



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION IV  
1600 E. LAMAR BLVD.  
ARLINGTON, TX 76011-4511

May 13, 2015

Mark E. Reddemann  
Chief Executive Officer  
Energy Northwest  
P.O. Box 968, Mail Drop 1023  
Richland, WA 99352-0968

**SUBJECT: COLUMBIA GENERATING STATION – NRC PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT 05000397/2015007**

Dear Mr. Reddemann:

On March 19, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed the onsite portion of the biennial problem identification and resolution inspection at Columbia Generating Station and provided you and your staff with its preliminary findings. At that time, the team required additional information in order to determine the safety significance of four issues identified during the inspection. Subsequently, the team completed their assessment of these issues, and on April 3, 2015, the team discussed the results telephonically with Mr. Grover Hettel, Vice President, Operations, and other members of your staff. The results of the inspection have been documented in the enclosed report.

Based on the inspection, the team determined that Columbia Generating Station's corrective action program and your staff's implementation of the corrective action program were adequate to support nuclear safety.

In reviewing your corrective action program, the team assessed how well your staff identified problems at a low threshold, your staff's implementation of the station's process for prioritizing and evaluating these problems, and the effectiveness of corrective actions taken by the station to resolve these problems. The team also evaluated other processes your staff uses to identify issues for resolution. These included your use of audits and self-assessments to identify latent problems and your incorporation of lessons learned from industry operating experience into station programs, processes, and procedures. The team determined that your station's performance in each of these areas supported nuclear safety. However, the team identified a general misconception associated with the concept of what constitutes a degraded or nonconforming condition. This led to several instances where the rationale that should have been used as justification why a degraded safety-related structure, system, or component was still operable, was instead used to conclude that the structure, system or component was not degraded or nonconforming.

Finally, the team determined that your station's management maintains a safety-conscious work environment in which your employees are willing to raise nuclear safety concerns through at least one of the several means available.

NRC inspectors documented six findings of very low safety significance (Green) in this report. All of these findings involved violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest these violations or their significance, you should provide a response within 30 days of the date of this letter, with the basis for your denial to: U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector, at the Columbia Generating Station.

Four of the findings were assigned a cross-cutting aspect associated with the causes of the deficiencies. If you disagree with the cross-cutting aspects assigned in this report, you should provide a response, within 30 days of the date of this letter, with the basis for your disagreement to the Regional Administrator, Region IV, and copy to the resident inspector at Columbia Generating Station.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if you chose to provide one) will be made available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Donald B. Allen, Team Leader  
Technical Support Services  
Division of Reactor Safety

Docket: 50-397  
License: NPF-21

Enclosure:  
Inspection Report 05000397/2015007  
w/Attachment: Supplemental Information

Electronic Distribution to Columbia Generating Station

**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket: 05000397

License: NPF-21

Report: 05000397/2015007

Licensee: Energy Northwest

Facility: Columbia Generating Station

Location: Columbia Generating Station is located within the Hanford Site of the Department of Energy, in Benton County, Washington, approximately 12 miles north of the City of Richland. The site is approximately 3 miles west of the Columbia River at River Mile 352.

Dates: March 2 through April 3, 2015

Team Lead: Harry Freeman, Senior Reactor Inspector, Technical Support Services

Inspectors: Jeremy Groom, Senior Resident Inspector, Columbia Generating Station  
Thomas Hartman, Senior Resident Inspector, Callaway Plant  
David Proulx, Senior Project Engineer, Reactor Projects Branch B

Approved By: Donald B. Allen, Team Leader  
Technical Support Services  
Division of Reactor Safety

## SUMMARY

IR 05000397/2015007; 03/02/2015 – 04/03/2015; Columbia Generating Station; Problem Identification and Resolution (Biennial)

A Nuclear Regulatory Commission (NRC) inspection team conducted the activities described in this report between March 2 and April 3, 2015. The team consisted of two senior inspectors from the NRC's Region IV office and the senior resident inspectors from the Columbia Generating Station and from the Callaway Plant. The report documents six findings of very low safety significance (Green) that involved violations of NRC requirements. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

### Assessment of Problem Identification and Resolution

Based on the inspection sample, the team concluded that the licensee maintained a corrective action program in which individuals generally identified issues at an appropriately low threshold. Once entered into the corrective action program, the licensee generally evaluated and addressed these issues appropriately and timely commensurate with their safety significance. The licensee's corrective actions were generally effective addressing the causes and extents of condition of problems. However, the team identified a general misconception associated with the concept of what constitutes a degraded or nonconforming condition. This led to several instances where the rationale that should have been used as justification why a degraded safety-related structure, system, or component was still operable, was instead used to conclude that the structure, system or component was not degraded or nonconforming.

The licensee generally evaluated industry-operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee incorporated industry and internal operating experience in its root cause and apparent cause evaluations. The licensee performed effective and self-critical nuclear oversight audits and self-assessments. The licensee maintained an effective process to ensure significant findings from these audits and self-assessments were addressed.

The licensee maintained a safety-conscious work environment in which personnel were willing to raise nuclear safety concerns without fear of retaliation.

### Cornerstone: Mitigating Systems

- Green. 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]. (Section 4OA2.1.c(1))

- Green. 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. (Section 4OA2.1.c(2))

- Green. 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]. (Section 4OA2.1.c(3))

- Green. 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 in represent 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. (Section 4OA2.1.c(4))

- Green. 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]. (Section 4OA2.1.c(5))

- Green. 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]. (Section 4OA2.2.c)



## REPORT DETAILS

### 4. OTHER ACTIVITIES (OA)

#### 4OA2 Problem Identification and Resolution (71152B)

This inspection constitutes one biennial sample of problem identification and resolution as defined by Inspection Procedure 71152. All documents reviewed during this inspection are listed in the attachment to this report.

#### .1 Corrective Action Program Effectiveness

##### a. Inspection Scope

The team reviewed approximately 250 action request type condition reports (hereafter described as action requests or condition reports), including associated root cause analyses and apparent cause evaluations, from approximately 18,545 that the licensee had initiated between July 13, 2013, and March 19, 2015. The majority of these (approximately 15,000) were lower-level action requests that did not require any type of cause evaluations. The inspection sample focused on higher-significance action requests for which the licensee evaluated and took actions to address the cause of the condition. In performing its review, the team evaluated whether the licensee had properly identified, characterized, and entered issues into the corrective action program, and whether the licensee had appropriately evaluated and resolved the issues in accordance with established programs, processes, and procedures. The team also reviewed these programs, processes, and procedures to determine if any issues existed that may impair their effectiveness.

The team reviewed a sample of performance metrics, system health reports, operability determinations, self-assessments, trending reports and metrics, and various other documents related to the licensee's corrective action program. The team evaluated the licensee's efforts in determining the scope of problems by reviewing selected logs, work orders, self-assessment results, audits, system health reports, action plans, and results from surveillance tests and preventive maintenance tasks. The team reviewed daily action requests and attended the licensee's condition review group, corrective action review board, and performance assessment review board meetings to assess the reporting threshold and prioritization efforts, and to observe the corrective action program's interfaces with the operability assessment and work control processes. The team's review included an evaluation of whether the licensee considered the full extent of cause and extent of condition for problems, as well as a review of how the licensee assessed generic implications and previous occurrences of issues. The team assessed the timeliness and effectiveness of corrective actions, completed or planned, and looked for additional examples of problems similar to those the licensee had previously addressed. The team conducted interviews with plant personnel to identify other processes that may exist where problems may be identified and addressed outside the corrective action program.

The team reviewed corrective action documents that addressed past NRC-identified violations to evaluate whether corrective actions addressed the issues described in the inspection reports. The team reviewed a sample of corrective actions closed to other

corrective action documents to ensure that the ultimate corrective actions remained appropriate and timely.

