



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-4511

October 31, 2013

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

SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION
REPORT 05000397/2013004

Dear Mr. Reddemann:

On September 21, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. The enclosed inspection report documents the inspection results which were discussed on September 24, 2013 with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. Further, inspectors documented a licensee-identified violation which was determined to be of very low safety significance. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Columbia Generating Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC Resident Inspector at the Columbia Generating Station.

M.E. Reddemann

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In accordance with Title 10 of the Code of Federal Regulations 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be 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/

Wayne C. Walker, Branch Chief
Project Branch A
Division of Reactor Projects

Docket No.: 50-397
License No.: NPF-21

Enclosure: Inspection Report 05000397/2013004
w/ Attachment: Supplemental Information

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000397

License: NPF-21

Report: 05000397/2013004

Licensee: Energy Northwest

Facility: Columbia Generating Station

Location: Richland, WA

Dates: June 23, 2013 through September 21, 2013

Inspectors: J. Groom, Senior Resident Inspector
M. Hayes, Resident Inspector
G. Repogle, Senior Reactor Analyst
P. Elkmann, Senior Emergency Preparedness Inspector
J. Laughlin, Emergency Preparedness Inspector, NSIR

Approved By: Wayne Walker, Chief, Project Branch A
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000397/2013004; 06/23/2013 – 09/21/2013; Columbia Generating Station, Integrated Resident and Regional Report; Problem Identification and Resolution.

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by region-based inspectors. One Green non-cited violation of significance was identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of Technical Specification 3.3.3.2, "Remote Transfer System," involving the licensee's failure to remove a jumper in the 480 volt motor control center starter for residual heat removal suppression pool spray valve RHR-V-27B during planned replacement activities. The failure to remove the jumper rendered the remote transfer switch for valve RHR-V-27B inoperable for a period greater than allowed by the station's technical specifications. This issue was entered into the licensee's corrective action program as Action Request AR 286816.

The performance deficiency was more than minor because it affected the protection from external events attribute of the Mitigating System Cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed an initial screening of the finding in accordance with NRC Manual Chapter IMC 0609, Appendix A, "The Significance Determination Process for (SDP) for Findings At-Power." Since the inoperable remote transfer switch potentially affected post-fire safe shutdown, the finding was evaluated using IMC 0609, Appendix F, Attachment 1, "Part 1: Application of Fire Protection SDP Phase 1 Worksheet." Using Attachment 1, Task 1.3.1, "Qualitative Screening for All Finding Categories," the inspectors determined that the finding was of very low safety significance (Green) because it only affected the ability to reach and maintain cold shutdown conditions and did not affect the ability to achieve hot shutdown conditions. The inspectors determined that this finding had a cross-cutting aspect in the area of human performance associated with the decision making component because operations personnel changed the postmaintenance testing

for RHR-V-27B motor control center starter to a test that was incapable of detecting the improperly installed jumper [H.1(a)].

B. Licensee-Identified Violations

A violation of very low safety significance that was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and associated corrective action tracking numbers are listed in Section 4OA7 of this report.

PLANT STATUS

The plant began the inspection period shutdown in Mode 2 for Refueling Outage R21. On June 25, 2013, operators synchronized the main generator with the grid and began power ascension. On June 30, 2013, the plant reached 100 percent power. On July 26, 2013, the licensee reduced power to 81 percent to repair a tube leak in a feedwater heater and returned to 100 percent power on July 29, 2013. On August 7, 2013, the licensee reduced power to 82 percent for an unplanned single rod scram and returned to 100 percent power later the same day. The plant remained at 100 percent power except for planned power reductions for maintenance and testing for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors reviewed the licensee's adverse weather procedures for seasonal high temperatures and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to the onset of hot weather, the licensee had corrected weather-related equipment deficiencies identified during the previous summer.

The inspectors reviewed plant design features and the procedures used by plant personnel to mitigate or respond to adverse weather conditions. The inspectors verified that operator actions specified in these procedures maintained readiness of essential equipment and systems to preclude weather induced initiating events. The inspectors reviewed the FSAR and the performance requirements for selected systems to ensure that selected system components would reasonably remain functional if challenged by adverse weather. The inspectors' reviews focused specifically on the following plant systems:

- Main and normal transformers
- Adjustable speed drive system
- Ultimate heat sink

The inspectors also reviewed corrective action program items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into its corrective action program for resolution. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample to evaluate the readiness for seasonal adverse weather, as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- June 27, 2013, division 1 critical switchgear room cooling
- July 19, 2013, reactor protection system and post-accident monitoring system including environmental qualification of Rosemount transmitters
- July 22, 2013, high pressure core spray system
- August 5, 2013, control room emergency chiller B

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected, while considering out of service time, inoperable or degraded conditions, recent system outages, and maintenance, modification, and testing. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, FSAR, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

The inspectors conducted fire protection walkdowns that were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- July 16, 2013, fire area R-6, reactor core isolation cooling pump room
- July 18, 2013, fire area N/A, main transformer yard
- August 19, 2013, fire areas M-9, M-21 and M-73, instrument rack rooms
- August 28, 2013, fire area DG-10, deluge valve equipment room

The inspectors reviewed areas to assess if licensee personnel had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant; effectively maintained fire detection and suppression capability; maintained passive fire protection features in good material condition; and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features, in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to affect equipment that could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. Using the documents listed in the attachment, the inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed; that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition and verified that adequate compensatory measures were put in place by the licensee for out of service, degraded, or inoperable fire protection equipment systems or features. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's corrective action program. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four quarterly fire-protection inspection samples, as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation

a. Inspection Scope

On August 1, 2013, the inspectors observed a fire brigade activation following report of a simulated fire in the C residual heat removal pump room. The observation evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of preplanned strategies; (9) adherence to the preplanned drill scenario; and (10) drill objectives.

