

Columbia Generating Station 2Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Apr 03, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Initiate Condition Report for a Degraded Condition Outside the Scope of Maintenance Work Order

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to initiate a condition report in accordance with SWP-CAP-01, "Corrective Action Program," Revision 22. Specifically, on October 23, 2013, the licensee failed to initiate a condition report to document that the motor operator for valve SW-V-75A had a missing plug and insufficient grease in the limit switch compartment of the valve operator. The licensee initiated Action Request AR 323201 to enter this issue into the corrective action program, following the team's identification of this issue.

The licensee's failure to initiate a condition report upon discovery of an unexpected degraded or nonconforming condition was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems cornerstone and affects the associated objectives to ensure availability, reliability, and capability of systems that responds to initiating events to prevent undesirable consequences. Specifically, the licensee's failure to initiate a condition report could have left the condition uncorrected and prevented the valve from meeting its intended safety function. In addition, failure to initiate a condition report for a degraded valve operator could have prevented additional adverse conditions from being identified, because the licensee had not performed an extent of condition review. The finding was of very low safety significance (Green) because although it affected the qualification of one or more mitigating systems, structures, or components (SSCs), these SSCs maintained their functionality. The finding has a cross-cutting aspect in the area of human performance consistent process, in that maintenance personnel did not use an established process for decision making in failing to document an unanticipated degraded condition in the corrective action program [H.13].

Inspection Report# : [2015007](#) (*pdf*)

Significance: G Apr 03, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Maintain Configuration Control of Ventilation Systems Needed for Station Blackout

The team identified a Green, non-cited violation of 10 CFR 50.63, "Loss of All Alternating Current Power," for the licensee's failure to maintain appropriate quality assurance requirements for components needed to cope with a station blackout event. Specifically, the licensee failed to maintain configuration control of the standby service water pump house 'A' ventilation system such that the system would provide sufficient capability during a postulated station blackout. The licensee entered the issue in the corrective action program as Action Request AR 324106. On March 22,

2015, the licensee replaced filter POA-FL-1A so that the system could supply the airflow assumed in Calculation ME-02-92-65.

The licensee's failure to maintain the configuration of the pump house outside air system used to cope with a station blackout in accordance with 10 CFR 50.63 was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it is associated with the configuration control attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of a mitigating system; the finding did not represent a loss of system and/or function; the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and the finding does 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 for greater than 24 hours. The finding does not have a cross-cutting aspect since the configuration control error is associated with initial implementation of the station blackout rule and therefore not reflective of current licensee performance.

Inspection Report# : [2015007](#) (*pdf*)

Significance:  Apr 03, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Identify and Evaluate the Operability of a Nonconforming Condition Involving Molded Case Circuit Breakers

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to identify a nonconforming condition involving molded case circuit breakers. Consequently, operations staff failed to perform an operability determination in accordance with Procedure 1.3.66, "Operability and Functionality Evaluation," for six molded case circuit breakers installed without the proper preventative maintenance. Following identification of this issue, the licensee performed a prompt operability determination for the six molded case circuit breakers on March 22, 2015. The licensee entered this issue into the corrective action program as Action Request AR 324146.

The licensee's failure to perform an operability determination in accordance with station procedures for a nonconforming condition involving molded case circuit breakers was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of a mitigating system; the finding did not represent a loss of system and/or function; the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and the finding does 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 for greater than 24 hours. This finding has a cross-cutting aspect in the area of human performance, design margin, in that the licensee failed to recognize that the current licensing basis includes margins such as those provided for by a preventative maintenance program [H.6].

