



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

January 30, 2014

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 05000397/2013005

Dear Mr. Reddemann:

On December 31, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. On January 6, 2014, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented two findings of very low safety significance (Green) in this report. All of these findings involved violations of NRC requirements.

Further, inspectors documented two licensee-identified violations which were determined to be of very low safety significance in this report. 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 the violations or significance of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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.

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.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," 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

M. Reddemann

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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/

Ryan E. Lantz, Branch Chief
Project Branch D
Division of Reactor Projects

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

Enclosure: Inspection Report 05000397/2013005
w/ Attachment: Supplemental
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000397

License: NPF-21

Report: 05000397/2013005

Licensee: Energy Northwest

Facility: Columbia Generating Station

Location: North Power Plant Loop
Richland, WA 99354

Dates: September 22 through December 31, 2013

Inspectors: J. Groom, Senior Resident Inspector
D. Bradley, Resident Inspector
B. Baca, Project Engineer, Technical Support Branch
J. Dykert, Project Engineer
M. Hayes, Operations Engineer
S. Hedger, Operations Engineer
P. Hernandez, Health Physicist
J. Laughlin, Emergency Preparedness Inspector, NSIR
J. O'Donnell, Health Physicist
L. Ricketson, P.E., Senior Health Physicist

Approved By: Ryan E. Lantz
Chief, Project Branch D
Division of Reactor Projects

SUMMARY

IR 05000397/2013005; 09/22/2013 – 12/31/2013; Columbia Generating Station; Flood Protection Measures; Surveillance Testing

The inspection activities described in this report were performed between September 22, 2013, and December 31, 2013, by the resident inspectors at Columbia Generating Station and seven inspectors from the NRC's Region IV office. Two findings of very low safety significance (Green) are documented in this report. All of these findings 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, "Components Within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the design of water resistant doors used to protect emergency core cooling rooms from internal flooding into procedures used to control those doors. The licensee entered this finding into their corrective action program as Action Request AR 298068.

The performance deficiency was more than minor because it affected the procedure quality attribute of the mitigating systems cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This 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 had a cross-cutting aspect in the area of human performance associated with the decision making component because the licensee failed to verify the validity of the underlying assumptions used in the station's flooding analysis and failed to identify possible unintended consequences when making changes to the barrier impairment procedure [H.1(b)] (Section 1R06).

Cornerstone: Barrier Integrity

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50 Appendix B, Criterion III, "Design Control," for the licensee's failure to translate the results of

calculation NE-02-02-01, "Control Room Boundary Leakage Limitation" into allowed breach specifications for the control room ventilation boundary. This finding was entered into the licensee's corrective action program as Action Request AR 298914.

This performance deficiency was more than minor because it affected the design control attribute of the Barrier Integrity Cornerstone objective of providing reasonable assurance physical design barriers to protect the public from radionuclide releases caused by accidents or events. This finding is of very low safety significance (Green) because the finding only represents a degradation of the radiological barrier function provided for by the control room. The finding did not have a cross-cutting aspect because the performance deficiency occurred in early 2010 using a different process than currently exists and was therefore not reflective of current performance (Section 1R22).

Licensee-Identified Violations

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

PLANT STATUS

The plant began the inspection period at 100 percent power. The plant operated at 100 percent power, with the exception of scheduled reductions in power to support 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 Impending Adverse Weather Conditions

a. Inspection Scope

On September 30, 2013, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to high winds, and the licensee's implementation of these procedures. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant.

These activities constituted one sample of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- October 10, 2013, diesel fuel oil transfer system
- October 10, 2013, ultimate heat sink
- November 19, 2013, train A standby gas treatment system

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the systems were correctly aligned for the existing plant configuration.

These activities constituted three partial system walkdown samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On December 18-20, 2013, the inspectors performed a complete system walk-down inspection of the division 1 and 2 125V DC distribution system. The inspectors reviewed the licensee's procedures and system design information to determine the correct system lineup for the existing plant configuration. The inspectors also reviewed outstanding work orders, open condition reports, in-process design changes, temporary modifications, and other open items tracked by the licensee's operations and engineering departments. The inspectors then visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walk-down sample, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on four plant areas important to safety:

- October 4, 2013, Fire Area RC-2, cable spreading room
- October 7, 2013, Fire Area R-21, reactor building 522' pipe space
- October 16, 2013, Fire Areas RC-4, 5, 6, 7, 8, and 9 and RC-14, radioactive waste building vital island
- November 19, 2013, Fire Area RC-13, emergency chiller area

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors

evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted four quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On November 19, 2013, the inspectors completed an inspection of the station's ability to mitigate flooding due to internal causes. After reviewing the licensee's flooding analysis, the inspectors chose one plant area containing risk-significant structures, systems, and components that were susceptible to flooding:

- Low pressure core spray pump room

The inspectors reviewed plant design features and licensee procedures for coping with internal flooding. The inspectors walked down the selected areas to inspect the design features, including the material condition of seals, drains, and flood barriers. The inspectors evaluated whether operator actions credited for flood mitigation could be successfully accomplished.

These activities constitute completion of one flood protection measures sample, as defined in Inspection Procedure 71111.06.

b. Findings

Introduction. The inspectors 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 of water resistant doors used to protect emergency core cooling rooms from internal flooding into procedures used to control those doors.

Description. The inspectors reviewed the licensee's strategies used to mitigate the effects of an internal flooding event, including the design of emergency core cooling system pump room water-resistant doors. Columbia Generating Station Final Safety Analysis Report, Section 3.4.1.5.2, "Internal Flood Protection Measures," states that these doors are provided with seals that will minimize flooding between rooms even with significant hydrostatic pressure generated from flooding water levels up to 466 feet. In calculation ME-02-93-57, "Effects of Stairwell Flooding on Adjacent Pump Rooms (422 feet 3 inches in Elevation)," Revision 1, the licensee determined that the design of Columbia Generating Station is acceptable with respect to internal flooding because water-resistant doors will minimize flooding between adjacent pump rooms. A single

water-resistant door is provided between emergency core cooling pump rooms and adjoining corridors, but two doors are provided when used between adjoining pump rooms. Double doors are necessary because the water-resistant doors are supplied with compression gaskets. For a single door arrangement, the flooding source would apply hydrostatic pressure to press the flood door away from its gasket which would allow the source of the internal flooding to communicate with adjoining pump rooms. In a double-door arrangement, the flooding source would always apply hydrostatic pressure to press at least one door into its gasket thereby sealing the room and confining the flooding source to a single emergency core cooling system pump room.

The inspectors compared the requirements of Procedure PPM 1.3.57, "Barrier Impairment," Revision 29, to the design assumptions specified in calculation ME-02-93-57 and the FSAR. In that procedure, step 4.11.2.2 provides procedural requirements for Reactor Building 422' water-resistant doors and specified, in part, that "...door removal or other maintenance where the door(s) cannot be closed is a Mode 5 task unless adequate compensatory measures are implemented and justified in a 50.59 evaluation. This step does not apply to flood barriers with double watertight doors and where only one of the watertight doors is open."

The inspectors concluded that procedure PPM 1.3.57 would allow continuous operation with one of the double water-resistant flood doors between emergency core cooling system pump rooms out-of-service. In this configuration, the remaining water-resistant flood door would not be able to minimize flooding between pump rooms with hydrostatic pressure generated from water levels up to 466 feet. Operation in this configuration is therefore outside of the design specified in calculation ME-02-93-57 and Section 3.4.1.5.2 of the Columbia Generating Station Final Safety Analysis Report. The licensee added the subject requirements in Step 4.11.2.c of PPM 1.3.57, Revision 26, effective October 7, 2010.

After becoming aware of this issue, the licensee initiated Action Request AR 298068 to address the inadequacies associated with procedure PPM 1.3.57. The licensee also initiated Standing Order 12 on December 17, 2013, to provide additional operational guidance for water-resistant doors located between emergency core cooling system pump rooms.

The inspectors determined that the apparent cause of the performance deficiency was the failure to verify the assumption that one door between pump rooms would adequately resist hydraulic pressure to minimize flooding.