The team considered risk insights from both the NRC's and Columbia Generating Station's risk models to focus the sample selection and plant tours on risk-significant systems and components. The team focused a portion of its sample on the standby service water system, which the team selected for a five-year in-depth review. The team conducted walk-downs of this system and other plant areas to assess whether licensee personnel identified problems at a low threshold and entered them into the corrective action program.

b. Observations and Assessment

(1) Effectiveness of Problem Identification

During the 20-month inspection period, licensee staff generated more than 18-thousand action requests. The team determined that most conditions that required generation of a condition report by procedure SWP-CAP-01, "Corrective Action Program," were appropriately entered into the corrective action program. However, the team noted several examples where the licensee had failed to properly identify and document conditions adverse to quality in accordance with procedures. While most of these findings were of minor significance, two were determined to be more than minor and were documented as findings. These findings and observations may indicate problem identification is an area where additional management attention may be warranted. Issues identified include:

- Conditions adverse to quality were included in the comments section of work documents that had not been entered into the corrective action program.
  - During a maintenance activity on a standby service water motor operated valve, workers identified that the actuator did not have the inspection plug installed under the limit switches and that there was no grease in the assembly. Maintenance filled the limit switch with grease and replaced the plug but did not generate a condition report to document or evaluate the condition. This finding is documented in Section 4OA2.1.c(1) of this report.
  - During a maintenance activity to repair a standby service water valve leak, maintenance identified that the valve bonnet was cocked. Maintenance replaced the O-ring but did not generate a condition report to document or evaluate the cause of the bonnet being cocked.
- The current configuration of the service water pumphouse cooling system did not match the configuration assumed in the licensee's analysis for coping with a postulated station blackout event. Specifically, the pumphouse outside air filters installed in the system are not accounted for in design calculations. These filters were in the flow path used to cool the high-pressure core spray service water pump during a station blackout. This finding is documented in Section 4OA2.1.c(2) of this report.

- During an equipment failure evaluation for Action Request AR 312516, the licensee failed to recognize that the ESF bus undervoltage relays were incorrectly coded for criticality. The relays were documented as “non-critical” but should have been “critical” per licensee’s procedure. The licensee entered this issue into their corrective action program as Action Request AR 323757.
- During a tour of the reactor building and areas containing components in the standby service water system, the team identified a number of minor deficient conditions that had not previously been identified or documented in the corrective action program by the licensee. These findings were determined to be minor and not normally documented in an inspection report; however, they may be indicative of a licensee’s ability to identify adverse conditions. These conditions included:
  - Several housekeeping issues on the 572’ and 548’ elevations of the reactor building including equipment staged with expired transient combustible permits and expired work in progress tags. The licensee entered this issue into their corrective action program as Action Request AR 323208.
  - A contaminated area that was not closely controlled such that tools and equipment were partially located within the contaminated area boundaries. The licensee entered this issue into their corrective action program as Action Request AR 323207.
  - Missing hold down clips for floor grating in the standby service water pump house. The licensee entered this issue into their corrective action program as Action Request AR 323284.
  - Missing piping plugs on the standby service water spray header. The licensee entered this issue into their corrective action program as Action Request AR 323281.
  - Use of unapproved tape on carbon and stainless steel piping in the reactor building. The licensee entered this issue into their corrective action program as Action Request AR 323288.
  - Use of an unapproved U-bolt support on service water piping on the 422’ elevation of the reactor building. The engineering drawings called for a box type support in place of a U-bolt. The licensee entered this issue into their corrective action program as Action Request AR 323337.
  - Several water tight doors that were not fully latched on the 422’ elevation of the reactor building. For each of these doors there was sufficient engagement to ensure that would perform their function during an internal flooding event. The licensee entered this issue into their corrective action program as Action Request AR 323287.
  - A 55-gallon barrel located in the low-pressure core spray pump room not staged in accordance with the licensee’s seismic housekeeping procedure.

The licensee entered this issue into their corrective action program as Action Request AR 323286.

Overall, the team concluded that the licensee generally maintained a low threshold for the formal identification of problems and entry into the corrective action program for evaluation. Licensee personnel initiated on average just under 100 action requests per month during the inspection period. The personnel interviewed by the team understood the requirements for action request initiation and believed that the threshold was appropriately low.

## (2) Effectiveness of Prioritization and Evaluation of Issues

The sample of action requests reviewed by the team focused primarily on issues screened by the licensee as having higher-level significance, including those that received cause evaluations, those classified as significant conditions adverse to quality, and those that required engineering evaluations. The team also reviewed a number of action requests that included or should have included immediate operability determinations to assess the quality, timeliness, and prioritization of these determinations.

The team identified a general misconception associated with the concept of what constitutes a degraded or nonconforming condition. This misconception led to several instances where the licensee failed to perform an operability evaluation but instead used the rationale that since a safety-related system, structure, or component remained operable, it was not degraded. However, the team did not find any specific circumstances where this misconception had led to the licensee incorrectly determining a safety-related structure, system, or component as operable when it in fact was not. This finding is documented in Section 4OA2.1.c(3) of this report.

In addition, the team identified examples where the licensee had failed to properly address information in accordance with licensee procedures. The team did not identify any instances where these failures resulted in inadequate corrective actions being implemented and determined these findings to be of minor significance but may indicate areas where additional management attention may be warranted. These include:

- The team identified that the condition report review group (CRG) was not reviewing condition reports to determine whether an equipment failure evaluation was required for nonsafety-related maintenance rule systems, per Section 4.6.1 of Procedure SWP-CAP-06, "Condition Report Review Group," Revision 26. The condition report database did not contain a complete list of maintenance rule systems (only listed safety-related systems), and the CRG members were not knowledgeable of the maintenance rule requirements. The team determined that this issue was a minor violation because no examples were identified where equipment failure evaluations were missed.
- The team determined that the licensee was not consistent in assigning corrective actions to preclude repetition (CAPRs) for significant conditions adverse to quality (SCAQ). The licensee's program permitted SCAQs to be addressed with Apparent Cause Evaluations, which did not always assign CAPRs. The team did

not identify any specific issues that were repetitive because of inadequate corrective actions.

Overall, the team determined that the licensee's process for screening and prioritizing issues that had been entered into the corrective action program supported nuclear safety.

### (3) Effectiveness of Corrective Actions

In general, the corrective actions identified by the licensee to address adverse conditions were effective. The team noted some instances in which corrective actions had been untimely or incompletely accomplished. These included the licensee's failure to correct design basis information in component classification evaluation records on a timely basis even though these records are used for important safety-related activities such as operability determinations and design changes. This finding is documented in Section 4OA2.1.c(5) of this report.

Overall, the team concluded that the licensee generally identified effective corrective actions for the problems evaluated in the corrective action program. The licensee generally implemented these corrective actions in a timely manner, commensurate with their safety significance, and reviewed the effectiveness of the corrective actions appropriately.

#### c. Findings

##### (1) Failure to Initiate Condition Report for a Degraded Condition Outside the Scope of Maintenance Work Order

Introduction. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," associated with the licensee's failure to initiate a condition report in accordance with SWP-CAP-01, "Corrective Action Program," Revision 22. Specifically, 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.

Description. The team reviewed a number of completed work orders in the standby service water system to determine if conditions identified during the course of the maintenance were properly documented in the corrective action program. The team noted that Work Order WO 2040823, "Lube and Inspect SW-MO75A," dated October 23, 2013, had extensive comments in the closeout package that stated that the pipe plug was missing from the bottom side of the limit switch compartment and that the limit switch compartment had very little grease and exposed gears inside. Subsequently, licensee mechanics replaced the plug and added a full complement of grease to the compartment within the course of the maintenance activity. No condition report was initiated for this unexpected condition. And thus, the licensee did not determine the cause, extent of condition or past operability of the condition as required by the CAP.