These activities constitute completion of one annual fire-protection inspection sample, as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the FSAR, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; reviewed the corrective action program to determine if licensee personnel identified and corrected flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. The inspectors also inspected the areas listed below to verify the adequacy of equipment seals located below the flood line, floor and wall penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, and control circuits, and temporary or removable flood barriers. Specific documents reviewed during this inspection are listed in the attachment.

- July 18, 2013, manholes 8 and 10
- August 15, 2013, motor control center MC-7BB and MC-8BB rooms

These activities constitute completion of one flood protection measures inspection sample and one bunker/manhole sample, as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On July 24, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during requalification testing. The inspectors assessed the following areas:

- Licensed operator performance
- The ability of the licensee to administer the evaluations and the quality of the training provided
- The modeling and performance of the control room simulator
- The quality of post-scenario critiques
- Follow-up actions taken by the licensee for identified discrepancies

These activities constitute completion of one quarterly licensed operator requalification program sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On June 24, 2013, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to raising power following completion of Refueling Outage R21.

In addition, the inspectors assessed the operators' adherence to plant procedures, including Operating Instruction OI-09, "Operations Standards and Expectation," Revision 58 and other operations department policies.

These activities constitute completion of one quarterly licensed-operator performance sample, as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk significant systems:

- July 15, 2013, fire protection pumps FP-P-1, FP-P-2A, and FP-P-2B
- August 6, 2013, circulating water pump CW-P-1A

The inspectors reviewed events such as where ineffective equipment maintenance has resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were appropriately handled by a screening and identification process and that issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors reviewed licensee personnel's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- June 25, 2013, heavy lifts of transformers near the diesel generator building while increasing power following completion of Refueling Outage R-21.
- July 11, 2013, unplanned high pressure core spray unavailability during planned thermography testing
- August 19, 2013, yellow risk during standby gas treatment B and standby liquid control B planned maintenance

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three maintenance risk assessments and emergent work control inspection samples, as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- June 27, 2013, Action Request AR 288321 documenting intermediate valve indication on reactor core isolation cooling valve RCIC-V-26
- July 12, 2013, Action Request AR 289636 documenting a disconnected C phase electrical connection for the high pressure core spray service water pump
- July 31, 2013, Action Request AR 290508 documenting low service water flow to motor control center room cooler RRA-CC-14
- August 1, 2013, Action Request AR 292176 and 292271 documenting service water pump SW-P-1B performance in the alert range during inservice testing
- August 3, 2013, Action Request AR 290907 documenting a lack of a coordination study for inverters IN-2A and IN-2B

The inspectors selected these operability and functionality assessments based on the risk significance of the associated components and systems along with other factors, such as engineering analysis and judgment, operating experience, and performance history. The inspectors evaluated the technical adequacy of the evaluations to ensure technical specification operability was properly justified and to verify the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and FSAR to the licensee's evaluations to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. Additionally, the inspectors reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five operability evaluations inspection samples, as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- July 11, 2013, post-maintenance testing of high pressure core spray system following C phase motor starter lead replacement
- July 30, 2013, post-maintenance testing of control room cooling coil WMA-CC-51A1 following anode reinstallation
- August 8, 2013, post-maintenance testing of control room emergency chiller CCH-CR-1A following service water pressure switch SW-PS-11A replacement
- August 20, 2013 post-maintenance testing of reactor core isolation cooling valve RCIC-V-26 following limit switch replacement
- August 26, 2013 post-maintenance testing of process radiation monitor PRM-RE-1C following air conditioner maintenance

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the FSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of five post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Refueling Outage R-21, conducted May 10 through June 25, 2013, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. During the refueling outage, the inspectors observed portions of the reactor startup and monitored licensee controls over the outage activities listed below. The inspectors also confirmed that the licensee scheduled covered workers such that the minimum days off for individuals working on outage activities were in compliance with 10 CFR 26.205(d)(4) and (5).

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error.
- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.
- Reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss.
- Controls over activities that could affect reactivity.
- Maintenance of secondary containment as required by the technical specifications.
- Refueling activities, including fuel handling and sipping to detect fuel assembly leakage.

- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing.
- Management of fatigue
- Licensee identification and resolution of problems related to refueling outage activities.