Analysis. The failure to translate requirements specified in FSAR Section 3.4.1.5.2 and Calculation ME-02-93-57 into Procedure PPM 1.3.57 was a performance deficiency. The performance deficiency was more than minor because it affected the procedure quality attribute of the mitigating systems cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, this performance deficiency resulted in guidance to operators which would allow continuous operation outside of the plant's design basis. The inspectors performed an initial screening of the finding in accordance with NRC Manual Chapter IMC 0609, Appendix

A, "The Significance Determination Process (SDP) for Findings At-Power." Using IMC 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined this 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. Because the apparent cause of this finding was the failure to verify the assumption that one door would adequately resist hydraulic pressure to minimize flooding, this finding has a cross-cutting aspect in the area of human performance associated with the decision making component, because the licensee did not use conservative assumptions in decision-making, and made a safety-significant decision without verifying the validity of underlying assumptions and without identifying possible unintended consequences [H.1(b)].

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 § 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. Contrary to the above, on October 7, 2010, the licensee failed to translate applicable regulatory requirements and the Columbia Generating Station design basis into station procedures. Specifically, the licensee failed to translate the design of emergency core cooling system water-resistant doors as described in the Columbia Generating Station Final Safety Analysis Report, Section 3.4.1.5.2, "Internal Flood Protection Measures," and Calculation ME-02-93-57, "Effects of Stairwell Flooding on Adjacent Pump Rooms (422 ft 3 in Elevation)," Revision 1, into procedure PPM 1.3.57, "Barrier Impairment," Revision 26, Step 4.11.2.c. The licensee restored compliance by issuing Standing Order 12 on December 17, 2013, which prevented operation of these doors outside of the design basis. Because the finding is of very low safety significance (Green) and has been entered into the licensee's corrective action program as Action Request AR 298068, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a. of the NRC Enforcement Policy: NCV 05000397/2013005-01, "Failure to Translate Internal Flooding Design into Station Procedures."

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On December 19, 2013, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. The inspectors reviewed the data from a performance test for the division 1 emergency diesel generator diesel cooling water heat exchangers and verified the licensee used the industry standard periodic maintenance method outlined in EPRI NP-7552 for the heat exchanger. Additionally, the inspectors walked down the heat exchanger to observe its performance and material condition and

verified that the heat exchanger was correctly categorized under the Maintenance Rule and was receiving the required maintenance.

These activities constitute completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

b. Findings

No findings were identified.

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

.1 Annual Inspection

Inspection Scope

The inspector reviewed the annual operating examination test results for 2013. Since this was the first half of the biennial requalification cycle, the licensee was not required to administer a written examination. These results were assessed to determine if they were consistent with NUREG 1021, "Operator Licensing Examination Standards for Power Reactors," guidance and Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process," requirements. This review included the test results for a total of 7 crews composed of 57 licensed operators, which included 31 senior operators and 26 reactor operators. One crew and one individual failed the simulator portion of the exam. In addition, two individuals failed the Job Performance Measures (JPM) portion of the examination. Following the examination failures, the licensee remediated the affected individuals, and the individuals and crew passed a re-examination prior to resuming watch standing.

Findings

No findings were identified.

.2 Review of Licensed Operator Requalification

a. Inspection Scope

On October 9, 2013, the inspectors observed an evaluated simulator scenario performed by an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance.

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.

.3 Review of Licensed Operator Performance

a. Inspection Scope

On December 3, 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 Instrumentation and Control surveillances, troubleshooting of increased oxygen levels in the containment wetwell and removal from service of the reactor building intermediate range stack monitor for planned maintenance. The inspectors observed the operators' performance during the following activities:

- Shifting of tower makeup pumps to support vibration analysis
- Authorization of work within the reactor building HVAC enclosure which renders secondary containment inoperable
- Procedure OSP-INST-H101, "Shift and Daily Instrument Checks (Modes 1, 2 and 3), Revision 80

In addition, the inspectors assessed the operators' adherence to plant procedures, including OI-09, "Operations Standards and Expectations" 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 reviewed the following three instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- September 27, 2013, Action Request AR 294644 documenting a disconnected air line to the governor booster for the Division 1 emergency diesel generator
- October 12, 2013, Action Request AR 292176 documenting service water pump SW-P-1B entering the alert range during in-service testing
- December 20, 2013, system review of containment monitoring system

The inspectors reviewed the extent-of-condition of possible common-cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of each degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of three maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed the following three risk assessments performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- September 24-27, 2013, yellow risk due to planned maintenance on emergency diesel generator 1
- October 12, 2013, orange risk due to planned impeller lift adjustment on service water pump SW-P-1B
- November 12, 2013, yellow risk due to planned maintenance on the reactor core isolation cooling system

The inspectors verified that these risk assessment were performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

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

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed three operability determinations that the licensee performed for degraded or nonconforming structures, systems, or components (SSCs):

- September 25, 2013, Action Request AR 294456, operability determination associated with lost position indication for control rod 26-15
- November 6, 2013, Action Request AR 297128, operability determination associated with low service water flow and high temperature in analyzer room B
- December 31, 2013, Action Request AR 300123, operability determination associated with missing tape wrap on an electrical connection for diesel generator 3

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability of the degraded SSC.

These activities constitute completion of three operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed four post-maintenance testing activities that affected risk-significant structures, systems, or components (SSCs):

- October 12, 2013, service water pump 1B following impeller lift adjustment
- October 23, 2013, low pressure core spray pump room cooler RRA-CC-5 following planned cooling coil replacement
- December 17, 2013, 250V DC battery E-B2-1 following repairs to high resistance connection
- December 30, 2013, containment supply purge valve CSP-V-5 following relay replacement

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed five risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the structures, systems, and components (SSCs) were capable of performing their safety functions:

Other surveillance tests:

- September 24, 2013, Procedure OSP-LPCS/IST-Q702, "LPCS System Operability Test," Revision 34
- October 1, 2013, Procedure ISP-FDR/EDR-M401, "Drywell Sump Flow Monitors – CFT," Revision 7
- November 25, 2013, Procedure OSP-CCH/IST-M701, "Control Room Emergency Chiller System A Operability," Revision 36
- December 2, 2013, Procedure OSP-WMA-B701, "Control Room Ventilation System A Pressurization Flow Test," Revision 18
- December 5, 2013, Procedure ISP-MS-Q908, "ATWS-RPT-ARI Actuation Reactor Level 2 Channels B and D – CFT/CC," Revision 6

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

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

b. Findings

Introduction. The inspectors 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 results of calculation NE-02-02-01, "Control Room Boundary Leakage Limitation" into allowed breach specifications for the control room ventilation boundary. Consequently, the specification used by operators in procedure PPM 1.3.57, "Barrier Impairment," Revision 29 for determining the operability of the control room envelope was non-conservative with respect to station calculations.

Description. On November 25, 2013, the inspectors identified air leakage around the seal of door C-509, which connects the Division 1 HVAC room and the cable chase room in the radioactive waste building. At the time of discovery, the control room envelope had 0.74 square inches of available margin out of a total allowable breach size of 26.16 square inches. The maximum allowed breach size is a specification used to determine operability of the control room envelope in procedure PPM 1.3.57, "Barrier Impairment," Revision 29. Engineering reviewed the condition of door C-509 and determined that the identified seal leakage exceeded the remaining allowable breach size for the main control room envelope. Control room operators declared the control room envelope inoperable and entered Technical Specification action statement 3.7.3.B. As part of their extent-of-condition review, the licensee identified three additional doors credited as part of the control room boundary with seal leakage. Engineering determined that the cumulative breach associated with these four doors was 72.40 square inches, well in excess of the maximum allowable breach size. The licensee sealed the affected doors with aluminum tape and documented the door seal leakage in Action Requests AR 298467 and AR 298493.

On December 4, 2013, the inspectors reviewed the maximum allowable breach size specification used in procedure PPM 1.3.57 to determine operability of the control room envelope. The maximum allowable breach specification is a calculated value based on performance of the control room emergency filtration system. To determine the maximum allowable breach, the licensee compares surveillance data from procedure OSP-WMA-B701, "Control Room Ventilation System A Pressurization Flow Test," Revision 10, to calculation NE-02-02-01, "Control Room Boundary Leakage Limitation," Revision 1, Table 1. The inspectors compared the results of procedure OSP-WMA-B701 performed on March 10, 2010 to Table 1 of NE-02-02-01 and determined that the results of the pressurization flow test would yield a maximum allowable control room envelope breach size of 21.07 square inches. The value determined by the inspectors was thus more restrictive than the 26.16 square inches currently specified to control room operators. The licensee's engineering staff reviewed the March 10, 2010 surveillance data and determined that they had referenced the wrong revision of Table 1 in calculation NE-02-02-01 when providing specifications to control room operators, and that their error had resulted in a non-conservative error of 5.09 square inches. The inspectors determined that the cause of this error was a lack of formality in the process engineering personnel used to review the surveillance data. The inspectors also noted that in November 2013, the licensee revised the model work order for the surveillance to describe in more detail engineering's review of the surveillance data.