The team notified the licensee of this condition, who then entered this issue in the station's corrective action program as Action Request AR 323201. The licensee took immediate action to brief maintenance personnel on the need to initiate condition reports when encountering unexpected degraded or nonconforming conditions and that

supervision perform thorough reviews of completed work packages during closeout to ensure that all conditions adverse to quality were documented in the CAP. The licensee performed a past-operability review for the as-found condition of valve SW-V-75A. The licensee determined through review that the condition had existed for approximately two years at time of discovery. The licensee noted that the valve has successfully passed several quarterly in-service tests in the interim period, indicating that the valve was degraded/nonconforming but operable. The team concluded that the licensee's past operability review was acceptable.

Analysis. The licensee's failure to initiate a condition report upon discovery of an unexpected degraded or nonconforming condition was a performance deficiency. This 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 adversely 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 for degraded valve SW-V-75A could have prevented additional adverse conditions from being identified, because the licensee had not performed an extent of condition review. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012, the team determined that 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 individuals did not use the established process for decision making in failing to document an unanticipated degraded condition in the corrective action process. [H.13]

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances, and that they be accomplished in accordance with these instructions procedures, or drawings. Procedure SWP-CAP-01, "Corrective Action Program," Revision 22, Section 4.1.3 required licensee personnel to initiate a condition report before the end of the shift for degraded equipment problems. Contrary to the above, until identified by the team in March 2015, activities affecting quality were not accomplished in accordance with a procedure appropriate to the circumstances. Specifically, during performance of Work Order 2040823, licensee personnel identified that valve SW-V-75A had a missing plug and insufficient grease in the limit switch compartment of the valve operator, which were degraded and nonconforming conditions, but failed to initiate a condition report by the end of the shift to document the condition. This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (Green) and is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. The licensee entered the violation into the corrective action program as Action Request AR323201, NCV 05000397/2015007-01, "Failure to Initiate Condition Report for a Degraded Condition Outside the Scope of Maintenance Work Order."

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

Introduction. 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 Train A ventilation system such that the system would provide sufficient capability during a postulated station blackout.

Description. On March 4, 2015, the team performed a walkdown of the standby service water system and discovered pump house outside air filter POA-FL-1A covered in a thick layer of dirt and debris. Filter POA-FL-1A is located immediately upstream of non-safety related fan POA-FN-2A used to supply outside air to standby service water pump house Train A during normal operations. POA-FN-2A has an augmented quality function to provide room cooling to the Train A standby service water pump house during station blackout conditions to cool the high-pressure core spray (HPCS) service water pump. The team questioned if the currently installed filter, including consideration of fouling, affected the ability of fan POA-FN-2A to cool the standby service water pump house during station blackout conditions.

The Columbia Generating Station FSAR, Appendix 8A, "Station Blackout," provides the site-specific analysis for coping with a postulated station blackout and relies on the high-pressure core spray (HPCS) system for providing reactor coolant system inventory. The licensee utilizes NUMARC 87-00, "Guidelines and Technical Bases for NUMARC Initiatives Addressing Station Blackout at Light Water Reactors," Revision 1, as the standard for analyzing station blackout. NUMARC 87-00, Section 2.7, "Effects of Loss of Ventilation," states that areas containing equipment required to cope with a station blackout only need to be evaluated if (a) the area is a dominant area of concern, and (b) the dominant area of concern has not been previously evaluated as a harsh environment due to a high or moderate energy line break. Because fan POA-FN-2A would be available during a station blackout, the licensee excluded the HPCS service water pump room as a dominant area of concern.

The NRC approved of the use of fan POA-FN-2A to maintain HPCS service water pump room temperatures in "Supplemental Safety Evaluation (SSE) of the Washington Public Power Supply System Nuclear Project NO. 2 (WNP-2) Station Blackout Analysis (TAC M68626)," dated June 26, 1992. In this safety evaluation, the NRC noted that:

In its original station blackout submittal dated April 17, 1989, the licensee stated that the HPCS service water pump room was not provided HVAC during a station blackout. In the submittals dated March 30, 1990, the licensee stated that the calculated peak temperature for this room during a 4-hour station blackout event was 151°F. It subsequently determined that ventilation would be maintained in the HPCS service water pump room during a station blackout. The ventilation will maintain the room temperature below 113°F. This temperature will provide reasonable assurance of operability for station blackout equipment located in the HPCS service water pump house. Therefore, the licensee indicated that additional assessment of the operability of station blackout equipment located in the pump house is not required.

The NRC staff evaluation of the licensee's use of fan POA-FN-2A concluded that "based on its review, the staff finds the above licensee response acceptable and, therefore, considers this SE issue related to the effects of loss of ventilation in the HPCS service water pump room resolved."

Station Calculation ME-02-92-65, "Calculation for Standby Service Water Pumphouse HVAC," Revision 0, dated January 24, 1993 concluded that the temperature in the standby service water pump house would remain below 113 degrees for the duration of the station blackout event and therefore would not be considered a dominant area of concern. The team reviewed the licensee's calculation and noted that it assumed the design flow rate of 5000 cubic feet per minute for POA-FN-2A but did not account for any reduced flowrate due to filter loading. The licensee reviewed calculation 9.46.21, "Calculation for SW Pumphouse POA-FN-2A," Revision 0 and determined that with a total system resistance of 1.5 inches water gauge, the design flow rate of 5000 cubic feet per minute would no longer be met and the results of calculation ME-02-92-65 may no longer be bounding. The team identified that no current program or process existed to ensure that the loading on filter POA-FL-1A maintained total system resistance below 1.5 inches water gauge such that the results of calculation ME-02-92-65 remained valid. Additionally, the team noted that no current preventative maintenance task existed to inspect or replace filter POA-FL-1A and that the currently installed component had been in service since May 10, 2010.

The team concluded that the licensee failed to meet the design control requirements of Regulatory Guide 1.155, "Station Blackout," Appendix A, "Quality Assurance Requirements for Non-Safety System and Equipment." The licensee is committed to this Regulatory Guide in Section 1.8 of the FSAR. 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 to ensure that the system would supply the airflow assumed in Calculation ME-02-92-65.

Analysis. The team determined that the 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. This 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. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012, the team determined that the finding is of very low safety significance (Green) 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. The inspectors determined that this finding did not have a cross-cutting aspect since the configuration control error was associated with initial implementation of the station blackout rule and therefore not reflective of current licensee performance.



Enforcement. Title 10 CFR 50.63(a)(2), "Loss of All Alternating Current Power," states, in part, that reactor core and associated coolant, control, and protection systems, including station batteries and any other necessary support systems, must provide sufficient capacity and capability to ensure that the core is cooled and appropriate containment integrity is maintained in the event of a station blackout for the specified duration. Regulatory Guide 1.155, "Station Blackout," reissued August 1988 describes a means acceptable to the NRC staff for meeting the requirements of 10 CFR 50.63. The licensee is committed to Regulatory Guide 1.155 in Section 1.8 of the Columbia Generating Station Final Safety Analysis Report. Regulatory Guide 1.155, Appendix A, "Quality Assurance Requirements for Non-Safety System and Equipment," states, in part, design control measures should be established to ensure that all design related guidelines used in complying with 10 CFR 50.63 are included in design and that deviations there from are controlled. Contrary to the above, from January 24, 1993 to present the licensee failed to ensure that necessary support systems would provide sufficient capability in the event of a station blackout for the specified duration. Specifically the licensee failed to implement design control measures for the pump house outside air system to ensure the installed configuration matched the configuration assumed in station calculations. This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (Green) and is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. The licensee entered the violation into the corrective action program as Action Request AR 324106, NCV 05000397/2015007-02, "Failure to Maintain Configuration Control of Ventilation Systems Needed for Station Blackout."

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

Introduction. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," involving the licensee's failure to identify a nonconforming condition involving molded case circuit breakers. As a consequence, operations staff failed to perform an operability determination in accordance with Procedure 1.3.66, "Operability and Functionality Evaluation," Revision 30 for six molded case circuit breakers installed without the proper preventative maintenance.

