Columbia Generating Station
4Q/2015 Plant Inspection Findings

Initiating Events

Mitigating Systems

Significance: G Dec 31, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Incorrect Electrical Component Operated During Maintenance
The inspectors reviewed a self-revealing non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to implement Work Order 02048855 during maintenance on a safety-related power panel. Specifically, the licensee operated an incorrect electrical disconnect, E-DISC-7AA-6A. Further, upon realization of the error, maintenance personnel re-energized the E-DISC-7AA-6A circuit without understanding the effects of that action. As a result of this incorrect component operation, the division 1 emergency diesel generator was rendered inoperable. As an immediate corrective action, the licensee stopped all associated maintenance and restored the division 1 emergency diesel generator to operable status by performing the standby alignment procedure. The licensee entered this issue into their corrective action program as Action Request 337018.

The failure to implement Work Order 02048855 during maintenance on a safety-related power panel was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because it adversely affected the configuration control attribute of the Mitigating Systems Cornerstone objective of ensuring the capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the inspectors determined the finding was of very low safety significance (Green) because the finding did not represent a loss of safety function, did not represent an actual loss of function of a single train for greater than its technical specification allowed outage time, and did not represent an actual loss of function of one or more non-technical specification equipment for greater than 24 hours. The inspectors determined the finding had a cross-cutting aspect in the area of human performance associated with the avoid complacency component because the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes including implementing appropriate error reduction tools. Specifically, the maintenance staff failed to follow the site's error prevention tool process and operated the incorrect component [H.12].
Inspection Report# : 2015004 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Maintain Seismic Instrumentation Functional to Alert Plant Operators of Ground Motions Exceeding the Operating Basis Earthquake
The inspectors identified a finding associated with the licensee's failure to maintain seismic instrumentation functional as required by Licensee Controlled Specification 1.3.7.2, "Seismic Monitoring Instrumentation."

Specifically, because of inadequate calibration procedures, several as-left setpoints for the seismic response spectrum recorders indicating lights were non-conservative relative to their function to alert operators of ground motion exceeding the operating basis earthquake (OBE). Following discovery of this issue, the licensee recalibrated the seismic response spectrum recorders using OBE ground motions as the upper tolerance. The licensee entered this issue into their corrective action program as Action Request 333996.

The performance deficiency was more than minor because it affected the configuration control attribute of the Mitigating Systems Cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiency resulted in seismic instruments calibrations that were non-conservative relative to their function to alert plant operators that a shutdown is required. NRC regulations require a plant shutdown since systems necessary for continued operation without undue risk to the health and safety of the public are not designed to remain functional, in all cases, following an OBE. The inspector 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. Additionally, the finding did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event. The finding does not have a cross-cutting aspect since the configuration control error is associated with an instrument setpoint change request from 1990 and therefore not reflective of current licensee performance.
Inspection Report# : 2015003 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Non-Conservative Shutdown Criteria in Earthquake Abnormal Procedure
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the failure to maintain an adequate abnormal procedure for earthquakes. Specifically, the licensee failed to establish appropriate shutdown criteria for earthquakes that exhibit ground motion exceeding the operating basis earthquake (OBE). The licensee's shutdown criteria would allow for continued operations if ground motion at a single frequency exceeded the design response spectrum. In response to this issue, the licensee initiated corrective actions to change the station's earthquake abnormal procedure to provide shutdown criteria consistent with the original licensing basis of the facility. The licensee entered this issue into their corrective action program as Action Request 336875.

The performance deficiency was more than minor because it affected the procedural adequacy attribute of the Mitigating Systems Cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the performance deficiency resulted in shutdown criteria that would allow for continued operations following events where ground motion at a single frequency exceeded the design response spectra. NRC regulations require a plant shutdown since systems necessary for continued operation without undue risk to the health and safety of the public are not designed to remain functional, in all cases, following an OBE. The inspector 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. Additionally, the finding did not involve the loss or degradation of equipment or function specifically designed to mitigate a seismic, flooding, or severe weather initiating event. The finding does not have a cross-cutting aspect since the procedure error is associated with a 1996 change to the licensing basis and therefore not reflective of current licensee performance.
Inspection Report# : 2015003 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Provide Design Control Measures for Control Room Emergency Chillers
The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify the adequacy of the design of the control room HVAC system. Specifically, the licensee failed to demonstrate the ability of control room HVAC design to maintain the temperatures in the main control room below habitability and environmental qualification limits, for the duration of all accident scenarios. The licensee initiated Action Request 332565 to document the concern, issued night order 1662 to communicate the issue, aligned both control room air handling units to their respective chillers, created a quick card procedure to perform the chiller reset actions, and validated the quick card actions could be accomplished within 10 minutes. Additionally, the licensee determined that operators could restore the chillers during accident conditions within 90 minutes to prevent temperatures from exceeding equipment operability limits.