Because of the already low margin available for the control room envelope boundary, the licensee's failure to translate the correct revision of Table 1 in calculation NE-02-02-01 into specifications resulted in periods between March 10, 2010 and November 20, 2012, when control room operators had unknowingly exceeded the maximum allowable control room breach size.

Following discovery of the subject error, the licensee updated the maximum allowed control room breach size to 34.18 square inches, a value which reflected the most recent performance of procedure OSP-WMA-B701, "Control Room Ventilation System A Pressurization Flow Test," Revision 18, as performed on November 20, 2013.

The inspectors noted that when engineering personnel updated this value, they used the process described in the model work order for the surveillance.

On December 13, 2013, the licensee performed a past-operability review and determined that the non-conservative error did result in periods where the maximum allowable breach size was exceeded. However, the error did not result in an inoperable control room envelope boundary because the licensee was able to gain additional margin from conservative assumptions about other control room ventilation boundary breaches in effect during that period. The licensee's failure to translate the correct revision of calculation NE-02-02-01 into specifications for operators was documented in Action Request AR 298914.

Analysis. The failure to translate the results of calculation NE-02-02-01, "Control Room Boundary Leakage Limitation" into allowed leakage specifications for the control room ventilation boundary was a performance deficiency. This performance deficiency was more than minor because it affected the design control attribute of the Barrier Integrity cornerstone objective of providing reasonable assurance physical design barriers protect the public from radionuclide releases caused by accidents or events, in that the performance deficiency resulted in periods when the maximum allowable control room breach size in station calculations was exceeded. The inspectors screened the finding in accordance with NRC Manual Chapter IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." Using IMC 0609, Appendix A, Exhibit 3, "Barrier Integrity Screening Questions," the inspectors determined this finding is of very low safety significance (Green) because the finding only represents a degradation of the radiological barrier function provided for by the control room. The finding did not have a cross-cutting aspect because the performance deficiency occurred in early 2010 using a process that is different from the process that currently exists and was therefore not reflective of current performance.

Enforcement. 10 CFR Part 50 Appendix B, Criterion III requires, in part, that measures shall be established to assure that applicable regulatory requirements and the design basis, as defined in § 50.2 and as specified in the license application, for those structures, systems, and components to which [Appendix B] applies are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, from March 10, 2010 through November 20, 2013, the licensee failed to translate applicable regulatory requirements and the design basis into specifications for the

control room envelope boundary. Specifically, the licensee failed to translate the results of calculation NE-02-02-01, "Control Room Boundary Leakage Limitation," Revision 1 into the control room breach specification used by control room operators in procedure PPM 1.3.57, "Barrier Impairment," Revision 25-29 used to determine the operability of the control room envelope. Following discovery of this issue, the licensee restored compliance by updating the maximum allowed leakage specification with the most recent surveillance data performed on November 20, 2013. Because this violation was of very low safety significance (Green) and was entered into the licensee's corrective action program as Action Request AR 298914, this violation is being treated as a non-cited violation, consistent with the Enforcement Policy: NCV 05000397/2013005-02, "Non-Conservative Error in Control Room Boundary Breach Specification."

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (IP 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 ML13262A048 and 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.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS5 Radiation Monitoring Instrumentation (71124.05)

a. Inspection Scope

This area was inspected to verify the licensee is assuring the accuracy and operability of radiation monitoring instruments that are used to: (1) monitor areas, materials, and workers to ensure a radiologically safe work environment; and (2) detect and quantify radioactive process streams and effluent releases. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance.

During the inspection, the inspectors interviewed licensee personnel, performed walkdowns of various portions of the plant, and reviewed the following items:

- Selected plant configurations and alignments of process, postaccident, and effluent monitors with descriptions in the Final Safety Analysis Report and the offsite dose calculation manual
- Select instrumentation, including effluent monitoring instrument, portable survey instruments, area radiation monitors, continuous air monitors, personnel contamination monitors, portal monitors, and small article monitors to examine their configurations and source checks
- Calibration and testing of process and effluent monitors, laboratory instrumentation, whole body counters, postaccident monitoring instrumentation, portal monitors, personnel contamination monitors, small article monitors, portable survey instruments, area radiation monitors, electronic dosimetry, air samplers, continuous air monitors
- Audits, self-assessments, and corrective action documents related to radiation monitoring instrumentation since the last inspection

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of one sample as defined in Inspection Procedure 71124.05.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

This area was inspected to: (1) ensure the gaseous and liquid effluent processing systems are maintained so radiological discharges are properly mitigated, monitored, and evaluated with respect to public exposure; (2) ensure abnormal radioactive gaseous or liquid discharges and conditions, when effluent radiation monitors are out-of-service, are controlled in accordance with the applicable regulatory requirements and licensee procedures; (3) verify the licensee's quality control program ensures the radioactive effluent sampling and analysis requirements are satisfied so discharges of radioactive materials are adequately quantified and evaluated; and (4) verify the adequacy of public dose projections resulting from radioactive effluent discharges. The inspectors used the requirements in 10 CFR Part 20; 10 CFR Part 50, Appendices A and I; 40 CFR Part 190; the Offsite Dose Calculation Manual, and licensee procedures required by the Technical Specifications as criteria for determining compliance. The inspectors interviewed licensee personnel and reviewed and/or observed the following items:

- Radiological effluent release reports since the previous inspection and reports related to the effluent program issued since the previous inspection, if any
- Effluent program implementing procedures, including sampling, monitor setpoint determinations and dose calculations
- Equipment configuration and flow paths of selected gaseous and liquid discharge system components, filtered ventilation system material condition, and significant changes to their effluent release points, if any, and associated 10 CFR 50.59 reviews
- Selected portions of the routine processing and discharge of radioactive gaseous and liquid effluents (including sample collection and analysis)
- Controls used to ensure representative sampling and appropriate compensatory sampling
- Results of the inter-laboratory comparison program
- Effluent stack flow rates
- Surveillance test results of technical specification-required ventilation effluent discharge systems since the previous inspection
- Significant changes in reported dose values, if any
- A selection of radioactive liquid and gaseous waste discharge permits

- Part 61 analyses and methods used to determine which isotopes are included in the source term
- Offsite dose calculation manual changes, if any
- Meteorological dispersion and deposition factors
- Latest land use census
- Records of abnormal gaseous or liquid tank discharges, if any
- Groundwater monitoring results
- Changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater, if any
- Identified leakage or spill events and entries made into 10 CFR 50.75 (g) records, if any, and associated evaluations of the extent of the contamination and the radiological source term
- Offsite notifications and reports of events associated with spills, leaks, or groundwater monitoring results, if any
- Audits, self-assessments, reports, and corrective action documents related to radioactive gaseous and liquid effluent treatment since the last inspection

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

These activities constitute completion of one sample, as defined in Inspection Procedure 71124.06.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

a. Inspection Scope

This area was inspected to: (1) ensure that the radiological environmental monitoring program verifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program; (2) verify that the radiological environmental monitoring program is implemented consistent with the licensee's technical specifications and/or offsite dose calculation manual, and to validate that the radioactive effluent release program meets the design objective contained in Appendix I to 10 CFR Part 50; and (3) ensure that the

radiological environmental monitoring program monitors non-effluent exposure pathways, is based on sound principles and assumptions, and validates that doses to members of the public are within the dose limits of 10 CFR Part 20 and 40 CFR Part 190, as applicable. The inspectors reviewed and/or observed the following items:

- Annual environmental monitoring reports and offsite dose calculation manual
- Selected air sampling and thermoluminescence dosimeter monitoring stations
- Collection and preparation of environmental samples
- Operability, calibration, and maintenance of meteorological instruments
- Selected events documented in the annual environmental monitoring report which involved a missed sample, inoperable sampler, lost thermoluminescence dosimeter, or anomalous measurement
- Selected structures, systems, or components that may contain licensed material and has a credible mechanism for licensed material to reach ground water
- Records required by 10 CFR 50.75(g)
- Significant changes made by the licensee to the offsite dose calculation manual as the result of changes to the land census or sampler station modifications since the last inspection
- Calibration and maintenance records for selected air samplers, composite water samplers, and environmental sample radiation measurement instrumentation
- Interlaboratory comparison program results
- Audits, self-assessments, reports, and corrective action documents related to the radiological environmental monitoring program since the last inspection

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

These activities constitute completion of one sample as defined in Inspection Procedure 71124.07.

b. Findings

No findings were identified.

