to isolate a drain down or leakage path. The finding has a cross-cutting aspect in the area of human performance associated with the field presence component because the licensee failed to ensure supervisory and management oversight of work activities including contractors and supplemental personnel.

Inspection Report# : [2014005](#) (*pdf*)

Emergency Preparedness

Significance:  Sep 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow a Requirement of the Emergency Plan

The inspectors identified a non-cited violation for the licensee’s failure to follow the site emergency plan between March 6, 2008, and June 23, 2014, as required by 10 CFR 50.54(q)(2). Specifically, the licensee failed to store respiratory protection equipment (self-contained breathing apparatus) at the on-site Communications Building in accordance with the requirements of Emergency Plan, Revision 64, Section 7.8. The condition was entered into the licensee’s corrective action program as Condition Report CR-CNS-2013-07882.

The failure to follow the site emergency plan was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the facilities and equipment attribute of the Emergency Preparedness Cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the licensee failed to maintain respiratory protection equipment in the Communications Building contrary to the emergency plan requirement. This finding was evaluated using Manual Chapter 0609, "Emergency Preparedness Significance Determination Process," dated February 24, 2014, and was determined to be of very low safety significance because it was a failure to comply with an NRC requirement, was not a loss of planning standard function, and was not a degraded planning standard function. The planning standard function was not degraded because some respiratory protection equipment was available on-site for use by emergency workers. This finding has a cross-cutting aspect in the area of human performance associated with change management because the finding was caused by the licensee's failure in 2008 to complete a change to the site emergency plan. Inspection Report# : [2014004](#) (*pdf*)

Significance:  Sep 30, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Correct an Inaccurate Classification During a Drill

The inspectors identified a non-cited violation for the licensee's failure to correct a deficiency occurring in a drill conducted on December 18, 2013, as required by 10 CFR 50.47(b)(14). Specifically, licensee evaluators failed to identify that the shift manager declared a General Emergency during a licensed-operator training proficiency drill when the conditions did not exist. This issue has been entered into the licensee's corrective action program as Condition Reports CR-CNS-2014-05286 and CR-CNS-2014-05291.

The licensee's failure to correct a weakness in performance occurring during a drill was a performance deficiency. A weakness is defined in Manual Chapter 0609, Appendix B, as being performance, during a drill or exercise, that would have prevented the effective implementation of the emergency plan had the circumstances actually occurred. The performance deficiency was more than minor, and therefore a finding, because it was associated with the Emergency Response Organization performance attribute of the Emergency Preparedness Cornerstone and adversely affected the cornerstone objective to ensure the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the declaration of a General Emergency when conditions did not exist for the declaration would have prevented the effective implementation of the site emergency plan. This finding was evaluated using Manual Chapter 0609, "Emergency Preparedness Significance Determination Process," dated February 24, 2014, and was determined to be of very low safety significance because it was a failure to comply with NRC requirements, was not a loss of planning standard function, and was not a degraded planning standard function. The planning standard function was not degraded because the failure to implement corrective actions occurred during a single-facility drill with limited number of evaluators. This finding has a cross-cutting aspect in the area of problem and identification associated with the identification of problems because the licensee failed to identify a performance problem when it occurred.

Inspection Report# : [2014004](#) (*pdf*)

Occupational Radiation Safety

Public Radiation Safety

Security

Although the Security Cornerstone is included in the Reactor Oversight Process assessment program, the Commission has decided that specific information related to findings and performance indicators pertaining to the Security Cornerstone will not be publicly available to ensure that security information is not provided to a possible adversary. Other than the fact that a finding or performance indicator is Green or Greater-Than-Green, security related information will not be displayed on the public web page. Therefore, the [cover letters](#) to security inspection reports may be viewed.

Miscellaneous

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