Inspection Report# : [2015007](#) (*pdf*)

Significance:  Apr 03, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Maintain Maintenance Procedures for Temperature Control Valve Electro-Hydraulic Operators

The team reviewed a self-revealing Green, non-cited violation of Technical Specification 5.4.1.a, “Procedures,” for the licensee’s failure to provide adequate work instructions for performing maintenance on service water temperature control valve electro-hydraulic operators. Consequently, following maintenance on service water temperature control valve SW-TCV-15A, the valve operator uncoupled from the valve stem resulting in an unplanned trip of control room emergency chiller CCH-CR-1A. The licensee initiated Action Request AR 324188 to address the inadequate maintenance instructions for valve electro-hydraulic operators.

The licensee’s failure to maintain adequate work instructions for maintenance on electro hydraulic operators was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it affects the equipment performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The team determined that the finding is of very low safety significance (Green) because; the finding was a deficiency affecting the design or qualification of a mitigating system that did not result in a loss of operability. The finding is of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of a mitigating system that; the finding did not result in a loss of operability system and/or function; the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and the finding does 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 for greater than 24 hours. This finding did not have a cross-cutting aspect since the cause of procedural deficiency was due to an error during initial development and was therefore not reflective of current licensee performance.

Inspection Report# : [2015007](#) (pdf)

Significance:  Apr 03, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Translate Design Basis into Component Classification Evaluation Records

The team identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the licensee’s failure to translate the design basis into specifications. Specifically, the team identified five instances where the licensee failed to translate the design basis into specifications in the form of component classification evaluation records. Plant operators use these records to establish the current licensing basis of the facility when performing operability determinations. The licensee initiated Action Request ARs 323666, 324082, 324130, 324135 and 324144, to address the individual examples of inaccurate component classification records and AR 324160 to address process deficiencies related to the use of these records.

The licensee’s failure to translate station design requirements into specifications was a performance deficiency. The performance deficiency is more than minor because it affects the design control attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, this performance deficiency resulted in inaccurate design basis documents being used by plant operators to make operability decisions. The finding is of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of a mitigating system; the finding did not represent a loss of system and/or function; the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and the finding does 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 for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, resolution, in that the licensee failed to take timely action to address inadequate design records [P.3].

Inspection Report# : [2015007](#) (pdf)

Significance:  Apr 03, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Initiate Condition Report for Operating Experience that Impacts Molded Case Circuit Breakers

The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for the licensee's failure to initiate a condition report as required by the operating experience program. Specifically, the licensee failed to initiate a condition report for a nonconforming condition involving molded case circuit breakers. Following discovery of this issue, the licensee initiated Action Request AR 324184 documenting six General Electric molded case circuit breakers installed in the plant without the required preventative maintenance tasks. The licensee entered the failure to follow the requirements of operating experience procedure into their corrective action program as Action Request AR 324159.

The licensee's failure to initiate a condition report for a nonconforming condition was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Mitigating Systems cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding is of very low safety significance (Green) because the finding was not a deficiency affecting the design or qualification of a mitigating system; the finding did not represent a loss of system and/or function; the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and the finding does 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 for greater than 24 hours. This finding has a cross-cutting aspect in the area of problem identification and resolution, evaluation, in that the licensee failed to fully evaluate the operating experience to determine if the required preventative maintenance for molded case circuit breakers was complete [P.2].

Inspection Report# : [2015007](#) (*pdf*)

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with ECCS Technical Specifications

The inspectors identified a non-cited violation of Technical Specification 3.5.1, "ECCS - Operating," for the licensee's failure to maintain the low-pressure coolant injection system operable. Specifically, the licensee failed to implement adequate compensatory measures for a removed barrier used to protect the residual heat removal system from flooding caused by a moderate energy line crack, resulting in inoperability of the system for a period greater than allowed by the plant's technical specifications. To restore compliance, the licensee issued Night Order 1621 to prevent future equipment inoperability due to inadequate compensatory measures. The licensee entered this issue into their corrective action program as Action Requests (ARs) 319653, 323449, and 323450.