2RS8 Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

a. Inspection Scope

This area was inspected to verify the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 10 CFR Parts 20, 61, and 71 and Department of Transportation regulations contained in 49 CFR Parts 171-180 for determining compliance. The inspectors interviewed licensee personnel and reviewed the following items:

- The solid radioactive waste system description, process control program, and the scope of the licensee's audit program
- Control of radioactive waste storage areas including container labeling/marketing and monitoring containers for deformation or signs of waste decomposition
- Changes to the liquid and solid waste processing system configuration including a review of waste processing equipment that is not operational or abandoned in place
- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides
- Processes for waste classification including use of scaling factors and 10 CFR Part 61 analysis
- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and preparation of the disposal manifest
- Audits, self-assessments, reports, and corrective action reports radioactive solid waste processing, and radioactive material handling, storage, and transportation performed since the last inspection

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

These activities constitute completion of one sample as defined in Inspection Procedure 71124.08.

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 Security

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Performance Index: Heat Removal Systems (MS08)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of October 2012 through September 2013 to verify the accuracy and completeness of the reported data. To determine the accuracy of the reported data, the inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6.

These activities constituted verification of the mitigating system performance index for heat removal systems, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index: Cooling Water Support Systems (MS10)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of October 2012 through September 2013 to verify the accuracy and completeness of the reported data. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, to determine the accuracy of the reported data.

These activities constituted verification of the mitigating system performance index for cooling water support systems, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Semiannual Trend Review

a. Inspection Scope

The inspectors reviewed the licensee's corrective action program, performance indicators, system health reports, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

These activities constitute completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected the following issue for an in-depth follow-up:

- Action Request AR 292358 documenting seat leakage past reactor core isolation cooling drain valves RCIC-V-25 and RCIC-V-26

The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and compensatory actions. The inspectors verified that the

licensee appropriately prioritized the planned corrective actions and that these actions were adequate to correct the condition.

These activities constitute completion of one annual follow-up sample as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000397/2013-004-01, Jumper makes Suppression Pool Spray Valve Remote Transfer Switch Inoperable

On June 4, 2013, during performance of Procedure OSP-INST-B701, "Remote Shutdown Panel Operability," Revision 17, the licensee discovered a factory-installed jumper across the remote transfer switch for valve RHR-V-27B. Subsequent review revealed that the jumper was left in place during motor control center replacement activities conducted in May 2011. Because the jumper made the remote transfer switch for valve RHR-V-27B inoperable for a period greater than allowed by Technical Specifications, the event was reportable under 10 CFR 50.73(a)(2)(i)(B). 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. The NRC previously identified non-cited violation 05000397/2013004-01, "Improperly Installed Jumper Results in Inoperable Remote Transfer Switch" documenting a violation of the plant's technical specifications due to the improperly installed jumper. No additional performance deficiencies were identified. This licensee event report is closed.

.2 (Closed) Licensee Event Report 05000397/2013-006-00, Accidental Switch Bump Makes High Pressure Core Spray and Diesel Inoperable

On June 27, 2013, a plant laborer was exiting the Division 3 diesel generator room when he inadvertently brushed against the control switch for the diesel mixed air fan DMA-FN-32 causing it to turn to the "OFF" position. The licensee declared the Division 3 emergency diesel generator, the high pressure core spray system, the Division 3 125 VDC battery charger, Division 3 battery, and the Division 3 AC electrical power distribution system inoperable due to the loss of power to its required support ventilation system. In response to the loss of power which was annunciated in the main control room, plant operators restored the fan control switch back to "ON" position approximately 21 minutes after initially bumped by the plant laborer. The loss of the high pressure core spray system resulted in the temporary loss of safety function for a single train system which is reportable under 10 CFR 50.73(a)(2)(v). 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.

These activities constitute completion of two event follow-up samples, as defined in Inspection Procedure 71153.

4OA5 Other Activities

Inspection Procedure 92723 – Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period

a. Inspection Scope

The inspectors performed Inspection Procedure 92723, "Follow Up Inspection for Three or More Severity Level IV Traditional Enforcement Violations in the Same Area in a 12-Month Period," in accordance with the assessment letter dated September 3, 2013 (ML13246A431). Specifically, the inspectors examined the licensee's response to four violations associated with impeding the regulatory process. These violations involved the following regulatory issues:

- Failure to ensure integrity of licensed operator examinations (10 CFR 55.49)
- Failure to obtain a license amendment prior to implementing a change to the Main Control Room heating, ventilation, and air conditioning system. (10 CFR 50.59)
- Failure to obtain a license amendment prior to implementing a change to the Reactor Water Cleanup system piping. (10 CFR 50.59)
- Failure to update the Final Safety Analysis Report and implement commitments to inspect the Diesel Fuel Oil Storage Tanks (10 CFR 50.71e)

Documents reviewed by the inspectors are listed in the attachment.

b. Findings and Observations

Based on the review of the licensee's apparent cause evaluation, as documented in Action Request AR 293188, the inspectors determined that an adequate assessment of these conditions had been performed including the identification of common causes. The inspectors also determined that the licensee had implemented a sufficient range of corrective actions to address the identified common causes and minimize the potential for reoccurrence of these issues.

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On November 7, 2013, the inspectors presented the results of the radiation safety inspections to Mr. J. Dittmer, Acting Vice President, Engineering, and other members of the licensee staff. On November 26, 2013, the inspectors conducted a teleconference with Mr. Grover Hettel, Vice President, Operations, and other members of the licensee staff to discuss the re-characterization of findings associated with Sections 2RS5 and 2RS6 of this report. The licensee acknowledged the issues presented.

On December 26, 2013, the inspector presented the results of the licensed operator annual requalification examination results review to Mr. Ron Hayden, Exam Developer. The licensee acknowledged the results of the inspection.

On January 6, 2014, 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 inspectors confirmed that proprietary information was not provided or examined during the inspections.

4OA7 Licensee-Identified Violations

The following violations of very low safety significance (Green) were identified by the licensee and are violations of NRC requirements which meet 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 described in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Regulatory Guide 1.33, Paragraph 9.a states 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, the licensee failed to preplan written procedures appropriate to the circumstances as required by Technical Specification 5.4.1.a. Specifically, on April 25, 2011 and January 4, 2010, the licensee planned Work Orders 01182801 and 01179746 to adjust the impeller lift for standby service water pumps 1A and 1B but failed to specify the appropriate impeller lift for the pump. Consequently, the licensee set the impeller lift higher than specified in the pump design during performance of Work Orders 01182801 and 01179746, resulting in degraded performance of the pump. The licensee identified this violation and entered it into their corrective action program as Action Requests AR 219553 and AR 292521. This finding was determined to be of very low safety significance because the finding is a design or qualification deficiency that did not affect operability or functionality.

- .2 Title 10 CFR 71.5(a) requires that “each licensee who transports material outside the site of usage, as specified in the NRC license...shall comply with the applicable requirements of the Department of Transportation regulations in 49 CFR...”
- Title 49 CFR 172.203(d)(3) states, in part, the description for a shipment of a Class 7 (radioactive) material must include the activity contained in each package of the shipment. Contrary to the above, on August 29, 2011, in the shipping manifest for Radioactive Waste Shipment 11-106, the licensee did not include the correct activity for the radioactive mechanical filters shipped, in that the original manifest stated an activity of 8.09 Curies, but the licensee later determined the activity was 31.54 Curies. The licensee identified this violation and entered it into their corrective action program as Action Request AR 248151. This finding was determined to be of very low safety significance (Green) because the finding did not involve the radioactive effluent release program or the radiological environmental monitoring program, but the finding did involve the transportation of radioactive material. The finding was not (1) in excess of radiation limits, (2) a breach of package during transit, (3) a certificate of compliance issue, (4) a low-level burial ground noncompliance, or (5) a failure to make notifications or provide emergency information.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