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one refueling outage and other outage inspection sample, as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors selected risk-significant surveillance activities based on risk information and reviewed the FSAR, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal

- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- July 29, 2013, Procedure OSP-SW/IST-Q701, "Standby Service Water Loop A Operability," Revision 25
- July 30, 2013, Procedure OSP-SW-M101, "Standby Service Water Loop A Valve Position Verification," Revision 33
- August 7, 2013, Procedure OSP-RPS-W401, "Manual Scram Functional Test," Revision 7
- August 22, 2013, Procedure OSP-RCIC/IST-Q701, "RCIC Valve Operability Test," Revision 3
- September 9, 2013, Procedure ISP-MS-Q924, "RHR B and C/ADS Actuation on Level 1 and RCIC Actuation on Reactor Level 2 – CFT/CC," Revision 6
- September 19, 2013, Procedure OSP-INST-H101, "Shift and Daily Instrument Checks (Modes 1, 2, 3)," Revision 78 used for reactor coolant system leakage detection

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of six surveillance testing inspection samples, as defined in Inspection Procedure 71111.22-05.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System Testing (71114.02)

a. Inspection Scope

The inspector discussed with licensee staff the operability of offsite siren emergency warning systems, tone alert radio systems, and backup alerting methods, to determine the adequacy of licensee methods for testing the alert and notification system in accordance with the requirements of 10 CFR Part 50, Appendix E. The inspector also reviewed licensee programs for identifying emergency planning zone residents requiring tone alert radios, for maintaining and auditing records associated with the tone alert radio program, and for maintaining offsite emergency warning sirens. The licensee's alert and notification system testing program was compared with criteria in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1; FEMA Report REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants"; and the licensee's current FEMA-approved alert and notification system design report, "Columbia Generating Station, Alert and Notification System Design Report," Revision 0, dated June 20, 2013. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.02-06.

b. Findings

No findings were identified.

1EP3 Emergency Response Organization Staffing and Augmentation System (71114.03)

a. Inspection Scope

The inspector discussed with licensee staff the operability of primary and backup systems for augmenting the on-shift emergency response staff to determine the adequacy of licensee methods for staffing emergency response facilities in accordance with the requirements of 10 CFR Part 50, Appendix E. The inspector reviewed licensee methods for staffing alternate emergency response facilities. The inspector also reviewed periodic surveillances of the augmentation system to determine the licensee's ability to staff emergency response facilities within the response times described in the site emergency plan. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.03-06.

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession number ML13199A060 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

1EP5 Maintenance of Emergency Preparedness (71114.05)

a. Inspection Scope

The inspector reviewed:

- The licensee's corrective action program requirements as documented in procedures SWP-CAP-01, "Corrective Action Process," Revisions 27-1 and 27-2, and EPI-30, "Emergency Preparedness Condition Report Processing"
- The licensee's program for identifying and evaluating changes in the emergency planning zone population as documented in procedure EPI-12, "Evacuation Time Estimates Review and Revision," Revisions 2 and 3
- The licensee's program for maintaining emergency preparedness program equipment as documented in procedures 13.14.4, "Emergency Equipment Maintenance and Testing," Revision 50-2, 13.14.9, "Emergency Program Maintenance", Revision 29-1, and 13.14.11, "EP Equipment," Revision 6

- The licensee's program for identifying the impact of changes to the emergency preparedness program as documented in procedures SWP-LIC-02, "Licensing Basis Impact Determinations," Revisions 11 and 12, and SWP-LIC-03, "Licensing Document Change Process," Revisions 13 and 14
- The licensee's audit requirements for the emergency preparedness program as documented in procedures, QAP-ASU-1 "Audit Performance," Revisions 4 and 5, and SWP-ASU-01, "Evaluations of Programs, Processes, and Suppliers," Revisions 25 and 25-1

The inspector reviewed summaries of 162 corrective action program entries assigned to the emergency preparedness department and emergency response organization between September 2011 and July 2013, and selected 20 for detailed review against the program requirements. The inspector evaluated corrective action requests to determine the licensee's ability to identify, evaluate, and correct problems in accordance with the licensee program requirements, planning standard 10 CFR 50.47(b)(14), and the requirements of 10 CFR Part 50, Appendix E. The inspector reviewed summaries of 75 changes to the site emergency plan and implementing procedures, and selected 10 for detailed review against the program requirements. The inspector evaluated the licensee's ability to identify reductions in the effectiveness of the emergency plan in accordance with the requirements of 10 CFR 50.54(q)(3), (q)(4), and (q)(5). The inspector evaluated the licensee's ability to maintain adequate facilities and equipment in accordance with the requirements of 10 CFR 50.47(b)(8) and 10 CFR Part 50, Appendix E. The inspector also reviewed 25 quality assurance audits and surveillances related to the emergency preparedness program, two licensee self-assessments, and, eight licensee evaluations of drill and exercise performance. The inspector visited the licensee's alternate facility at Richland, Washington, to determine the licensee's ability to relocate the onsite emergency response organization during events in which the site cannot be immediately accessed, in accordance with the requirements of 10 CFR 50, Appendix E.IV(E)(8)(d).

The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.05-06.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Training Observations

a. Inspection Scope

The inspectors observed a simulator training evolution for licensed operators on July 9, 2013, which required emergency plan implementation by a licensee operations crew.

This evolution was planned to be evaluated and included in performance indicator data regarding drill and exercise performance. The inspectors observed event classification and notification activities performed by the crew. The inspectors also attended the post evolution critique for the scenario. The focus of the inspectors' activities was to note any weaknesses and deficiencies in the crew's performance and ensure that the licensee evaluators noted the same issues and entered them into the corrective action program. As part of the inspection, the inspectors reviewed the scenario package and other documents listed in the attachment.