Description. On March 18, 2015, 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 initiated this condition report in response to a concern by the inspection team that identified that the required 16-year replacement for these breakers had not been completed in accordance with established preventative maintenance schedules. The six breakers identified by the team included a supply breaker for the high-pressure core spray battery charger required to be operable per the requirements of Limiting Condition for Operation 3.8.4, "DC Sources - Operating," and several molded case circuit breakers that supply power to Division 1 and Division 2 motor control centers required to be operable per the requirements of Limiting Condition for Operation (LCO) 3.8.7, "Distribution Systems - Operating." The breakers installed in the plant had been in service between 24 and 31 years without replacement.

The 16-year replacement frequency was established following the failure of a safety related molded case circuit breaker to close in the motor starter for DEA-42-A42C that supplies power to diesel exhaust air fan DEA-FN-33 as documented in Problem Evaluation Request (PER) 204-0959, initiated on July 22, 2004. Action 2 of this PER documented the results of an internal inspection of a similar breaker removed from safety related starter DO-42-4A4B after approximately 20 years of use. The licensee's internal inspection of this component revealed long-term aging in the form of grease degradation evident by hardening and discoloration of the lubricant. Action 3 of this PER documented additional correspondence and consultation between the licensee, the molded case circuit breaker user's group and the breaker vendor. The results of this correspondence revealed that it is very common for hardened grease to occur over 20 years of service, irrespective of operating environment. The licensee's apparent cause for PER 204-0959 concluded that the molded case circuit breaker in the motor starter for DEA-42-A42C was at the end of its useful life.

Plant operators evaluated Action Request AR 324184 in accordance with Procedure 1.3.66, "Operability and Functionality Evaluation," Revision 30. The operations shift manager determined the failure to replace molded case circuit breakers in accordance with the station's preventative maintenance program does not result in degradation of any structures, systems or components. The shift manager went on to document that no nonconforming condition exists and that the current licensing basis continues to be met for the molded case circuit breakers identified in AR 324184.

The team reviewed the licensee's evaluation of Action Request AR 324184 and identified that the current licensing basis for these components was not met because the required preventative maintenance tasks to replace the breaker at the end of its useful service life was not completed. Specifically, Technical Specification 5.4.1.a, "Procedures," has specific requirements to establish and implement maintenance procedures for inspection and replacement of items that have a specific lifetime such as molded case circuit breakers. Per NRC Inspection Manual Chapter 0326, "Operability Determinations and Functionality Assessments for Conditions Adverse to Quality or Safety", dated January 31, 2014, "the current licensing basis is the set of NRC requirements applicable to a specific plant." The set of NRC requirements applicable to a specific plant current licensing basis include, in part, NRC regulations in 10 CFR Part 50, the plant specific Technical specifications and the plant-specific design basis information defined in 10 CFR 50.2 and documented in the most recent FSAR. The team determined that the failure to replace these molded case circuit breakers in accordance with the preventative maintenance program, as required by Technical Specification 5.4.1.a, represented a nonconforming condition. Since the nonconforming condition was associated with a component required to be operable by the plant's technical specifications, an operability determination was required to evaluate if the safety-related components would fulfill the minimum requirements of the limiting condition for operation per licensee procedure PPM 1.3.66.

Following identification that no operability determination was performed for Action Request AR 324184, the licensee re-evaluated the condition report and performed a prompt operability determination on March 22, 2015. The licensee's updated operability determination concluded that the affected molded case circuit breakers were operable but nonconforming. The failure to perform an operability determination for an identified

nonconforming condition was entered into the corrective action program as Action Request AR 324146.

Analysis. 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. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012, the team determined that the finding is of very low safety significance (Green) 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 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].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Procedure 1.3.66, "Operability and Functionality Evaluation," Revision 30, Step 6.1.2, required, in part, that "if it is determined that a TS SSC within the scope of the IOD process is degraded or nonconforming (refer to Attachment 11.4 for additional guidance), then ensure the DNC [degraded or nonconforming] attribute is flagged 'Y'. Determine and document the operability of the affected SSC in the DNC attribute assignment under the AR/CR." Contrary to the above, on March 18, 2015, the licensee failed to complete activities affecting quality in accordance with prescribed procedures. Specifically, the licensee failed to determine and document the operability of molded case circuit breakers installed beyond the useful life identified under AR 324184. This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (Green) and is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. The licensee entered the violation into the corrective action program as Action Request AR 324146, NCV 05000397/2015007-03, "Failure to Identify and Evaluate the Operability of a Nonconforming Condition Involving Molded Case Circuit Breakers."

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

Introduction. 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.

Description. On November 21, 2013, control room emergency chiller CCH CR-1A tripped during the performance of surveillance procedure OSP-CCH/IST-M701, "Control Room Emergency Chiller System A Operability," Revision 36. Subsequent investigation by the licensee identified that the service water temperature control valve SW-TCV-15A was uncoupled from the valve's electro-hydraulic operator SW-TCV/EHO-15A. With the temperature control valve uncoupled from its operator, the valve was unable to provide the required cooling to the chiller resulting in a trip on high discharge pressure. The licensee initiated Action Request AR 298299 documenting the uncoupled electro-hydraulic operator.

The licensee performed a condition evaluation for the uncoupled electro-hydraulic operator on SW-TCV-15A described in Action Request AR 298299. The licensee determined that loose jam and stop nuts allowed the valve to uncouple from its operator.

The licensee attributed the loose stop and jam nuts to an error where the nuts were not locked into place during the last calibration of SW-EHO-TCV/15A performed on May 24, 2013, under Work Order 02008390. The calibration is performed using procedure PPM 10.25.136, "ITT Hydramotor Actuator Adjustment, Calibration and Inspection," Revision 18. The licensee concluded inadequacies in procedure PPM 10.25.136 caused the human performance error that resulted in the loose stop and jam nuts for SW-TCV/EHO-15A. Specifically, the procedure did not adequately specify that the temperature control valve/electro-hydraulic operator assembly have two sets of lock and jam nuts and that the jam nut must be against the coupling and that the stop nut must be tight against the jam nut. The licensee revised procedure PPM 10.25.136 on June 24, 2014, to clarify the locations of the stop and jam nuts and to provide specific instructions to lock these nuts into place on the stem adapter.

The team reviewed Action Request AR 298299 and procedure PPM 10.25.136 and concluded that inadequacies with procedure PPM 10.25.136 led to SW-TCV-15A becoming uncoupled from the valve's electro-hydraulic operator SW-TCV/EHO-15A resulting in a trip of control room emergency chiller CCH CR-1A. The licensee entered the inadequate maintenance instructions contained in PPM 10.25.136 into their corrective action program as Action Request AR 324188.

Analysis. The failure to maintain adequate work instructions for maintenance on electro hydraulic operators was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it adversely 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. Using Inspection

Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012, the team determined that the finding is of very low safety significance (Green) 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. The inspectors determined that 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.

Enforcement. Technical Specification 5.4.1.a requires, in part, that written procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Paragraph 9.a of Regulatory Guide 1.33, Appendix A, requires written procedures for performing maintenance that can affect the performance of safety-related equipment. Contrary to the above, from October 5, 1989 to June 24, 2014, the licensee failed to maintain written procedures as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Specifically, procedure PPM 10.25.136, "ITT Hydramotor Actuator Adjustment, Calibration and Inspection," Revision 0-18, failed to adequately specify that the electro-hydraulic operator assembly has two sets of lock and jam nuts and that the jam nut must be against the coupling and that the stop nut must be tight against the jam nut. This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (Green) and is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. The licensee entered the violation into the corrective action program as Action Requests AR 298299 and AR 324188, NCV 05000397/2015007-04, "Failure to Maintain Maintenance Procedures for Temperature Control Valve Electro-Hydraulic Operators."

#### (5) Failure to Translate Design Basis into Component Classification Evaluation Records

Introduction. 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.