P. Allen, System Engineer, System Engineering
J. Brown, Operations Supervisor, Chemistry
G. Burton, Health Physics Staff Advisor, Radiological Support
N. Chada, Engineer Senior, System Engineering
K. Clark, Environmental Scientist II, Environmental Services
J. Darling, NSSS Supervisor, System Engineering
D. Gregoire, Regulatory Affairs Manager
R. Hayden, Exam Developer
M. Hedges, Principle Licensing Engineer, Regulatory Affairs
M. Holle, System Engineer, System Engineering
C. Hove, Technician, Radiation Protection
M. Kinmark, Health Physics Staff Advisor, Radiological Support
M. Laudisio, Supervisor, Radiological Support
C. Madden, Scientist IV, Chemistry
D. Mee, Environmental Scientist III, Environmental Services
T. Northstrom, Supervisor, Environmental Services
S. Nappi, Corrective Action Program Supervisor
E. Nguyen, Environmental Scientist II, Environmental Services
J. Pierce, Manager, Chemistry
A. Pierson, Specialist III, Chemistry
R. Sanker, Supervisor, Radiological Operations
R. Schott, Technician, Chemistry Support
B. Schuetz, Maintenance Manager
M. Shobe, Technician, Chemistry
D. Suarez, Licensing Engineer, Regulatory Affairs
J. Tarr, Rad Waste Technician, Radiation Protection
J. Trautvetter, Compliance Supervisor, Regulatory Affairs
K. Webb, Technician, Radiation Protection
R. Williams, Rad Waste Technician, Radiation Protection
D. Wolfgramm, Licensing Engineer, Regulatory Affairs

NRC Personnel

V. Gaddy, Branch Chief

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000397-2013005-01 NCV Failure to Translate Internal Flooding Design into Station Procedures (Section 1R06)

05000397-2013005-02 NCV Non-Conservative Error in Control Room Boundary Breach Specification (Section 1R22)

Closed

05000397-2013-004-01 LER Jumper makes Suppression Pool Spray Valve Remote Transfer Switch Inoperable

05000397-2013-006-00 LER Accidental Switch Bump Makes High Pressure Core Spray and Diesel Inoperable

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ABN-ASH	Ash Fall	19
ABN-WIND	Tornado/High Winds	24
ABN-Transformer	Transformer Abnormal Operation	15
ABN-ELEC-Grid	Degraded Offsite Power Grid	7

Action Requests (ARs)

294248	294260	294730	294929
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Section 1R04: Equipment Alignment

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2.05.01	Battery Sizing, Voltage Drop, and Charger Studies for Div. 1 and 2 Systems	11
E/I 02-91-01	Safety Related Battery Parameters	0

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ME-02-87-89	DO-TK-1A,1B Low Level Tech Spec Requirement (analytical limit)	0
ME-02-92-234	Calculation for on-site Diesel Fuel Oil Storage for the Emergency Diesel Generators DG-1, DG-2 and DG-3	2
NE-02-87-20	Calculation for Oil Tank Levels	1

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
D-DOTK-046	Ultrasonic Sensor Mount For DO-TK-1A, DO-TK-1B, and DO-TK-2	0
S754	Structural Reactor Building Finish FDN. Plan – EL.422'-3"	24
SK-18	DO Storage Tank Outline and Details AS-Built	9

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
MMP-DO-E002	Pressure Test of Diesel Fuel Oil System	2
OSP-ELEC-M701	Diesel Generator 1 – Monthly Operability Test	53
OSP-ELEC-S702	Diesel Generator 2 Semi-Annual Operability Test	54
OSP-SW-M101	Standby Service Water Loop A Valve Position Verification	34
PPM 8.4.81	SW System Performance with FPC HX Valved in	7
PPM 10.25.54	Cable Pulling Instruction and Inspection	19
PPM 18.1.16	DG-1 Fuel Consumption Data	2
PPM 18.1.17	DG-2 Fuel Consumption Data	2
SOP-DG1-STBY	Emergency Diesel Generator (DIV 1) Standby Lineup	18
SOP-ELEC-DC-LU	DC Electrical Distribution System Breaker Lineup	5

Action Requests (CRs)

296486	297982
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Work Requests

01081906

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EC 12301	ME-02-92-234 ULSD Statements	0
QID 181001-01	Equipment Qualification Record Environmental	12
SPC 329	Design Requirements Document - Standby Gas Treatment System	1

Section 1R05: Fire ProtectionCalculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NE-02-85-19	Calculation Post-Fire Safe Shutdown (PFSS) Analysis	7

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
15.1.27	Smoke Removal Fan Operability Surveillance	4
ABN-FIRE	Fire	32
PFP-RB-522	Reactor 522	3
PFP-RW-467	Radwaste 467	4

Action Requests (ARs)

296548	296631	296633	298346
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Section 1R06: Flood Protection MeasuresCalculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
5.44.020	Calculation of Allowable Leak Rate Past Doors on Reactor Building Pump Rooms El. 422'3"	1
ME-02-02-02	Calculation for Reactor Building Flooding Analysis	2

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ME-02-93-57	Effects of Stairwell Flooding on Adjacent Pump Rooms (422 ft 3 in Elevation)	0
ME-02-98-08	Flow through sump line from RHR C to LPCS pump room	0

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PPM 1.3.57	Barrier Impairment	26-29

Action Requests (ARs)

221096	269205	269250	298068
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Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
Specification 8H	Design Specification for Division 8 Section 8H Interior Water Resistant Doors and Frames	3

Section 1R07: Heat Sink PerformanceProcedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PPM 8.4.54	Thermal Performance Monitoring of DCW-HX-1A1 and DCW-HX-1A2	9

Action Requests (ARs)

276930	279308	292519	299560
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Work Orders (WOs)

02035663	02038567
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Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
13.1.1	Classifying the Emergency	43
13.1.1A	Classifying the Emergency – Technical Bases	26
ABN-FAZ	FAZ	17
OI-18	Equipment Operator Rounds	12
OI-71	Operations Department Communications Plan	1
OSP-INST-H101	Shift and Daily Instrument Checks (Modes 1, 2, 3)	80

Action Requests (ARs)

293104	297201	297417	297518	298765
298843				

MISCELLANEOUS DOCUMENTS

2013 Licensed Operator Annual Exam Report

Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-SW/IST-Q702	Standby Service Water Loop B Operability	28
TSP-DG1/LOP-B501	Standby Diesel Generator DG1 Loss of Power Test	

Action Requests (ARs)

204617	209092	219553	252293	253166
254426	254428	255879	256342	257020
257167	257676	262217	262498	265552
266163	266389	266421	267067	267387
267574	267839	272220	275797	278520
279722	288469	289097	291855	292014

292176	292521	294644	297910	299290
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Work Orders (WOs)

01179746	01180339	01182801	02007173	02036373
02047500				

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.76	Integrated Risk Management	39
1.3.83	Protected Equipment Program	16

Section 1R15: Operability Determinations and Functionality Assessments

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1140-005-045	Calculation for CMS Monitoring	1

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
4.812.R2	812.R2 Annunciator Panel Alarms	20
10.25.19	Termination and Splicing Instruction	24
ABN-RPIS	Loss of Control Rod Position Indication	3
OSP-SW-M102	Standby Service Water Loop B Valve Position Verification	30

Action Requests (ARs)

294456	294628	296843	297128	297273
297614	298843	300123		

Action Requests (ARs)

01086762

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
DIC 1801.1	Instrument Master Data Sheet SW-FS-44	4

Section 1R19: Post-Maintenance Testing

Procedures

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
MI-1.8	Conduct of Maintenance	59
ESP-B21-A101	12 Month Battery Inspection of 250 VDC E-B2-1	11
ESP-B21-Q101	Quarterly Battery Testing 250 VDC E-B2-1	12
ESP-BAT-W101	Weekly Battery Testing	16
OSP-SW/IST-Q702	Standby Service Water Loop B Operability	28
OSP-SW-M102	Standby Service Water Loop B Valve Position Verification	30
PPM 18.1.8	SW-P-1B Pre-Service Test	2

Action Requests (ARs)

209092	219553	292521	295928	299939
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Work Orders

01179746	01182801	02009071	02038485	02047405
02047500				

Section 1R22: Surveillance Testing

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NE-02-02-01	Control Room Boundary Leakage Limitation	1

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ISP-FDR/EDR-X301	Drywell Sump Flow Monitors – CC	10
ISP-FDR/EDR-M401	Drywell Sump Flow Monitors – CFT	7
ISP-MS-Q908	ATWS-RPT-ARI Actuation Reactor Level 2 Channels B and D – CFT/CC	6
OSP-CCH/IST-M701	Control Room Emergency Chiller System A Operability	36