The performance deficiency was more than minor because it affected the configuration control attribute of the Mitigating System Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The resident inspector performed the initial significance determination for the performance deficiency using NRC Inspection Manual 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012. The finding required a detailed risk evaluation because it involved the loss of a single train of mitigating equipment for longer than the technical specification allowed outage time. Therefore, a Region IV senior reactor analyst performed a bounding detailed risk evaluation. The bounding change to the core damage frequency was 5E-12/year (Green). The dominant sequences included an internal flooding induced transient followed by random failures of the Division I and III systems. The risk was mitigated because other redundant systems remained available. This finding had a cross-cutting aspect in the area of human performance, procedure adherence, because the licensee failed to follow the barrier

impairment procedure to install an adequate temporary flood curb [H.8]. (Section 1R06)

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

Significance:  Mar 31, 2015

Identified By: Self-Revealing

Item Type: NCV Non-Cited Violation

Failure to Establish Appropriate Work Instructions for 480-Volt Motor Control Center Starters

The inspectors reviewed a self-revealing non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to provide adequate work instructions for performing maintenance on 480-volt motor control center starter PRA-42-8AA4B. Consequently, the starter's thermal overload mounting screws were over-torqued resulting in an unexpected loss of pump house recirculation air fan PRA-FN-1B. The licensee repaired the improperly torqued thermal overload mounting screws and initiated AR 321368 to address the inadequate work instructions that resulted in the unexpected trip of the thermal overloads for fan PRA-FN-1B.

The performance deficiency was more than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The inspectors determined that the finding was of very low safety significance because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system; (2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does 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 for greater than 24 hours. This finding had a cross-cutting aspect in the area of human performance, resources, in that the licensee failed to ensure that appropriate insights from the vendor manual were utilized when preparing work documents [H.1]. (Section 1R19)

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

Significance:  Mar 31, 2015

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Follow Corrective Action Program Procedures

The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instruction, Procedures and Drawings," associated with the licensee's failure to initiate condition reports for conditions adverse to quality as required by station procedures. Specifically, following identification that maintenance instructions did not provide the correct torque specifications for sixty-four thermal overloads, the licensee failed to initiate a condition report as required by procedure SWP-CAP-01, "Corrective Action Program," Revision 30. The licensee initiated AR 324450 to document the sixty-four improperly assembled thermal overload relays and completed an operability evaluation for this non-conforming condition. The licensee also initiated AR 324458 to address the failure to initiate a condition report for an identified extent of condition issue as required by station procedures.

The performance deficiency was more than minor because it affected the human performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed the initial significance determination using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The inspectors determined that the finding was of very low safety significance because (1) the finding was not a deficiency affecting the design or qualification of a mitigating system;

(2) the finding did not represent a loss of system and/or function; (3) the finding did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time; and (4) the finding does 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 for greater than 24 hours. This finding had a cross-cutting aspect in the area of human performance, field presence, in that the engineering department corrective action review board failed to identify and correct deviations from standards involving initiation of condition reports for identified extent of condition concerns [H.2]. (Section 40A2)

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

Significance:  Sep 21, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Comply with Ultimate Heat Sink Technical Specification Level Requirements

The inspectors identified a non-cited violation of Technical Specification 3.7.1, "Standby Service Water (SW) System and Ultimate Heat Sink (UHS)," for the licensee's failure to take the required actions for an inoperable ultimate heat sink. Specifically, the licensee failed to take action, as required by the plant's technical specifications, when the water level in an individual ultimate heat sink spray pond was less than 432 feet 9 inches mean sea level (MSL).

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

Significance:  Sep 21, 2014

Identified By: NRC

Item Type: NCV Non-Cited Violation

Failure to Establish Preventative Maintenance Schedules for Fuel Oil Tank Vents

The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to establish preventative maintenance schedules for the emergency diesel generator fuel oil storage and day tank flame arrestor vents. A misclassification of these vents as run-to-maintenance components resulted in the failure to establish preventative maintenance schedules.

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

Barrier Integrity

Emergency Preparedness

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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