Description. The team reviewed several condition reports related to component classification evaluation records (CERs) and identified the following examples where the licensee failed to correct known deficiencies in these design basis documents. Specific examples include:

- CER C93-0404, Revision 0, for residual heat removal valve RHR-V-70, a normally closed isolation valve between the equipment drain system and flushing lines in the residual heat removal, low pressure core spray and high pressure

core spray systems. This CER incorrectly excludes this valve as a secondary containment boundary. The licensee previously identified this inaccuracy under Action Request-SELF 253364 on November 30, 2011. The team discovered that this condition report was closed by the licensee on February 27, 2012 without correcting the inaccurate design record. The licensee entered this issue into their corrective action program as Action Request AR 324082.

- CER C92-0128, Revision 3, for reactor core isolation cooling (RCIC) valves RCIC-V-25 and RCIC-V-26, the steam supply drain pot isolation valves for the RCIC system. This CER incorrectly applied ANSI/ANS 52.1, "Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants," Figure 3.1.2.e, Note 3 which allows single valve isolation between ASME Class 2 and non-nuclear class components. The team identified that this note only applies to instrument lines and therefore is not applicable to RCIC-V-25 and RCIC-V-26. This issue was previously identified by the NRC under AR 298050 on November 19, 2013, but the inaccurate design record had not been corrected by the licensee. The licensee entered this issue into their corrective action program as Action Request AR 323666.

The team also performed an independent review of several additional CERs to determine if the records accurately reflected the design and licensing basis of the facility. The team identified the following specific examples of inaccurate CERs:

- CER C90-0017, Revision 2, for control room emergency chillers CCH-CR-1A and CCH-CR-1B. This CER incorrectly uses control room temperatures limit of 104 degrees Fahrenheit. The team identified that this temperature is non-conservative relative to the design of the facility that required the control room ambient conditions be maintained compatible with the comfort zone, as defined by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). The team determined that the licensee failed to correct this design record following receipt of NCV 05000397/2013002-04, "Failure to Obtain NRC Approval for Changes to Control Room HVAC Requirements," that identified a non-conservative change to the control room temperature limit. The licensee entered this issue into their corrective action program as Action Request AR 324135.
- CER C91-0146, Revision 0, for the main steam isolation valves. This CER incorrectly references FSAR Section 15.7.1 which was removed from the FSAR under safety analysis report change notice 93-084 dated August 18, 1993. The licensee entered this issue into their corrective action program as Action Request AR 324130.
- CER C91-0140, Revision 0 and CER C93-0016, Revision 0 for diesel fuel oil level switch DO-LS-21 and the division 3 emergency diesel generator respectively. The team identified that the required operating time (mission time) for DO-LS-21 that controls the diesel fuel oil transfer pump is only 24 hours, whereas the division 3 emergency diesel generator has a required operating time of 4320 hours. The licensee entered this issue into their corrective action program as Action Request AR 324144.

The team discussed the inaccurate CERs with the licensee and discovered that the station did not have a specific process to place on hold inaccurate or deficient CERs. The team noted that procedure PPM 1.3.66, "Operability and Functionality Evaluations," Revision 30, Attachment 11.4, Guidelines for Immediate Operability Determination Assessments, directs operators, in part, to determine the current licensing basis safety functions for a structure, system or components by reviewing CERs. The team performed a search of the corrective action program and determined that the licensee did not use the inaccurate or deficient CERs for any operability decisions. The licensee initiated Action Request AR 324160 to document the lack of a hold process for inaccurate or deficient CERs.

Analysis. The failure to translate station design requirements into specifications was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, 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. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012, 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. This finding had a cross-cutting aspect in the area of problem identification and resolution, in that the licensee failed to take timely action to address inadequate design records [P.3].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in Part 50.2 and as specified in the license application, for those structures, systems, and components to which this appendix applies are correctly translated into specifications, drawings, procedures, and instructions. These measures shall include provisions to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Contrary to the above, prior to March 19, 2015, the licensee failed to implement measures to assure that appropriate quality standards are specified and included in design documents and that deviations from such standards are controlled. Specifically, the licensee failed to assure that applicable regulatory requirements and the design basis were correctly translated into CER C93-0404, Revision 0, CER C92-0128, Revision 3, CER C90-0017, Revision 2, CER C91-0146, Revision 0, CER C91-0140, Revision 0 and CER C93-0016, Revision 0. This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (Green) and is being treated as a non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. The licensee entered the violation into the corrective action program as Action Request ARs 323666, 324082, 324130, 324135, 324144, and 324160, NCV 05000397/2015007-05, "Failure to Translate Design Basis into Component Classification Evaluation Records."

## .2 Use of Operating Experience

### a. Inspection Scope

The team examined the licensee's program for reviewing industry-operating experience, including reviewing the governing procedures. The team reviewed a sample of 42 industry-operating experience communications and the associated site evaluations to assess whether the licensee had appropriately assessed the communications for relevance to the facility. The team also reviewed assigned actions to determine whether they were appropriate.

### b. Assessment

Overall, the team determined that the licensee appropriately evaluated industry-operating experience for its relevance to their facility. Operating experience information was incorporated into plant procedures and processes as appropriate. However, the team identified one example where the licensee had failed to fully evaluate industry-operating experience associated with molded case circuit breakers resulting in a failure to initiate a condition report for an adverse condition involving several breakers installed beyond their useful service life.

The team further determined that the licensee appropriately evaluated industry-operating experience when performing root cause analysis and apparent cause evaluations. The licensee appropriately incorporated both internal and external operating experience into lessons learned for training and pre-job briefs.

### c. Findings

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

Introduction. The team identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," involving 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.

Description. On May 16, 2014, the licensee initiated Action Request Operating Experience Report (AR-OER) 307989 following receipt of operating experience involving molded case circuit breakers. The operating experience involved a vendor technical bulletin that describes lubricant aging of many molded case circuit breakers that causes the breaker to malfunction in the form of tripping late or not tripping. The technical bulletin recommended several periodic maintenance activities to address age related failures of these molded case circuit breakers including a periodic replacement activity after approximately 20 years of service.

The licensee evaluated AR-OER 307989 in accordance with procedure SWP-CAP-03, "Operating Experience Program," Revision 13. Per step 4.3.1.a of procedure SWP CAP-03, the licensee determined that Columbia Generating Station does have forty-eight similar components manufactured by a different vendor. Licensee



procedure OPEX-01, "Operating Experience Program Implementation Manual," Revision 4, Attachment 7.1, provides guidance that when reviewing industry operating experience, the licensee should consider similar component designs. The licensee went on to state in their evaluation of AR-OER 307989 that Columbia Generating Station has a number of processes in place to mitigate the consequences of failures identified in the vendor technical bulletin including periodic replacement every 16 years, periodic manual operation to refresh the lubricant inside the breaker, and periodic functional and calibration testing. The licensee's evaluation went on to state that Columbia Generating Station experienced a failure of a molded case circuit breaker to reset in 2004 which was the basis for the current preventative maintenance replacement frequency of 16 years.

The team reviewed the licensee's evaluation of AR-OER 307989 and confirmed that the licensee does have an acceptable preventative maintenance replacement strategy that would help mitigate the consequences of failures identified in the vendor technical bulletin. The team reviewed the maintenance history of the forty-eight similar components that the licensee identified as being susceptible to aging concerns and identified six molded case circuit breakers not replaced in accordance with the licensee's preventative maintenance replacement program. The breakers identified by the team had been in service between 24 and 31 years without replacement and included a supply breaker for the high-pressure core spray battery charger required to be operable per the requirements of Limiting Condition for Operation 3.8.4, "DC Sources - Operating," and several molded case circuit breakers that supply power to Division 1 and Division 2 motor control centers required to be operable per the requirements of Limiting Condition for Operation (LCO) 3.8.7, "Distribution Systems - Operating." The team concluded that the six molded case circuit breakers installed in the plant beyond their useful service life resulted in a nonconforming condition that required a condition report per procedure SWP-CAP-03, Step 3.10.1. The team determined that the licensee failed to initiate the required condition report because they failed to fully evaluate AR-OER 307989 to determine if the required preventative maintenance related to the vendor technical bulletin was complete.