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-LPCS/IST-Q702	LPCS System Operability Test	34
OSP-WMA-B701	Control Room Ventilation System A Pressurization Flow Test	18
PPM 1.3.57	Barrier Impairment	29
PPM 15.3.17	Fire Door Operability – Semiannual, Annual, Biennial	7

Action Requests (ARs)

188587	253816	287340	288704	289762
294378	298184	298299	298467	298493
298838	298914	298915	298918	298923
299010	299011	299208		

Work Orders

02018239	02036446	02038911	02040518
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Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision / Date</u>
BIP 08-0209	Barrier Impairment Permit	November 10, 2008
BIP 13-0408	Barrier Impairment Permit	November 26, 2013
EC 12605	Evaluation for use of Aluminum Tape for Mitigation of Major Breaches – Decision Making Document	1
Event Notification 49631	50.72 Report – Breach Sizes Exceeded For Control Room Envelope	December 13, 2013
TM-2082	Control Room Envelope Boundary Control	6

Section 1EP4: Emergency Action Level and Emergency Plan Changes

Emergency Plan, Revision 59

Section 2RS5: Radiation Monitoring Instrumentation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
12.1.1	Laboratory Quality Assurance	18
12.1.4	Laboratory Standards Program	6
CI-13.6	ORTEC Gamma-Ray Analyzer System	3
CSP-INST-M201	Chemistry Monthly Source and Channel Checks	18
HPI-5.6	Calibration of the Renaissance Fastscan Whole Body Count System	7
HPI-7.5	Eberline Model RO-2 and RO-2A Calibration	9
HPI-7.52	Ludlum Model 14C Geiger Counter Calibration With 44-6 GM Detector	4
HPI-7.53	Operation and Characterization of the MGPI iDC Calibrator and Calibration of the DMC 2000 Electronic Dosimeters	11
HPI-12.63	Calibration of the NE SAM-9/11 Small Article Monitor	8
HPI-12.98	Calibration of the Canberra Argos-5 A/B Whole Body Contamination Monitor	2

Audits, Self-Assessments, and Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
23222	NUPIC Audit – Fluke Biomedical	January 14-17, 2013
284168	Chemistry Effluents Program Status	October 6 – 16, 2013
AR-SA 224235	Health Physics Radiation Protection Instrumentation Program	March 11 - 14, 2013
AU-CL-12	EN Standards laboratory Program Audit	November 29, 2012 to December 20, 2012

Action Requests

224117	230038	243522	244315	244630
256428	257400	267681	267681	278600

Calibration and Source Check Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
CSP-INST-M201	Chemistry Monthly Source and Channel Checks	November 5, 2013
DIC 1008.3	Containment LOCA Radiation Monitor	May 14, 2013
DIC 1515.2	Fastscan Calibration – Deschutes	September 27, 2013
DIC 1515.2	Fastscan Calibration – Yakima	September 27, 2013
DIC 1513.9	DMC 2000 Calibrations: Device No.s 42222, 667915, 55784, 873514, 40194	November 11, 2013
DIC 1541.7	Daily Frisker Source Check Log	November 4, 2013
DIC 1541.7	Daily Meter Source Check Log	November 4, 2013
DIC 1585.32	Eberline Model RO-2 and RO-2A Calibration for RO142	October 2, 2013
DIC 1585.44	Instrument Calibration Data Sheet for SAM-9/11 Small Article Monitor for HP-EQ-42712	June 25, 2013
DIC 1585.59	Instrument Calibration Data Sheet for Ludlum Model 5/14C Survey Meter for R0218	October 10, 2013
DIC 1585.78	Instrument Calibration Data Sheet for Canberra Argos-5 A/B for HP-EQ-42783	August 13, 2013
WO2004321	Mechanical Vacuum Pump Discharge Radiation Monitor	June 19, 2013
WO2008387	Offgas Post Treatment Radiation Monitor	June 7, 2013
WO2011512	Reactor Building Effluent Monitor – Intermediate Range	April 9, 2012
WO2024218 – 01 and 02	Offgas Pretreatment Radiation Monitor	November 2, 2012
WO2024809	Reactor Building Stack Monitor – High Range	June 5, 2012
WO2028351	WEA Building Exhaust Flow Rate	February 9, 2013
WO2029599 – 01 and 02	Reactor Building Low Range Effluent Monitor and Nobel Gas Monitor	March 6, 2013 and March 25, 2013

WO2029600 (WO2029631)	WEA Low Range Noble Gas Monitor	March 5, 2013
WO2029628 (WO2029398)	TEA Low Range Noble Gas Monitor	March 26, 2013
WO2034132	Reactor Building Effluent Monitor – Intermediate Range	October 17, 2013
WO2033308	TEA Building Exhaust Flow Rate	April 25, 2013
WO2036612	TEA Sample Flow Rate	August 20, 2013
WO2036615	WEA Sample Flow Rate	August 22, 2013
WO2037580	Reactor Building Effluent Sample Flow Rate	September 17, 2013
WO2037840	Reactor Building Exhaust Flow Rate	September 25, 2013
WO2030895	Reactor Building Exhaust Flow Rate	April 8, 2013
WO2039627	Reactor Building Stack Monitor – High Range	October 25, 2013

Miscellaneous Documents

<u>Title</u>	<u>Date</u>
2011 Annual Radioactive Effluent Release Report	
2012 Annual Radioactive Effluent Release Report	
AR-RIS-21 Primary to Secondary Source Calibration History	June 16, 2009
Energy Northwest Columbia Generating Station Offsite Dose Calculation Manual	May 2013
FDR-RIS-606 Primary to Secondary Source Calibration History	2010
OG-RIS-612 Primary to Secondary Source Calibration History	April 6, 2010
REA-TEA-WEA Primary to Secondary Source Calibration History	January 14, 2009
SW-RIS-605 Primary to Secondary Source Calibration History	May 25, 2010

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
12.4.21	The Sampling and Determination of Tritium	25
12.5.8	Gaseous Effluent Discharge Sampling	23
12.5.28	Sampling and Analysis for Unrestricted Release	12
16.11.1	Monthly Grab Gas Samples	10
16.11.6	Weekly Iodine, Particulate, and Tritium Analysis Results	15
SWP-CHE-01	Groundwater Protection Program	3
MSP-WPA-B101	Control Room DIV A, Emergency Filtration System HEPA Filter Test	5
MSP-WPA-B103	Control Room DIV A Filtration System – Carbon Adsorber Test	8
MSP-WPA-B104	Control Room DIV B Filtration System – Carbon Adsorber Test	9
MSP-SGT-B102	Standby Gas Treatment System Unit B HEPA Filter Test	4
MSP-SGT-B103	Standby Gas Treatment Filtration System – Unit A Carbon Adsorber Test	8
MSP-SGT-B104	Standby Gas Treatment Filtration System – Unit B Carbon Adsorber Test	8

Action Requests

242972	254113	282355	245509	257816
260061	249263	267053	269498	229443
232447	232430			

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
AU-CH-12	Chemistry, Environmental, and Effluent Monitoring Programs Audit	October 17, 2012
AR-SA 234895	Snapshot Self-Assessment Report – ODCM and Implementing Activities	June 6 – 16, 2011
AR-SA 277997	Snapshot Self-Assessment Report – Chemistry Effluents Program Status	June 25 to November 28, 2012

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
23222	NUPIC Audit – Fluke Biomedical	January 14-17, 2013

Air Cleaning System Surveillance Test Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
WO 2000659	Control Room DIV A, Emergency Filtration System HEPA Filter Test	January 19, 2012
WO 2000660	Control Room DIV A Filtration System – Carbon Adsorber Test	January 21, 2012
WO 2004423	Standby Gas Treatment Filtration System – Unit A Carbon Adsorber Test	March 27, 2012
WO 2015631	Standby Gas Treatment System Unit B HEPA Filter Test	May 2, 2012
WO 2015632	Standby Gas Treatment Filtration System – Unit B Carbon Adsorber Test	May 29, 2012
WO 2023067	Control Room DIV B Filtration System – Carbon Adsorber Test	April 25, 2013

Miscellaneous Documents

<u>Title</u>	<u>Revision/ Date</u>
2011 Annual Radioactive Effluent Release Report	
2012 Annual Radioactive Effluent Release Report	
Energy Northwest Columbia Generating Station Offsite Dose Calculation Manual	50
Environmental Cross-Check Program 2011 Summary Report	March 2012
Environmental Cross-Check Program 2012 Summary Report	March 2013