The performance deficiency was more than minor because it adversely affected the design control attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined 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 problem identification and resolution, evaluation, in that the licensee did not thoroughly evaluate issues to ensure that resolutions address causes and extent of conditions commensurate with their safety significance. Specifically, the licensee did not thoroughly evaluate the extent of condition from NRC-identified NCV 05000397/2013002-04, "Failure to Obtain NRC Approval for Changes to Control Room HVAC Requirements," for the effect of this change on other station calculations [P.2].
Inspection Report# : 2015003 *(pdf)*

Significance: G Sep 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Implement Procedures to Ensure Availability of Safe Shutdown Personnel
The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to ensure operators could perform time-critical steps for fire events. Specifically, on July 4, 2015, the licensee failed to implement written procedures to ensure that an equipment operator can complete certain post-fire safe-shutdown actions within 10 minutes. In response to this conclusion, the licensee initiated Action Request 332747 to document the inability to meet the post-fire safe-shutdown actions in accordance with procedure PPM 1.3.1, "Operating Policy, Programs, and Practices," Revision 119. Additionally, the licensee issued Night Order 1655, reminding all operating crews of the requirements of procedure PPM 1.3.1 for leaving the protected area.

This performance deficiency was more than minor because it was associated with the protection against external

factors attribute of the Mitigating System Cornerstone and affected the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. A senior reactor analyst performed a detailed significance determination process review using NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination," dated September 20, 2013 and NRC Inspection Manual 0308, Attachment 3, Appendix F, "Technical Basis Fire Protection Significance Determination Process (Supplemental Guidance for Implementing IMC 0609, Appendix F) At Power Operations," dated February 28, 2005. The senior reactor analyst determined that the failure of the equipment operator to perform the certain post-fire safe-shutdown actions within 10 minutes would not adversely affect a quantitative risk assessment, and therefore this finding was of very low safety significance (Green). This finding has a cross-cutting aspect in the area of Human Performance, Teamwork, because the licensee failed to communicate and to coordinate their activities within and across organizational boundaries to ensure nuclear safety is maintained. Specifically, the equipment operator spoke with the shift technical advisor about the need to exit the protected area at the morning turnover meeting but neither individual spoke with the control room supervisor. Communication was ineffective in that the Equipment Operator believed permission was granted and proceeded to exit the protected area [H.4].
Inspection Report# : 2015003 *(pdf)*

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Inadequate Simulator Fidelity with Two Examples
Green. Title 10 CFR Part 55.46(c), "Plant-referenced Simulators," states, in part, that a "plant-referenced simulator used for the administration of the operating test or to meet experience requirements in § 55.31(a)(5) must demonstrate expected plant response to operator input and to normal, transient, and accident conditions to which the simulator has been designed to respond." Contrary to this,

• The licensee failed to ensure simulator modeling of condensate storage tank level was consistent with the actual plant, introducing the potential for negative operator training. Due to failure to have adequate job performance measures in training for emergency core cooling systems and failure to recognize these conditions during scenario-based testing of the simulator, the condensate storage tank level would never go below five feet when any pump was taking a suction from this tank due to a modeling error that erroneously added water back into the tank to keep level at five feet under all conditions. As a result of this simulator deficiency, a job performance measure had to be replaced on the examination. To correct this issue, the licensee implemented the simulator deficiency report (DR) process and documented their corrective actions for this issue in Action Request AR-2015-00325641.

• The licensee failed to ensure that the simulator modeling of reactor protection system (RPS) 'B' fuses was consistent with the actual plant, introducing the potential for negative training and challenging the completion of an initial operating test scenario. Specifically, the simulator software failed to de-energize the appropriate RPS scram lights on panel P603 and therefore failed to fully insert the remaining control rods (47) when the correct fuses were pulled. To correct this issue, the licensee implemented the simulator deficiency report (DR) process and documented their corrective actions for this issue in Action Request AR-2015-00326763.