On March 18, 2015, 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 and completed an operability determination on March 22, 2015. The licensee entered the failure to follow the requirements of procedure SWP CAP-03 into their corrective action program as Action Request AR 324159.

Analysis. 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. Using Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 2, "Mitigating Systems Screening Questions," dated July 1, 2012, the team determined that the finding is of very low safety significance (Green) 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 has a cross-cutting aspect in the area of problem identification and resolution, evaluation, in that the licensee failed to fully evaluate AR-OER to determine if the required preventative maintenance for molded case circuit breakers was complete [P.2].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Procedure SWP-CAP-03, "Operating Experience Program," Revision 13, Step 3.10.1 required, in part, that an AR-CR be initiated in accordance with SWP-CAP-01 if the evaluation of an AR-OER identifies any structures, systems or components at Columbia Generating Station that may be inoperable, a condition adverse to quality, or non-conformance. Contrary to the above, on July 16, 2014, the licensee failed to complete activities affecting quality in accordance with prescribed procedures. Specifically, the licensee failed to initiate an AR-CR for six molded cases circuit breakers installed beyond their established useful life of 20 years. This violation is associated with an inspection finding that is characterized by the Significance Determination Process as having very low risk significance (Green) and is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy. The licensee entered the violation into the corrective action program as Action Request AR 324159, NCV 05000397/2015007-05, "Failure to Initiate Condition Report for Operating Experience that Impacts Molded Case Circuit Breakers."

### .3 Self-Assessments and Audits

#### a. Inspection Scope

The team reviewed a sample of licensee self-assessments and audits to assess whether the licensee was regularly identifying performance trends and effectively addressing them. The team also reviewed audit reports to assess the effectiveness of assessments in specific areas. The specific self-assessment documents and audits reviewed are listed in Attachment 1.

#### b. Assessment

Overall, the team concluded that the licensee had an effective self-assessment and audit process. The team determined that self-assessments were self-critical and thorough enough to identify deficiencies. The team found that deficiencies were entered into the corrective action program where appropriate.

### .4 Assessment of Safety-Conscious Work Environment

#### a. Inspection Scope

The team interviewed 32 individuals in four focus groups. The purpose of these interviews was (1) to evaluate the willingness of licensee staff to raise nuclear safety

issues, either by initiating a condition report or by another method, (2) to evaluate the perceived effectiveness of the corrective action program at resolving identified problems, and (3) to determine the perceived impact of the cumulative impact initiative on the corrective action program. Focus group participants included personnel from engineering, health physics, operations, and security. At the team's request, the licensee's regulatory affairs staff provided lists of available individuals from each organization and arranged for participants selected by the team at random from these work groups. To supplement these focus group discussions, the team interviewed the Employee Concerns Program manager to assess his perception of the site employees' willingness to raise nuclear safety concerns. The team reviewed the Employee Concerns Program case log and select case files.

b. Assessment

The team found that all individuals indicated that they felt comfortable in raising nuclear safety concerns and did not feel that they would be subjected to retaliation for doing so. All felt that their management was receptive to nuclear safety concerns and was willing to address them promptly. All of the interviewees further indicated that if they were not satisfied with the response from their immediate supervisor, they had the ability to escalate the concern to a higher organizational level including the NRC. Most expressed positive experiences after raising issues to their supervisors. All expressed positive experiences documenting most issues in condition reports. Based upon these interviews, the team did not find any challenges to the free flow of information associated with the corrective actions program.

All interviewees were aware of the Employee Concerns Program. Most explained that they had heard about the program through various means, such as posters, training, presentations, and discussion by supervisors or management at meetings. All interviewees stated that they would use Employee Concerns if they felt it was necessary. All expressed confidence that their confidentiality would be maintained if they brought issues to Employee Concerns.

When asked if there have been any instances where individuals experienced retaliation or other negative reaction for raising issues, all individuals interviewed stated that they had neither experienced nor heard of an instance of retaliation, harassment, intimidation or discrimination at the site. The team determined that processes in place to mitigate these issues were being successfully implemented.

When asked for comments regarding the licensee's implementation of changes to the corrective action program in response to INPO's "Report on Cumulative Impact Summary Report" dated October 16, 2013, without exception the employees responded favorably noting that the changes have helped management to manage the corrective action program by being able to adjust resources and schedules as appropriate. None of those individuals expressed concerns that less significant issues that had been removed from the corrective actions program would not be resolved.

## **4OA6 Meetings, Including Exit**

### Final Onsite Debriefing

On March 19, 2015, the team completed the onsite portion of the inspection and provided the licensee with the team's preliminary observations and findings. At that time, the team required additional information in order to determine the safety significance of four issues identified during the inspection. The licensee acknowledged the issues and observations presented and committed to working with the team to determine the safety significance of the issues. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned.

### Exit Meeting Summary

On April 3, 2015, the inspectors presented the safety significance determination and assessments of the remaining four issues to Mr. Grover Hettel, Vice President, Operations, and other members of the licensee staff during a telephonic exit meeting. The team had determined that three of the findings were of very low safety significance (Green) and the fourth was minor. The licensee acknowledged the significance of issues as presented.

### **ATTACHMENTS:**

1. Supplemental Information
2. Information Request

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### **Licensee Personnel**

S. Abney	Assistant Operations Manager
P. Allen	System Engineer
C. Anderson	Security Operations Supervisor
A. Black	Emergency Services General Manager
V. Bhardwaj	Manager, System Engineering
D. Brandon	Manager, PSE
D. Brown	Manager, Planning/Scheduling/Outage
S. Clizbe	Manager, Emergency Preparedness
J. Darling	Supervisor, Nuclear Steam Supply System, Engineering
M. Davis	Manager, Organizational Effectiveness
J. Dittmer	Manager, Technical Services Engineering
C. Forrester	Emergency Preparedness Planner
E. Gilmour	Manager, Information Systems
C. Gorton	Operations Support
D. Gregoire	Manager, Regulatory Affairs
W. Guldemon	Manager, Recovery
J. Hammer	Quality Services
R. Hammons	Manager, Compliance & Concerns (Employee Concerns Program Manager)
J. Hauger	Acting Manager, System Engineering
M. Hedges	Licensing Engineer
W. Henry	Access Control Supervisor
G. Hettel	Vice President, Operations
G. Higgs	Manager, Maintenance
P. Homer	Corrective Actions Program Specialist
K. Huston	Corrective Actions Program Technical Specialist
A. Javorik	Vice President, Engineering
D. Kettering	Manager, Design Engineering
J. Kuklinski	Station Trend Program Coordinator
S. Kinnunen	Supervisor, Equipment Reliability
M. Laudisio	Manager, Radiation Protection
M. Mead	Security Coordinator
C. Monroe	Root Cause Specialist
C. Moon	Manager, Quality
S. Murphy	Security Captain
S. Nappi	Supervisor, Corrective Action Program
T. Parmelee	Root Cause Analyst
G. Pierce	Manager, Training
M. Reddmann	Chief Executive Officer
A. Rice	Chemistry Manager (Acting)
R. Sanker	Supervisor, Radiation Protection Operations
B. Sawatzke	Vice President, Nuclear Generation; Chief Nuclear Officer
F. Schill	Operating Experience Coordinator
T. Schreckengast	Quality Auditor
B. Schuetz	Plant General Manager
M. Shymanski	Supervisor, Quality Services
M. Sjoren	Systems Engineering

P. Smith	Bonneville Power Administration
B. Staniszewski	Security Program Supervisor
D. Stephens	Assistant Operations Manager
D. Suarez	Licensing Engineer, Regulatory Affairs
J. Suing	Manager, Reactor Maintenance
J. Tansy	Supervisor, Reactor Engineering
J. Trautvetter	Compliance Supervisor
R. Treadway	Assistant Operations Manager, Operations Support
D. Wolfgramm	Compliance Engineer