Section 2RS7: Radiological Environmental Monitoring Program

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.11.1	Radiological Environmental Monitoring Program (REMP) Implementation Procedure	12
1.11.18	Recordkeeping for Decommissioning Planning	1
CI-6.0	Groundwater Protection Program – Risk Assessment	0
SOP 11.01	Milk Sampling	6
SOP 11.02	Soil and Sediment Sampling	2
SOP 11.07	REMP Water Sample Collection	4
SOP 11.09	REMP Air Sample Collection	5
SWP-CHE-01	Groundwater Protection Program	3
ODCM	Offsite Dose Calculation Manual	50
SALI RC 03	Sample Preparation for Gamma Analysis	2
SALI RC 04	Low Level Iodine	3

Audits, Self-assessments, and Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
294337	Self-Assessment – NRC Inspection Area: REMP	September 26, 2013
AU-CH-12	Chemistry, Environmental, and Effluent Monitoring Programs Audit	October 17, 2012

Action Requests

297112 297298

Calibration and Maintenance Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
0066190:1373290091	Air Sampler Calibration Report	July 8, 2013

0060961:1376464909	Air Sampler Calibration Report	August 14, 2013
0064876:1373289650	Air Sampler Calibration Report	July 8, 2013
0060951:1365405645	Air Sampler Calibration Report	April 8, 2013
WO# 02027801	TMU-SR-1 Calibrate: Intake Automatic Sampler	December 26, 2012
WR# 29110076	CBD-SR-2 Calibrate Standby Circulating Water Blowdown Composite Water Sampler	November 7, 2013
WO# 01200244	CBD-SR-1 Calibrate Standby Circulating Water Blowdown Composite Water Sampler	July 11, 2011
WO# 02030474	Calibration of Rain Gauge and Temperature Monitoring Instrumentation	March 28, 2013
WO# 02030473	Calibration of Wind Speed/Direction Instrumentation for 33' and 245'	April 3, 2013

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
2011	Annual 5-Mile Land Use Census	October 11, 2011
2011	Annual Radioactive Effluent Release Report	February 29, 2012
2011	Annual Radiological Environmental Operating Report	May 2012
2012	Annual 5-Mile Land Use Census	September 13, 2012
2012	Annual Radioactive Effluent Release Report	April 30, 2013
2012	Annual Radiological Environmental Operating Report	May 9, 2013

Section 2RS8: Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SWP-RMP-01	Radioactive Waste Management Program	1
SWP-RMP-02	Radioactive Waste Process Control Program	4
PPM 11.2.23.1	Shipping Radioactive Materials and Waste	11
PPM 11.2.23.2	Computerized Radioactive Waste and Material Characterization	19
PPM 11.2.23.3	Manual Radioactive Waste and Material Characterization	13
PPM 11.2.23.4	Packaging Radioactive Materials and Waste	23

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
PPM 11.2.23.7	Shipping Empty Radioactive Material Packages	12
PPM 11.2.23.14	Sampling of Radioactive Materials Packages	12
PPM 11.2.23.19	Operation of the Pacific Nuclear Resin Drying System	13
PPM 11.2.23.20	Use of the Transportation Cask Model	13
PPM 11.2.23.28	Transferring Possession of Radioactive Material to another Entity	5
PPM 11.2.23.29	LSA Contaminated Laundry Shipments	10
PPM 11.2.23.36	Operation of the Radwaste Compactor	3
PPM 11.2.23.37	Use of the 14D-2.0 Type A Transportation Cask	4
PPM 11.2.23.38	14D-2.0 Cask Maintenance Manual	2
PPM 11.2.23.39	Operation of the Self-Engaging Dewatering System	0
PPM 11.2.23.40	Vendor Operation of the Self-Engaging Dewatering System	1
PPM 11.2.23.41	Use of the Model 8-120B Transportation Cask	3
PPM 11.2.23.42	Use of the Model 10-160B Transportation Cask	2
PPM 11.2.23.43	Use of the Model 10-142 Transportation Cask	0
CI-13.6	ORTEC Gamma-Rat Analyzer System	3

<u>Number</u>	<u>Title</u>	<u>Date</u>
AR-SA 0244490-02	Energy Northwest Self-Assessment Report	April 20, 2012
AR-SA 274684	Energy Northwest Self-Assessment Report	July 18, 2013
AU-RP/RW-11	Quality Services Audit Report: Radiation Protection and Process Control Program	November 10, 2011

Action Reports (ARs)

00244454	00246011	00247601	00248151	00253152
002554468	00261825	00276079	00291986	00292674
00293559	00295994			

Radioactive Material Shipments

<u>Number</u>	<u>Title</u>	<u>Date</u>
11-105	1 HIC in the 8-120B CASK (LSA-II)	August 17, 2011
11-106	1 HIC in the 8-120B CASK (LSA-II)	August 29, 2011
12-01	1 HIC in the 8-120B CASK (Type B)	January 19, 2012
12-33	3 TYPE A MSRV, 1 TOOL BOXES (SCO-II)	June 26, 2012
13-30	4 CRD SHIPPING BOXES (Type A)	May 23, 2013
13-37	7 L-59 LAUNDRY BOXES (LSA-II)	June 6, 2013

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
DIC 1554.5	Scaling Factor Determination Package	July 15, 2012
	Columbia Generating Station Final Safety Analysis Report: Chapters 11 and 12	57
DIC 1554.5	Scaling Factor Determination Package	August 10, 2010
HP001839-LP	Shipping and Receiving Radioactive Material Lesson	1
HP001874	Just-in-Time Training: Transportation Packaging Requirements	1

Section 40A1: Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-INST-M101	Remote and Alt Remote Shutdown Panel Channel Check	11
OSP-RCIC/IST-Q701	RCIC Operability Test	52
OSP-SW-M101	Standby Service Water Loop A Valve Position Verification	35
OSP-SW/IST-Q701	Standby Service Water Loop A Operability	25
PPM 10.27.86	RCIC Turbine Trip on Low Pump Suction Pressure Calibration	12
PPM 10.27.87	RCIC Keepfill Instruments RCIC-PIS-1 and RCIC-PIS-34 – CFT/CC	6

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SOP-RCIC-FILL	RCIC Fill and Vent	11-12

Action Requests (ARs)

250610	250760	250855	250871	250924
250927	250962	255792	264391	267746
292236	297464			

Work Orders (WOs)

01178000	01187443	01188964	01193790	01191243
02006562	02026088	02011355	02013991	02018131
02018203	02019561	02021224	02021238	02022077
02025895	02025944	02029490	02032841	02040128

Section 40A2: Problem Identification and ResolutionCalculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NE-02-02-08	Evaluation of Secondary Containment Penetrations	0
NE-02-09-12	CGS Emergency Action Levels (EALs) Technical Bases	1

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-RCIC/IST-Q702	RCIC Valve Operability Test	34
PPM 1.3.68	Work Management Process	29
TSP-DG1/LOCA-B501	Standby Diesel Generator DG 1 LOCA Test	17

Action Requests (ARs)

246922	276930	286193	287423	291540
292358	292766	292874	292882	294049

296995	297126	297134	297142	297149
297162	297187	297246	299520	299881

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
CCER C92-0128	RCIC-V-25 and RCIC-V-26	2, 3
CCER C92-0738	DG-RLY-DG1/K3 Diesel Generator Overspeed	0
CCER C93-0279	DG-RLY-DG1/K4 Fail To Start	0
Technical Memo 2050	Classification of the Design Base Function and Primary Containment Isolation Boundaries of the RCIC System	3

Section 40A3: Follow-up of Events and Notices of Enforcement Discretion

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
ABN-CR-EVAC	Control Room Evacuation and Remote Cooldown	32
OSP-INST-B701	Remote Shutdown Panel Operability	13
PPM 10.25.208	MCC Bucket Replacement Using Spectrum Technologies Inc.	3-8

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NE-02-85-19	Calculation Post-Fire Safe Shutdown (PFSS) Analysis	7

Action Requests (ARs)

286816	296447
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Work Orders

01174145	02004108
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Section 4OA5: Other ActivitiesCalculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NE-02-94-25	Hydrogen Mixing Study for Containment Following Design Basis Accident	0

Technical Memorandum

<u>Number</u>	<u>Title</u>	<u>Revision</u>
TM-2065	Requirements for Containment Mixing Fans	0

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.43	10 CFR 50.59 Review and Safety Evaluation Process	5
1.4.5	Technical Specification, FSAR, ODCM Change Control Process	8
SWP-LIC-02	Licensing Basis Impact Determinations	12
SWP-LIC-03	Licensing Document Change Process	14