The failure of the plant-referenced simulator to demonstrate expected plant response to operator input and to accident conditions for which the simulator has been designed to respond was a performance deficiency. The performance deficiency is more than minor because it adversely impacted the human performance attribute of the Mitigating Systems cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, if left uncorrected, the performance deficiency could have become more significant, in that, training on related accident scenarios and job performance measures could have a negative impact on how licensed operators would respond to an actual event in the control room. Using Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, and the corresponding Appendix I, "Licensed Operator Requalification Significance Determination Process," the finding was determined to

have very low safety significance (Green) because this deficiency did not contribute to an actual event in the plant. This finding has a cross-cutting aspect in the area of human performance associated with training because the organization did not provide adequate training to maintain a knowledgeable and technically competent workforce through the use of training materials covering emergency core cooling systems and reactor protection systems that would have exposed simulator infidelity [H.9].
Inspection Report# : 2015301 *(pdf)*

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: G 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: G 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 no 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 inrepresent a loss of operabilitysystem 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: G 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: G 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: G 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: G 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 4OA2)

Inspection Report# : 2015001 *(pdf)*

Barrier Integrity

Significance: G Jun 30, 2015
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Follow Procedures Associated with Operation of the Fuel Pool Cooling System
The inspectors reviewed a self-revealing non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to follow procedures associated with operation of the fuel pool cooling system. Specifically, on May 12, 2015, the licensee failed to follow operating procedures for the fuel pool cooling system resulting in a trip of the running fuel pool-cooling pump and subsequent lifting of a relief valve in the fuel pool cooling system. The standby fuel pool cooling pump automatically started to maintain fuel pool cooling. No significant change in refueling cavity level occurred since the plant was in the refueling mode of operation with the refueling cavity flooded approximately 23 feet above the reactor vessel flange. The licensee initiated Action Request 327593 to document the transient on the fuel pool cooling system and took immediate corrective action to disqualify the reactor operator pending remediation to address the human performance error.

The performance deficiency was more than minor, and therefore a finding, because it adversely affected the configuration control attribute of the Barrier Integrity Cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using NRC Inspection Manual Chapter 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the inspectors determined the finding was of very low safety significance because (1) it did not adversely affect decay heat removal capabilities from the spent fuel pool causing the pool temperature to exceed the maximum analyzed temperature limit specified in the site-specific licensing basis, (2) it did not result from fuel handling errors, dropped fuel assembly, dropped storage cask, or crane operations over the spent fuel pool, (3) it did not result in a loss of spent fuel pool water inventory decreasing below the minimum analyzed level limit specified in the site specific licensing basis, and (4) it did not involve spent fuel pool neutron absorber or a fuel bundle misplacement. This finding had a cross-cutting aspect in the area of human performance, avoid complacency, in that the reactor operator failed to consider potential undesired consequences of his actions before performing work and failed to implement appropriate error-reduction tools such as self and peer checking [H.12].
Inspection Report# : 2015002 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation

Failure to Barricade a High Radiation Area
The inspectors identified a non-cited violation of Technical Specification 5.7.1.a for the failure to barricade a high radiation area. Specifically, the high radiation area entry gate in the 572-foot "A" RHR Heat Exchanger Room was found in the open position and access to the area was unimpeded. The licensee took immediate corrective action to restore the boundary gate to the closed position, impeding access to the high radiation area. This issue was documented in the licensee's corrective action program as Action Request 328310.

The failure to barricade a high radiation area was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the program and process attribute of the Occupational Radiation Safety Cornerstone and adversely affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined the violation was of very low safety significance (Green) because: (1) it was not an as low as reasonably achievable (ALARA) finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. The finding had an avoid complacency cross-cutting aspect, in the area of human performance, because radiation workers failed to obtain radiation protection support to reposition the high radiation area boundary and/or restore the entry gate to the closed position when the area was exited [H.12].
Inspection Report# : 2015002 *(pdf)*

Significance: G Jun 30, 2015
Identified By: NRC
Item Type: FIN Finding
Failure to Maintain Doses ALARA for the Alternate Fuel Pool Cooling Modification Job
The inspectors identified a finding associated with the licensee's failure to maintain doses as low as reasonably achievable (ALARA) while performing the Alternate Fuel Pool Cooling Modification job. Specifically, the licensee failed to effectively apply dose reduction methods, evaluate dose rates in a timely manner, prevent loitering and minimize workers in high dose fields, and implement in-field supervision as needed. As immediate corrective action, the licensee held site ALARA committee meetings and in-progress reviews to discuss the issues and developed lessons learned to incorporate into future job activities. The issue was documented into the licensee's corrective action program as Action Request 321415.