These activities constitute completion of one training observation sample, as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the second Quarter 2013 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - Emergency ac Power System (MS06)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - emergency ac power system performance indicator period third quarter 2012 through second quarter 2013 to determine the accuracy of the reported performance indicator data. To determine the accuracy of the performance indicator data reported

during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of July 2012 through June 2013, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - emergency ac power system sample, as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index - High Pressure Injection Systems (MS07)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - high pressure injection systems performance indicator period third quarter 2012 through second quarter 2013 to determine the accuracy of the reported performance indicator data. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports for the period of July 2012 through June 2013, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - high pressure injection system sample, as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Mitigating Systems Performance Index - Residual Heat Removal System (MS09)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - residual heat removal system performance indicator period third quarter 2012 through second quarter 2013 to determine the accuracy of the reported performance indicator data. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, mitigating systems performance index derivation reports, event reports, and NRC integrated inspection reports for the period of July 2012 through June 2013, to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one mitigating systems performance index - residual heat removal system sample, as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.5 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspector sampled licensee submittals for the Drill and Exercise Performance, performance indicator for the period July 2012 through June 2013 to determine the accuracy of the reported performance indicator data. The inspector compared the licensee's records and submitted performance indicator reports with the definitions and guidance in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. Specifically, the inspector reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predesignated control room simulator training sessions, performance during the 2012 biennial exercise, and performance during other drills. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.6 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspector sampled licensee submittals for the Emergency Response Organization Drill Participation performance indicator for the period July 2012 through June 2013 to determine the accuracy of the reported performance indicator data. The inspector compared the licensee's records and submitted performance indicator reports with the definitions and guidance in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. Specifically, the inspector reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.7 Alert and Notification System (EP03)

a. Inspection Scope

The inspector sampled licensee submittals for the Alert and Notification System performance indicator for the period July 2012 through June 2013 to determine the accuracy of the reported performance indicator data. The inspector compared the licensee's records and submitted performance indicator reports with the definitions and guidance in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. Specifically, the inspector reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure, they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

.3 Selected Issue Follow-up Inspection

a. Inspection Scope

During a review of items entered in the licensee's corrective action program, the inspectors recognized a corrective action item documenting the following:

- Action Request AR 286816 documenting an improperly installed jumper in 480V motor control center starter RHR-42-8BA5D
- Action Request AR 291197 documenting a discrepancy in the necessary time critical operator actions needed to cope with a station blackout

These activities constitute completion of two in-depth problem identification and resolution sample, as defined in Inspection Procedure 71152-05.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of Technical Specification 3.3.3.2, "Remote Transfer System," involving the licensee's failure to remove a jumper in the 480 volt motor control center starter for residual heat removal suppression pool spray valve RHR-V-27B during planned replacement activities. The failure to remove the jumper rendered the remote transfer switch for valve RHR-V-27B inoperable for a period greater than allowed by the station's technical specifications.

Description. On May 17, 2011, during a planned refueling outage, the licensee replaced 480 volt motor control center starter RHR-42-8BA5D associated with the Train B residual heat removal suppression pool spray valve RHR-V-27B under Work Order 02004108. The replacement motor control center starter was supplied to the licensee with a factory-installed jumper across Terminals X1 and 19 which bypassed a set of isolation contacts provided for by remote transfer switch RHR-RMS-RSTS57. The work order did not provide specific instructions on the required configuration of jumpers for the motor control center starter but directed electrical maintenance personnel to Procedure PPM 10.25.208, "MCC Bucket Replacement Using Spectrum Technologies Inc.," Revision 3. This procedure relied on skill of the craft to determine proper jumper configuration. During replacement, the factory installed jumper was left in the motor control center starter. On May 20, 2011, the licensee performed post-maintenance testing of 480 volt disconnect switch RHR-42-8BA5D and declared the component operable. The post-maintenance test only consisted of a valve stroke and not a verification of remote transfer switch operability.

On June 4, 2013, the licensee performed Procedure OSP-INST-B701, "Remote Shutdown Panel Operability," Revision 17. Step 7.2.16 of this procedure verifies the isolation capability of remote transfer switch RHR-RMS-RSTS57. During performance of this step, the licensee discovered electrical continuity across Terminals X1 and 19 revealing that the jumper was left in place in May 2011. The licensee initiated Action Request AR 286816 to address the improperly installed jumper and took action to restore the motor control center to the required design configuration. The licensee

performed a past operability evaluation which determined that even with the improperly installed jumper, 480 volt motor control center starter RHR-42-8BA5D remained operable.

The inspectors reviewed the past operability evaluation performed for Action Request AR 286816 and found that the licensee's evaluation failed to consider the impact of this jumper on the ability to satisfy technical specification surveillance requirements for the remote shutdown system. Specifically, the improperly installed jumper resulted in the failure to meet Technical Specification Surveillance Requirement 3.3.3.2.4 which requires the licensee to verify each control circuit and transfer switch is capable of performing the intended functions. Since the failure to meet a surveillance constitutes a failure to meet the limiting condition for operation, the inspectors determined that Technical Specification Limiting Condition for Operation 3.3.3.2 "Remote Transfer System," was not met from September 18, 2011 when the licensee entered the mode of applicability until May 11, 2013 when Columbia Generating Station shutdown to Mode 3 for Refueling Outage R21.

Following identification by the NRC that the improperly installed jumper resulted in the failure to meet Technical Specification Surveillance Requirement 3.3.3.2.4, the licensee performed a reportability review and issued Licensee Event Report 2013-004-00, "Jumper Makes Suppression Pool Spray Valve Remote Transfer Switch Inoperable," documenting a condition prohibited by technical specifications caused by the improperly installed jumper. Action Request AR 287816 was initiated to address the inadequate past operability review.