Action Requests (ARs)

252158	254432	254769	261556	261563
263296	263297	263298	264652	266865
267408	272311	272313	280119	282022
282233	293188	293637	294822	296339
299951				

Training Lessons

<u>Number</u>	<u>Title</u>	<u>Revision</u>
LD0000001	10 CFR 50.59/72.48 Evaluator Training	2
LD0000003	LBID Process Training	1
LD0000004	10CFR50.59 Screener	2
LD0000005	Overview of Site Licensing Basis Documents (LBD)	3
LD0000006	Overview of Plant Licensing Basis Documents (LBD)	0
LD0000009	LBID Process Refresher Training	4

Training Lessons

<u>Number</u>	<u>Title</u>	<u>Revision</u>
LD0000014	LBID Applied Process Refresher Training	2
LD0000015	LBID Fundamental Refresher Training	0

License Document Change Notices

90-100	90-127	91-090	92-084	92-102
93-039	93-042	93-081	94-015	95-025
95-041	96-014	96-015	00-019	

Safety Analysis Report Change Notices

84-08	85-100	85-133
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Section 40A7: Licensee-Identified Violations

Action Requests (ARs)

219553	292521
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**The following items are requested for the
Public Radiation Safety Inspection
at Columbia Generating Station
November 4 – 8, 2013
Integrated Report 2013005**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before October 15, 2013.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact Bernadette Baca at (817) 200-1235 or Bernadette.Baca@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

5. Radiation Monitoring Instrumentation (71124.05)

Date of Last Inspection: June 28, 2010

- A. List of contacts and telephone numbers for the following areas:
 - 1. Effluent monitor calibration
 - 2. Radiation protection instrument calibration
 - 3. Installed instrument calibrations
 - 4. Count room and Laboratory instrument calibrations
 - B. Applicable organization charts
 - C. Copies of audits, self-assessments, vendor or NUPIC audits for contractor support and LERs, written since date of last inspection, related to:
 - 1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, or whole body counters
 - 2. Installed radiation monitors
 - D. Procedure index for:
 - 1. Calibration, use and operation of continuous air monitors, criticality monitors, portable survey instruments, temporary area radiation monitors, electronic dosimeters, teledosimetry, personnel contamination monitors, and whole body counters.
 - 2. Calibration of installed radiation monitors
 - E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
 - 1. Calibration of portable radiation detection instruments (for portable ion chambers)
 - 2. Whole body counter calibration
 - 3. Laboratory instrumentation quality control
 - F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the following programs:
 - 1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, whole body counters,
 - 2. Installed radiation monitors,
 - 3. Effluent radiation monitors
 - 4. Count room radiation instruments
- NOTE: The lists should indicate the significance level of each issue and the search criteria used.
- G. Offsite dose calculation manual, technical requirements manual, or licensee controlled specifications which lists the effluent monitors and calibration requirements.
 - H. Current calibration data for the whole body counter's.
 - I. Primary to secondary source calibration correlation for effluent monitors.
 - J. A list of the point of discharge effluent monitors with the two most recent calibration dates and the work order numbers associated with the calibrations.

K. Radiation Monitoring System health report for the previous 12 months.

6. Radioactive Gaseous And Liquid Effluent Treatment (71124.06)

Date of Last Inspection: July 11, 2011

A. List of contacts and telephone numbers for the following areas:

1. Radiological effluent control
2. Engineered safety feature air cleaning systems

B. Applicable organization charts

C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:

1. Radioactive effluents
2. Engineered Safety Feature Air cleaning systems

D. Procedure indexes for the following areas

1. Radioactive effluents
2. Engineered Safety Feature Air cleaning systems

E. Please provide specific procedures related to the following areas noted below.

Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1. Sampling of radioactive effluents
2. Sample analysis
3. Generating radioactive effluent release permits
4. Laboratory instrumentation quality control
5. In-place testing of HEPA filters and charcoal adsorbers
6. New or applicable procedures for effluent programs (e.g., including ground water monitoring programs)

F. List of corrective action documents (including corporate and subtiered systems) written since date of last inspection, associated with:

1. Radioactive effluents
2. Effluent radiation monitors
3. Engineered Safety Feature Air cleaning systems

NOTE: The lists should indicate the significance level of each issue and the search criteria used.

G. 2011 and 2012 Annual Radioactive Effluent Release Report

H. Current Copy of the Offsite Dose Calculation Manual

I. Copy of the 2011 and 2012 interlaboratory comparison results for laboratory quality control performance of effluent sample analysis

J. Effluent sampling schedule for the week of the inspection

K. New entries into 10 CFR 50.75(g) files since date of last inspection

L. Operations Dept (or other responsible dept) log records for effluent monitors removed from service or out of service

- M. Listing or log of liquid and gaseous release permits since date of last inspection
- N. For technical specification-required air cleaning systems, the most recent surveillance test results of in-place filter testing (of HEPA filters and charcoal adsorbers) and laboratory testing (of charcoal efficiency)
- 7. **Radiological Environmental Monitoring Program (71124.07)**
Date of Last Inspection: July 11, 2011
 - A. List of contacts and telephone numbers for the following areas:
 - 1. Radiological environmental monitoring
 - 2. Meteorological monitoring
 - B. Applicable organization charts
 - C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:
 - 1. Radiological environmental monitoring program (including contractor environmental laboratory audits, if used to perform environmental program functions)
 - 2. Environmental TLD processing facility
 - 3. Meteorological monitoring program
 - D. Procedure index for the following areas:
 - 1. Radiological environmental monitoring program
 - 2. Meteorological monitoring program
 - E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
 - 1. Environmental Program Description
 - 2. Sampling, collection and preparation of environmental samples
 - 3. Sample analysis (if applicable)
 - 4. Laboratory instrumentation quality control
 - 5. Procedures associated with the Offsite Dose Calculation Manual
 - 6. Appropriate QA Audit and program procedures, and/or sections of the station's QA manual (which pertain to the REMP)
 - F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the following programs:
 - 1. Radiological environmental monitoring
 - 2. Meteorological monitoringNOTE: The lists should indicate the significance level of each issue and the search criteria used.
 - G. Wind Rose data and evaluations used for establishing environmental sampling locations
 - H. Copies of the 2 most recent calibration packages for the meteorological tower instruments
 - I. Copy of the 2011 and 2012 Annual Radiological Environmental Operating Report and Land Use Census, and current revision of the Offsite Dose Calculation Manual

- J. Copy of the environmental laboratory's interlaboratory comparison program results for 2011 and 2012, if not included in the annual radiological environmental operating report
- K. Data from the environmental laboratory documenting the analytical detection sensitivities for the various environmental sample media (i.e., air, water, soil, vegetation, and milk)
- L. Quality Assurance audits (e.g., NUPIC) for contracted services
- M. Current NEI Groundwater Initiative Plan and status

8. Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

Date of Last Inspection: July 11, 2011

- A. List of contacts and telephone numbers for the following areas:
 - 1. Solid Radioactive waste processing
 - 2. Transportation of radioactive material/waste
- B. Applicable organization charts (and list of personnel involved in solid radwaste processing, transferring, and transportation of radioactive waste/materials)
- C. Copies of audits, department self-assessments, and LERs written since date of last inspection related to:
 - 1. Solid radioactive waste management
 - 2. Radioactive material/waste transportation program
- D. Procedure index for the following areas:
 - 1. Solid radioactive waste management
 - 2. Radioactive material/waste transportation
- E. Please provide specific procedures related to the following areas noted below: Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.
 - 1. Process control program
 - 2. Solid and liquid radioactive waste processing
 - 3. Radioactive material/waste shipping
 - 4. Methodology used for waste concentration averaging, if applicable
 - 5. Waste stream sampling and analysis
- F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection related to:
 - 1. Solid radioactive waste
 - 2. Transportation of radioactive material/waste

NOTE: The lists should indicate the significance level of each issue and the search criteria used.
- G. Copies of training lesson plans for 49CFR172 subpart H, for radwaste processing, packaging, and shipping.
- H. A summary of radioactive material and radioactive waste shipments made from date of last inspection to present
- I. Waste stream sample analyses results and resulting scaling factors for 2011 and 2012

J. Waste classification reports if performed by vendors (such as for irradiated hardware)

Although it is not necessary to compile the following information, the inspector will also review:

K. Training, and qualifications records of personnel responsible for the conduct of radioactive waste processing, package preparation, and shipping