The failure to maintain doses ALARA while performing the Alternate Fuel Pool Modification job was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the program and process attribute of the Occupational Radiation Safety cornerstone and adversely affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. Using Inspection Manual Chapter 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," dated August 19, 2008, the inspectors determined the finding was of very low safety significance because: (1) it was associated with ALARA planning and (2) the licensee's current three-year rolling average collective dose of 102 person-rem was less than the 240 person-rem threshold for boiling water reactors. The finding had a field presence cross-cutting aspect, in the human performance cross-cutting area, because the licensee failed to have both radiation protection and engineering leaders commonly seen in the work areas of the plant observing, coaching, and reinforcing standards and expectations [H.2].
Inspection Report# : 2015002 *(pdf)*

Public Radiation Safety

Significance: G Oct 27, 2014
Identified By: Self-Revealing
Item Type: NCV Non-Cited Violation
Failure to Reduce the Free Water in a Class A Unstable Resin Disposal Package to Less than 0.5 Percent of Water Volume
The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a, "Procedures," for the licensee's failure to follow their Process Control Program as implemented by their solid radioactive waste system procedures. Specifically, the licensee failed to reduce the free standing liquid in a condensate filter demineralizer resin disposal package (Liner 14-033-L) to less than the required 0.5 percent of the total waste volume. Corrective actions included retrieving the packages from waste shipment 14-32, testing each liner for free standing liquid content, and removing additional water as necessary. The licensee documented this issue in their corrective action program as Action Requests 00316555 and 00316676.

The failure to follow the Process Control Program, resulting in the inadequate dewatering of radioactive waste liner contents, was a performance deficiency. The inspectors determined that the performance deficiency was more than minor, because it adversely affected the Public Radiation Safety cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released in the public domain. Specifically, the failure to ensure that the free standing liquid in the radioactive waste liner shipped to US Ecology did not exceed 0.5 percent of the total waste volume subjected the disposal facility to the possibility of improper handling of the waste. Using Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, the inspectors determined the violation was of very low safety significance (Green) because: (1) radiation limits were not exceeded, (2) there was no breach of the package during transit, (3) there were no Certificate of Compliance issues, and (4) the low level burial ground nonconformance did not involve a 10 CFR 61.55 waste under-classification. The inspectors determined that the finding has a design margin cross-cutting aspect in the area of human performance, because the licensee failed to operate and maintain the radioactive waste dewatering system within the vendor design margins when changes were made to the operating procedures [H.6].
Inspection Report# : 2015003 *(pdf)*

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

Significance: N/A Jun 30, 2015
Identified By: NRC
Item Type: NCV Non-Cited Violation
Failure to Report a Major Loss of Emergency Assessment Capability
The inspectors identified a Severity Level IV non-cited violation of 10 CFR 50.72(b)(3)(xiii) for the licensee's failure to make a required event notification within eight hours for a major loss of assessment capability. Specifically, the

licensee failed to make a report for an unplanned loss of rod position indication on April 29, 2015 that resulted in the inability to evaluate the position of all control rods for emergency action levels involving failures of the reactor protection system and anticipated transient without scram scenarios. As corrective actions to address a late 8-hour report, the licensee submitted Event Notification EN 51027 on April 30, 2015 and initiated Action Request AR 326719.

The inspectors determined that the failure to make a required event notification within the time limits specified in regulations was a violation 10 CFR 50.72. The violation was evaluated using Section 2.2.4 of the NRC Enforcement Policy, because the failure to submit a required licensee event report may impact the ability of the NRC to perform its regulatory oversight function. As a result, this violation was evaluated using traditional enforcement. In accordance with Section 6.9 of the NRC Enforcement Policy, this violation was determined to be a Severity Level IV, non-cited violation. The inspectors determined that a cross-cutting aspect was not applicable because the issue involving untimely reports to the NRC was strictly associated with a traditional enforcement violation.
Inspection Report# : 2015002 *(pdf)*

Last modified : March 01, 2016