Analysis. The failure to remove a jumper in the 480V disconnect switch for residual heat removal valve RHR-V-27B during planned replacement activities was a performance deficiency. The performance deficiency was more than minor because it affected the protection from external events attribute of the Mitigating System Cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors performed an initial screening of the finding in accordance with NRC Manual Chapter IMC 0609, Appendix A, "The Significance Determination Process for (SDP) for Findings At-Power". Since the inoperable remote transfer switch potentially affected post-fire safe shutdown, the finding was evaluated using IMC 0609, Appendix F, Attachment 1, "Part 1: Application of Fire Protection SDP Phase 1 Worksheet." Using Attachment 1, Task 1.3.1, "Qualitative Screening for All Finding Categories," the inspectors determined that the finding was of very low safety significance (Green) because it only affected the ability to reach and maintain cold shutdown conditions and did not affect the ability to achieve hot shutdown conditions. The inspectors determined that this finding had a cross-cutting aspect in the area of human performance associated with the decision making component because operations personnel changed the postmaintenance testing for RHR-V-27B motor control center starter to a test that was incapable of detecting the improperly installed jumper [H.1(a)].

Enforcement. Technical Specification 3.3.3.2, "Remote Transfer System," requires, in part, that the remote shutdown system functions shall be operable in Modes 1 and 2. Technical Specification 3.3.3.2, Condition A, requires that when one or more required functions are inoperable, action is taken to restore the required functions to operable status within 30 days. Failure to meet Technical Specification 3.3.3.2, Condition A, requires entry into Technical Specification 3.3.2.2, Condition B. Required Action B.1 requires the unit to be placed in Mode 3 within an additional 12 hours. Contrary to the above, from September 18, 2011, until May 11, 2013, remote transfer switch RHR-RMS-RSTS57 was inoperable and action was not taken to place the Columbia Generating Station in Mode 3 as required by Technical Specification 3.3.2.2, Required Action B.1. This issue was discovered while the Columbia Generating Station was in Refueling Outage R21 and the licensee took action to restore the inoperable remote transfer switch to operable status prior to startup. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the corrective action program as Action Request AR 286816. (NCV 05000397/2013004-01, "Improperly Installed Jumper Results in Inoperable Remote Shutdown Switch.")

.4 In-depth Review of Operator Workarounds

a. Inspection Scope

On July 10, 2013, the inspectors reviewed the licensee's operations aggregate index to determine if any operator workarounds, individually or collectively, could challenge operators' response during an event. The inspectors verified that the licensee was identifying, documenting, and implementing corrective actions for operator workarounds.

b. Findings

No findings were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 2013-005-00, Momentary Loss of 115kV Offsite Power

On June 15, 2013, while shutdown in Mode 4 for a planned refueling outage, the Columbia Generating Station experienced a momentary loss of the 115kV offsite power due to a range fire that caused protective relaying to clear one of the transmission lines supplying the site. As a result of the loss of power, valid engineered safety feature actuation signals were generated including start signals for the Division 1 and 2 emergency diesel generators and standby service water pumps. All engineered safety feature equipment started and operated as designed. The inspectors reviewed the licensee event report associated with this event and determined that the report adequately documented the summary of the event including the cause of the event and potential safety consequences. No performance deficiencies were identified. This licensee event report is closed.

4OA5 Other Activities

- .1 (Closed) Unresolved Item (URI) 05000397/2013008-06, "Inadequate Evaluation of Nonconforming Condition Resulting in Potential Missed Report."

On August 22, 2013, the NRC during a planned biennial problem identification and resolution inspection identified an unresolved item involving a potential failure to submit a required licensee event report following discovery of a non-seismically qualified temperature switch installed in the diesel generator mixed air system. The details of this unresolved item are documented in NRC Inspection Report 05000397/2013008.

Following identification of this issue, the licensee performed vibration testing of the non-seismically qualified temperature switch. Results of this testing showed that the switch would continue to function when subjected to simulated ground force accelerations exceeding the safe shutdown earthquake accelerations for the Columbia Generating Station. Based on these test results, the inspectors concluded that no licensee event report was necessary. This URI is closed.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On July 26, 2013, the inspector presented the results of the onsite inspection of the licensee's emergency preparedness program to Mr. A. Black, Operations General Manager, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On September 24, 2013, the inspectors presented the inspection results to Mr. M. Reddemann, Chief Executive Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector verified that all proprietary information materials examined during the inspection were returned to the licensee.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of the NRC Enforcement Policy for being dispositioned as a Non-Cited Violation.

- .1 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 that maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Contrary to the above, on February 19, 2013, maintenance was performed on the motor control center for high pressure core spray pump HPCS-P-2 under Work Order 02025234, but was not completed in accordance with written instructions. Specifically,

Step 4.2 was not completed which required re-terminating and torqueing of the 'C' phase electrical connection. This issue was entered into the corrective action program as Action Request AR 289636. A senior reactor analyst performed a detailed risk evaluation for this finding. The finding was of very low safety significance (Green) because the bounding change to the core damage frequency was less than $1.0 \times 10^{-7}/\text{year}$.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