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened and Closed

05000397/2015007-01	NCV	Failure to Initiate Condition Report for a Degraded Condition Outside the Scope of Maintenance Work Order (Section 40A2.1.c(1))
05000397/2015007-02	NCV	Failure to Maintain Configuration Control of Ventilation Systems Needed for Station Blackout (Section 40A2.1.c(2))
05000397/2015007-03	NCV	Failure to Identify and Evaluate the Operability of a Nonconforming Condition Involving Molded Case Circuit Breakers (Section 40A2.1.c(3))
05000397/2015007-04	NCV	Failure to Maintain Maintenance Procedures for Temperature Control Valve Electro-Hydraulic Operators (Section 40A2.1.c(4))
05000397/2015007-05	NCV	Failure to Translate Design Basis into Component Classification Evaluation Records (Section 40A2.1.c(5))
05000397/2015007-06	NCV	Failure to Initiate Condition Report for Operating Experience that Impacts Molded Case Circuit Breakers (Section 40A2.2.c)

## LIST OF DOCUMENTS REVIEWED

### Condition Reports

16742	196662	230092	253364	271872
20140	197360	233694	260151	274714
35687	207555	235405	261165	275401
51404	209205	237385	261972	276589
55906	211422	237644	263967	279768
55970	214416	240298	264725	281514
56160	218362	243516	265837	282284
57213	219421	245509	266405	282999
139711	219553	246845	266820	285336
180212	223054	247400	267130	285379
180543	223986	247957	267614	285690
183799	226018	249403	267637	285788
184143	230091	250899	271826	286297

286676	298050	311342	319302	323666
287025	298068	311969	319881	323670
288508	298079	312516	320015	323677
288887	298179	312519	320552	323705
289119	298299	312652	320639	323713
289705	298914	312706	320781	323729
289718	298918	313976	321073	323757
289722	299446	314130	322085	323767
290072	300504	314141	322214	323944
290205	300743	314493	322256	323949
290226	300836	314567	323050	324017
290553	300881	314678	323114	324023
290720	301147	315163	323180	324062
290750	301447	315692	323191	324071
291061	301893	315754	323201	324082
291250	301923	315840	323207	324106
291489	302053	315863	323208	324107
291586	302071	315864	323214	324108
291938	302282	316082	323236	324110
292124	302643	316085	323266	324130
292153	303326	316101	323281	324135
292176	304147	316343	323283	324144
292215	306035	316358	323284	324146
292271	306204	316366	323285	324159
292534	306676	316431	323286	324160
292559	307595	316667	323287	324184
292565	308884	316676	323288	324188
292568	309038	316815	323296	324188
292758	309297	317288	323298	324254
293781	309298	317330	323313	324274
294329	309600	317439	323317	324302
294456	309764	317582	323337	324303
294936	310012	318160	323368	324304
297078	310348	318375	323382	324306
297417	310644	318848	323396	324346
297609	310706	318863	323401	324369
297620	310937	319010	323459	324374
297952	311120	319081	323589	

#### Classification Evaluation Records

C90-0017	C92-0097	C92-0651	C93-0785
C91-0140	C92-0128	C93-0016	C97-0005
C91-0146	C92-0379	C93-0404	C97-0139

<u>Drawings</u>	<u>Title</u>	<u>Revision</u>
M524-1	Flow Diagram Standby Service Water System Reactor, Radwaste, D.G. Bldg's and Yard	124
M524-1	Flow Diagram Standby Service Water System Reactor, Radwaste, D.G. Bldg's and Yard	113

<u>Miscellaneous Documents</u>	<u>Title</u>	<u>Revision/Date</u>
	Nuclear Safety Culture Assessment	March 2014
GA99487	Standby Service Water Ultimate Heat Sink Chemistry and Biology Assessment	February 2015
ANS-52.1-1983	Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants	
26276	Energy Northwest Condition Report	5
	Control Room Operators Log	February 23-March 5, 2015
	Control Room Operators Log	March 8-12, 2015
	Control Room Operators Log	March 16-19, 2015
	1.5 Upper Level CAP (A&B) Avg Age CAQ & SCAQ only	March 2, 2015
	1.7 Lower Level CAP Avg Age CAQ & SCAQ only	March 2, 2015
	Problem Evaluation Request 295-0231	March 21, 1995
	Problem Evaluation Request 299-2475	

#### Operating Experience Reports

271374	291519	295368	299535	304823
281222	291520	295722	299747	305342
285277	291710	295778	299749	306462
288805	291710	296949	299771	307444
290000	292279	296956	299786	307989
290814	292291	296984	299800	313712
291046	292380	297267	301479	313712
291047	292536	297375	302785	313797
291048	293136	298982	303200	314561
291178	293136	299531	303481	318483

#### Engineering Changes

EC9619	EC12769	EC12740	EC12698	EC13256
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<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
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<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
1.3.66	Operability and Functionality Evaluation	30
1.3.66	Operability and Functionality Evaluation	31
1.5.13	Preventative Maintenance Optimization Living Program	32
10.25.136	ITT Hydramotor Actuator Adjustment, Calibration and Inspection	18
CDM-01	Cause Determination Manual	013/001
CDM-02	Root Cause Report Manual	001/001
DES-2-20	Design Engineering Instructions	04
EGM-1-11	Engineering Outage Preparation	04
GBP-CAP-01	Non-Regulatory Action Program	001/001
GBP-ECP-01	Employee Concerns Program	001/NA
OI-41	Operations Work Control Expectations	56
OPEX-01	Operating Experience Program Implementation Manual	005/001
OSP-HPCS/IST-Q701	HPCS System Operability Test	46
PPM 1.3.66	Operability and Functionality Evaluation	003/001
PPM 1.3.67	Operational Decision Making Process	014/NA
PPM 1.3.69	Work Control Schedule Development	12
PPM 1.3.79	Reactivity Management Administration	12
PPM 1.5.11	Maintenance Rule Program	012/NA
SOP-RPS-OPS	Reactor Protection System Operation	11
SOP-SW-LU	Standby Service Water System Valve & Breaker Lineup	6
SWP-CAP-01	Corrective Action Program	030/001
SWP-CAP-01	Corrective Action Program	031/NA
SWP-CAP-03	Operating Experience Program	13
SWP-CAP-05	Corrective Action Review Board	019/001
SWP-CAP-06	Condition Report Review	022/002
SWP-CAP-07	Trending Program	009/001
SWP-LIC-02	Licensing Basis Impact Determinations	13
SWP-OPX-01	Operating Experience Program	000/001
SWP-OPX-01	Operating Experience Program	0
SWP-ORG-04	Performance Assessment Review Board	001/001
SWP-TST-01	Post Maintenance Testing Program	15

<u>Procedures</u>	<u>Title</u>	<u>Revision</u>
SYS-4-22	Maintenance Rule Program	007/NA
WCI-4	Online Work Control Process	44

Work Orders

0044501	2035645	2040823	2048366	2055634
1120100	2035981	2043500	2048377	2055959
1120101	2037032	2044502	2048434	2055965
1124109	2038556	2044503	2048717	2058411
2008390	2038559	2044850	2049470	2058601
2016694	2038560	2044998	2049608	2059127
2023430	2039390	2045020	2049611	2059528
2024662	2039393	2045021	2049739	2059529
2025451	2039394	2045222	2050416	2059884
2025694	2039397	2045233	2051090	2060948
2026782	2039400	2046339	2051406	2062253
2032632	2039910	2046448	2052986	2068486
2032880	2039920	2046628	2054828	
2032881	2039932	2047500	2055285	

## **Info Request**

**January 6, 2015**

**Biennial Problem Identification and Resolution Inspection –**

**March 2 – 20, 2015**

**Columbia Generating Station**

**Inspection Report Number 05000397/2015007**

This inspection will cover the period from July 13, 2013, through the end of the inspection on March 24, 2015. All requested information should be limited to this period or to the date of the request unless otherwise specified. To the extent possible, provide the requested information electronically in Adobe PDF (preferred) or Microsoft Office format. Provide paper copies of any sensitive information during the team's first week on site; do not provide sensitive or proprietary information electronically.