A. Black, Operations General Manager
D. Clymer, Supervisor, Quality Services
C. England, Manager, Organization Effectiveness
A. Fahnestock, Manager, Emergency Preparedness
R. Garcia, Licensing Engineer
E. Gilmour, Chief Information Officer
D. Gregoire, Manager, Regulatory Affairs
B. Guldemon, Manager, Recovery
G. Hettel, Vice President, Operations
C. King, Assistant Plant General Manager
B. MacKissock, Plant General Manager
J. Moon, Manager, Training
R. Parmelee, Manager, Operations Support
J. Pierce, Manager, Chemistry
R. Schultz, Manager, Maintenance
B. Sawatzke, Chief Nuclear Officer
C. Smith, Manager, Emergency Preparedness Training
D. Swank, Assistant Vice President, Engineering
C. Workman, Manager, Security

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000397/2013004-01	NCV	Improperly Installed Jumper Results in Inoperable Remote Transfer Switch
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Closed

05000397/2013-005-00	LER	Momentary Loss of 115kV Offsite Power
05000397/2013008-06	URI	Inadequate Evaluation of Nonconforming Condition Resulting in Potential Missed Report

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
SOP- HOTWEATHER- OPS	Hot Weather Operations	6
ABN- TRANSFORMER	Transformer Abnormal Operation	15
SOP-RRC-ASD	Reactor Recirculation ASD Operation	11

ACTION REQUESTS

287610	289188	290756	291446	291602
292000	293548	293317		

Section 1R04: Equipment Alignment

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
SOP-HVAC/CR- OPS	Control, Cable, and Critical Switchgear Rooms, HVAC Operation	13
SOP-HPCS-LU	HPCS Valve and Breaker Lineup	2

Section 1R04: Equipment Alignment

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
SOP-HPCS-STBY	Placing HPCS in Standby Status	2
SOP-HVAC/CR-LU	Control, Cable, and Critical Switchgear Rooms, HVAC Lineup	0

ACTION REQUESTS

285720	285811	286036	286828	286838
286894	287052	287222	287336	289715
289932	290226			

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
M548-2	Flow Diagram HVAC for Control and Switchgear Rooms Radwaste Building	8
M550-2	Flow Diagram HVAC Chilled Water System Radwaste Building	5
M508-1	Flow Diagram Plant Service Water All Buildings	125
M520	Flow Diagram HPCS and LPCS Systems Reactor Building	101

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
QID 156011-01	Equipment Qualification Record Environmental (Capabilities)	16
QID 156003-01	Equipment Qualification Record Environmental	13
QID 156009-01	Equipment Qualification Record Environmental	20
QID 181001-05	Equipment Qualification Record Environmental	00

Section 1R05: Fire Protection**MISCELLANEOUS DOCUMENTS**

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
FPP-1.6	Combustible Loading Calculation Control	2
FPP-2.2.11	Fire Damper Inspection and Testing	1
PFP-RB-422	Reactor 422	4
PFP-MN-XFMR- YD-MISC	MN XFMR YD MISC BLDGS	4

ACTION REQUESTS

290149

Section 1R06: Flood Protection Measures**MISCELLANEOUS DOCUMENTS**

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
Drawing M527-1	Flow Diagram Condensate Supply System Reactor, Turbine Gen., and Radwaste Buildings, Radwaste/Reactor Buildings Corridor	102
Drawing M738	Compr. Air, Fire Prot., Cond., Demin, Water and Misc. Piping – Plant and Section at El. 572'-0" Reactor Building	17
Calculation ME- 02-02-02	Reactor Building Flooding Analysis	2

ACTION REQUESTS

288742 288761 290177

WORK ORDERS

02034896

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
OI-09	Operations Standards and Expectations	58
PPM 3.1.2	Reactor Plant Startup	78
PPM 5.1.1	RPV Control	19
PPM 5.2.1	Primary Containment Control	20
PPM 5.3.1	Secondary Containment Control	18

MISCELLANEOUS DOCUMENTS

LR002172

Section 1R12: Maintenance Effectiveness

ACTION REQUESTS

289249	287051	287304	287306	287313
287479	287501	287955	282670	272416
272511	274262	274315	284980	287572
289789	284152	258552	291922	291699
291423	284152	282459	281022	268091

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
1.3.68	Work Management Process	28
1.3.69	Work Control Schedule Development	10
1.3.76	Integrated Risk Management	36
1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	28
10.4.12	Crane, Hoist, Lifting Device and Rigging Program Control	31

ACTION REQUESTS

283801

WORK ORDERS

02033097

Section 1R15: Operability Evaluations

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
OSP-RCIC/IST-B501	RCIC LSFT Surveillance	12
OSP-RCIC/IST-Q702	RCIC Valve Operability Test	34
OSP-SW/IST-Q702	Standby Service Water Loop B Operability	28
PPM 1.3.66	Operability and Functionality Evaluation	26-27
PPM 10.25.187	Motor Control Center Starter (Bucket) Maintenance	21

CALCULATIONS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
NE-02-02-08	Evaluation of Secondary Containment Penetrations	0
NE-02-85-12	Secondary Containment Bypass Leakage Limit	2

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
ANS-52.1-1983	Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants	
ANS-56.2-1984	Containment Isolation Provisions for Fluid Systems	
IEEE Std. 384-	IEEE Standard Criteria for Independence of Class 1E	

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
1977	Equipment and Circuits	
Regulatory Guide 1.75	Physical Independence of Electrical Systems	2
TM-2050	Classification of Design Base Functions and Primary Containment Isolation Boundaries of the RCIC System	3

ACTION REQUESTS

204617	223986	267637	286636	288321
290508	290907	291144	291248	292882
292882	286959	292538	289653	289731

PROBLEM EVALUATION REQUESTS

297-0990	297-0997	298-0266
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WORK ORDERS

01100444	02025234	02027791	02045457
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Section 1R19: Post-Maintenance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
OSP-SW-M101	Standby Service Water Loop A Valve Position Verification	33
OSP-SW-M103	HPCS Service Water Valve Position Verification	20
OSP-SW/IST- Q703	HPCS Service Water Operability	20
OSP-CCH/IST- M701	Control Room Emergency Chiller System A Operability	35
OSP-RCIC-M101	RCIC Fill, Flow Controllers, and Valve Lineup Verification	11
PPM 10.25.208	MCC Bucket Replacement Using Spectrum Technologies Inc.	3

ACTION REQUESTS

286816	289636	291297	291540	292248
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WORK ORDERS

02039068	02025234	02045457	02035702	02046729
02044670				

Section 1R20: Refueling and Other Outage ActivitiesPROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
PPM 3.1.1	Master Startup Checklist	54
OI-58	Operations Department FFD Fatigue Management Desktop	2

ACTION REQUESTS

288145	288264	288272	287819	287820
287897	288366	288609	288741	288758

Section 1R22: Surveillance TestingPROCEDURES

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OSP-RCIC/IST-Q701	RCIC Valve Operability Test	3

ACTION REQUESTS

291489	292518	292520
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WORK ORDERS

02035447 02035647

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TSI 6.2.23	EP Site Evacuation Siren Battery Preventative Maintenance	1
TSI 6.2.25	EP Site Evacuation Siren Polling Test	0
TSI 6.2.32	EP River Siren Polling Test	0
TSI 6.2.36	EPSCC Paging Call Panel Dialer Test	0
TSI 6.2.37	EP Annual FCC Radio Check of the River Siren Site	0
TSI 6.2.45	EP River Siren Polling Test, Manual	0
TSI 6.2.25	EP Site Evacuation Siren Polling Test	0
TSI 6.2.32	EP River Siren Polling Test	0
TSI 6.2.36	EPSCC Paging Call Panel Dialer Test	0
TSI 6.2.37	EP Annual FCC Radio Check of the River Siren Site	0
TSI 6.2.45	EP River Siren Polling Test, Manual	0
AR289175	Audit of the Tone Alert Radio Databases, Franklin County, July 1, 2013; Benton County, July 3, 2013	
EPI-26	Tone Alert Radio Test and Survey	2

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EPI-13	Automated Notification System	7
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Section 1EP3: Emergency Response Organization Staffing and Augmentation System

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	Failure	
	Quarterly Autodialer and Pager Notification Drill Report, Second Quarter 2011	June 28, 2011
	Quarterly Autodialer and Pager Notification Drill Report, Third Quarter 2011	September 20, 2011
	Quarterly Autodialer and Pager Notification Drill Report, Fourth Quarter 2011	December 13, 2011
	Quarterly Autodialer and Pager Notification Drill Report, First Quarter 2012	March 28, 2012
	Quarterly Autodialer and Pager Notification Drill Report, Second Quarter 2012	June 12, 2012
	Quarterly Autodialer and Pager Notification Drill Report, Third Quarter 2012	September 25, 2012
	Staffing Report for the Touch-the-Wall Off-Hours Reporting Drill conducted November 28, 2012	
	Quarterly Autodialer and Pager Notification Drill Report, First Quarter 2013	March 26, 2013

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Section 1EP5: Maintenance of Emergency Preparedness

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13.13.4	After Action Reporting	10-1
13.14.4	Emergency Equipment Maintenance and Testing	50-1, 50-2
13.14.8	Drill and Exercise Program	17
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EPI-01	Emergency Planner Responsibilities	8
EPI-10	Emergency Preparedness Records Administration Program	4-1, 4-2
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EPI-17	Drill Report Formatting, Distribution, and Retention	8
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EPI-21	Drill and Exercise Development and Implementation	15
EP-02	ERO On-Shift Staffing Analysis Report, December 19, 2012	0
KLD TR-497	Columbia Generating Station, Development of Evacuation Time Estimates, Final Report, Revision 1	October 2012
AU-EP-12	Quality Services Audit Report, Emergency Preparedness	March 22, 2012
AU-EP-12	Emergency Preparedness Program, Checklist 2, Interfaces – Public, State and Local Agencies	March 23, 2012
AU-EP-13	Audit Scope Worksheet	
AU-EP-13	Audit Report: Emergency Preparedness Program	March 7, 2013

Section 1EP5: Maintenance of Emergency Preparedness

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
AU-EP-13	Emergency Preparedness Program, Checklist 2, Interfaces – Public, State and Local Agencies	March 8, 2013
SR-11-07	Continuous Monitoring Report, September 2011 through December 2011	January 5, 2012
SR-12-04	Continuous Monitoring Report, November 2011 through February 2012	April 10, 2012
SR-12-10	Quality Oversight Continuous Monitoring, EP Equipment	June 28, 2012
SR-12-07	Continuous Monitoring Report, February 2012 through May 2012	July 2, 2012
SR-12-13	Continuous Monitoring Report, May 2012 through August 2012	September 27, 2012
SR-12-14	Continuous Monitoring Report, August 2012 through November 2012	December 31, 2012
SR-13-02	Continuous Monitoring Report, November 2013 through February 2013	April 10, 2013
A-8934	Quality Activity Report	October 31, 2011
A-8961	Quality Activity Report	November 16, 2011
A-9099	Quality Activity Report	February 9, 2012
A-9100	Quality Activity Report	February 12, 2012
A-9121	Quality Activity Report	February 21, 2012
A-9160	Quality Activity Report	March 9, 2012
A-9181	Quality Activity Report	March 28, 2012
A-9212	Quality Activity Report	April 11, 2012