Lists of documents (summary lists) should be provided in Microsoft Excel or a similar sortable format. Please ensure that the fields (especially condition report descriptions) are not size limited so that complete descriptions are provided. Please provide the information on a compact disc (one for each team member), if possible. This information may also be uploaded on the Certrec IMS website if so desired.

Please provide the following no later than February 13, 2015:

### **1. Document Lists**

Note: For these summary lists, please include the document/reference number, the document title or description of the issue, the priority, initiation date, status, and long text descriptions of the issues.

- a. Summary list of all corrective action documents related to significant conditions adverse to quality that were opened, closed, or evaluated during the period
- b. Summary list of all corrective action documents related to conditions adverse to quality that were opened or closed during the period
- c. Summary lists of all corrective action documents which were upgraded or downgraded in priority/significance during the period
- d. Summary list of all corrective action documents that subsume or "roll up" one or more smaller issues for the period
- e. Summary lists of operator workarounds, engineering review requests and/or operability evaluations, temporary modifications, and control room and safety system deficiencies opened, closed, or evaluated during the period
- f. Summary list of plant safety issues raised or addressed by the Employee Concerns Program (or equivalent)
- g. Summary list of all Apparent Cause Evaluations completed during the period
- h. Summary list of all Root Cause Evaluations planned or in progress but not complete at the end of the period

### **2. Full Documents with Attachments**

- a. Root Cause Evaluations completed during the period
- b. Quality assurance audits performed during the period

- c. All audits/surveillances performed during the period of the Corrective Action Program, of individual corrective actions, and of cause evaluations
- d. Corrective action activity reports, functional area self-assessments, and non-NRC third party assessments completed during the period (do not include INPO assessments)
- e. Corrective action documents generated during the period for the following:
  - i. All Cited and non-cited violations
  - ii. All Licensee Event Reports
- f. Corrective action documents generated for the following, if they were determined to be applicable (for those that were evaluated but determined not to be applicable, provide a summary list):
  - i. NRC Information Notices, Bulletins, and Generic Letters issued or evaluated during the period
  - ii. Part 21 reports issued or evaluated during the period
  - iii. Vendor safety information letters (or equivalent) issued or evaluated during the period
  - iv. Other external events and/or Operating Experience evaluated for applicability during the period
- g. Corrective action documents generated for the following:
  - i. Emergency planning drills and tabletop exercises performed during the period
  - ii. Maintenance preventable functional failures which occurred or were evaluated during the period
  - iii. Adverse trends in equipment, processes, procedures, or programs which were evaluated during the period
  - iv. Action items generated or addressed by plant safety review committees during the period

### 3. Logs and Reports

- a. Corrective action performance trending/tracking information generated during the period and broken down by functional organization
- b. Corrective action effectiveness review reports generated during the period
- c. Current system health reports or similar information
- d. Radiation protection event logs during the period
- e. Security event logs and security incidents during the period (sensitive information can be provided by hard copy during first week on site)
- f. Employee Concern Program (or equivalent) logs (sensitive information can be provided by hard copy during first week on site)
- g. List of Training deficiencies, requests for training improvements, and simulator deficiencies for the period

### 4. Procedures

- a. Corrective action program procedures (initiation, evaluation, classification, and disposition of conditions adverse to quality. Include operability determination procedures, root and apparent cause evaluation procedures and any other procedures that implement the corrective action program;

- b. Maintenance rule program and implementing procedures;
- c. Operating experience program;
- d. Employee concerns program;
- e. Self-assessment program;
- f. Degraded/nonconforming condition process (e.g., RIS 2005-20);
- g. System Health process or equivalent equipment reliability improvement programs;
- h. Operational Decision Making (ODMI) process.

##### 5. Other Items

- a. Scheduled date/time/location of all meetings associated with implementation of the corrective action program, such as screening meetings, corrective action review board meetings, etc.
- b. A list of condition reports generated as a result of identified trends. The list should be sorted by priority and have the following information: number, title/description, date initiated, status and initiating department.
- c. A list of outstanding corrective actions, sorted by priority, with the following information: number; priority; system/component affected, initiating date and due date. Please also identify and list any associated due date extensions.
- d. A chronological list of all nuclear Quality Assurance/Nuclear Oversight audits and department/station self-assessments including their reference number.
- e. A list of all system health reports.
- f. All copy of assessments or evaluations (internal or external) regarding station or department safety-culture.
- g. A list of all operability determinations and ODMLs performed with the following information: date initiated, initiating AR and status (open or closed).
- h. A list of maintenance preventable functional failures (MPFFs) of risk-significant systems (include actions completed and current status). A list of current Maintenance Rule a(1) systems and a list of those systems that entered a(1) within the last two years, but which were returned to a(2) status. Include a copy of the current system health report for those systems now in a(1).
- i. Copy of the latest corrective action program statistics such as the number initiated by department, human performance errors by department, backlog, corrective action timeliness and others as may be available.
- j. List of industry operating experience evaluated by the site and associated condition report number if applicable. Additionally, list of all NRC generic communications (information notices, generic letters, etc.) evaluated by the site for applicability to the station regardless of the determination of applicability.
- k. A chronological list of all Licensee Event Reports, with a brief description of the affected components or systems.
- l. A listing of the top 10 risk-significant systems, components, and/or operator manual actions as appropriate.

Please provide on CDs and/or DVDs sent via overnight carrier to:

U.S. NRC Region IV  
 1600 E. Lamar Blvd.  
 Arlington, TX 76011-4511

**Attention: Harry Freeman**

Please note that the NRC is not currently able to accept electronic documents on thumb drives or other similar digital media

Finally, the team determined that your station's management maintains a safety-conscious work environment in which your employees are willing to raise nuclear safety concerns through at least one of the several means available.

NRC inspectors documented six findings of very low safety significance (Green) in this report. All of these findings involved violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

If you contest these violations or their significance, you should provide a response within 30 days of the date of this letter, with the basis for your denial to: U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC resident inspector, at the Columbia Generating Station.

Four of the findings were assigned a cross-cutting aspect associated with the causes of the deficiencies. If you disagree with the cross-cutting aspects assigned in this report, you should provide a response, within 30 days of the date of this letter, with the basis for your disagreement to the Regional Administrator, Region IV, and copy to the resident inspector at Columbia Generating Station.

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if you chose to provide one) will be made available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Donald B. Allen, Team Leader  
Technical Support Services  
Division of Reactor Safety

Docket: 50-05000397

License: NPF-21

Enclosure:

Inspection Report 05000397/2015007

w/Attachment: Supplemental Information

Electronic Distribution to Columbia Generating Station

Distribution

See next page

ADAMS ACCESSION NUMBER: ML15133A448

<input checked="" type="checkbox"/> SUNSI Review By: HAF		ADAMS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Sensitive <input checked="" type="checkbox"/> Non-Sensitive		<input type="checkbox"/> Non-Publicly Available <input checked="" type="checkbox"/> Publicly Available		Keyword NRC-002
OFFICE	DRS/TSS/SRI	DRP/PBA/SRI		DRP/PBB/SRI		DRP/PBB/SPE		DRS/TSS
NAME	HFreeman	JGroom		THartman		DProulx		DAllen
SIGNATURE	/RA/	/RA/		/RA/		/RA/		/RA/
DATE	4/23/15	4/24/15		4/30/15		4/23/15		5/11/15 5/13/15

OFFICIAL RECORD COPY

Letter to Mark Reddemann from Donald Allen, dated May 13, 2015

SUBJECT: COLUMBIA GENERATING STATION – NRC PROBLEM IDENTIFICATION AND  
RESOLUTION INSPECTION REPORT 05000397/2015007

DISTRIBUTION:

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Deputy Regional Administrator (Kriss.Kennedy@nrc.gov)  
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