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
A-9213	Quality Activity Report	April 11, 2012
A-9214	Quality Activity Report	April 11, 2012
A-9226	Quality Activity Report	April 19, 2012
A-9280	Quality Activity Report	May 8, 2012
A-9285	Quality Activity Report	May 10, 2012
A-9408	Quality Activity Report	July 11, 2012
A-9454	Quality Activity Report	August 7, 2012
AR-SA-00267861	CGS 2012 EP Graded Exercise Readiness Assessment	August 27, 2012
AR-SA-00279606	Pre-Inspection Readiness Assessment	April 18, 2013
	After-Action Report for the Drill conducted November 1, 2011	
	After-Action Report for the Drill conducted January 24, 2012	
	After-Action Report for the Drill conducted May 8, 2012	
	After-Action Report for the Drill conducted July 10, 2012	
	After-Action Report for the Drill conducted August 28, 2012	
	After-Action Report for the Drill conducted October 30, 2012	
	After-Action Report for the Drill conducted February 26, 2013	
	After-Action Report for the Drill conducted April 30, 2013	
Lesson Plan EP000353	Field Team Operations Refresher, April 24, 2012	0
Lesson Plan HP001766-LP	Health Physics Continuing Training, Responding to Contaminated Injured Person, December 28, 2010	1
2011-06	Licensing Basis Impact Evaluation for the relocation of the Operations Support Center, October 12, 2011	1
2011-12	Licensing Basis Impact Evaluation for Procedure 13.10.1,	December 15,

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Control Room Operation and Shift Manager Duties, Revision 34	2011
	Licensing Basis Impact Evaluation for Procedure 13.1.1, Emergency Classification, Revision 42	May 23, 2012
	Licensing Basis Impact Evaluation for Procedure 13.4.1, Emergency Notifications, Revision 4	June 19, 2012
	Licensing Basis Impact Evaluation for implementation of alternate Technical Support Center and Operations Support Center locations (Procedures 13.10.2, Technical Support Center Manager's Duties, Revision 34, 13.10.9, Operations Support Center Manager and Staff Duties, Revision 48)	June 19, 2012
	Licensing Basis Impact Evaluation for replacement of the ERO Autodialer (Procedures EPI-13, Automated Notification System, Revision 7; EPI-14, Actions in the Event of an Automated Notification System Failure, Revision 7)	June 25, 2012
2012-17	Licensing Basis Impact Evaluation for Procedure 13.2.1, Emergency Exposure Levels, Protective Action Guidelines, Revision 21	October 2, 2012
2012-06	Licensing Basis Impact Evaluation for Procedure 13.14.11, EP Equipment Revision 5	December 18, 2012
2013-04	Licensing Basis Impact Evaluation for replacement of the Radwaste Building Exhaust Air Effluent radiation monitor and Turbine Building Exhaust Air Effluent radiation monitor	March 5, 2013
2013-20	Licensing Basis Impact Evaluation for changes to the Emergency Plan	July 1, 2013

Section 1EP6: Drill EvaluationPROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
ABN-AIRBORNE- ATTACK	Imminent Airborne Attack	9
PPM 13.1.1	Classifying the Emergency	43

ACTION REQUESTS (CORRECTIVE ACTION PROGRAM)

00252029	00252864	00253571	00255966	00256568
00257159	00257493	00259729	00259966	00262277
00264075	00264788	00266570	00266725	00269800
02270004	00274138	00277823	00279154	00284562
00286134	00288117	00290686		

MISCELLANEOUS**Section 4OA1: Performance Indicator Verification**

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISIONS</u>
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13.1.1	Classifying the Emergency	41, 42, 43
13.1.1A	Classifying the Emergency – Technical Bases	24 - 28
13.2.2	Determining Protective Action Recommendation	17-1, 17-2
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	<u>TITLE</u>	<u>REVISIONS</u>
	Columbia Generating Station Emergency Plan	57, 58, 59
MSPI-01-BD- 0001	Mitigating System Performance Index (MSPI) Basis Documents	13
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	6

Section 4OA2: Identification and Resolution of Problems

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
OI-14	Columbia Generating Station Operational Challenges and Risk Program	9
OI-68	Operational Aggregate Risk Assessment Process	0
SWP-CAP-01	Corrective Action Program	27
SWP-CAP-03	Operating Experience Program	13
SWP-CAP-06	Condition Review Group (CRG)	20

ACTION REQUESTS

290907	286816	288887	292638	287897
287820	289215	292766	288648	290750
293188	291162	292248	293284	291008
290494	293888	290688	298334	294087
293574				

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Safety Evaluation of the Washington Public Power Supply System (WPPSS) Nuclear Project Number 2 Station Blackout Analysis (TAC No. M686626)	December 30, 1991

Section 4OA3: Event Follow-Up

ACTION REQUESTS

279447	280606	287820	287888
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Section 40A5: Other Activities

ACTION REQUESTS

288992 288429

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
QID W01939	DMA-TIS-22B Past Reportability NRC Request	August 5, 2013

Section 40A7: Licensee-Identified Violations

ACTION REQUESTS

289636 289653 289731