



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

February 2, 2015

Mr. M.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 05000397/2014005

Dear Reddemann:

On December 31, 2014, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. On January 5, 2015, the NRC inspectors discussed the results of this inspection with Mr. B. Sawatzke, Chief Operating Officer and Chief Nuclear Officer, and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

No NRC identified or self-revealing findings were identified during this inspection.

However, 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 NRC 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.

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

M. Reddemann

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Sincerely,

/RA/

Thomas R. Farnholtz
Deputy Director
Division of Reactor Projects

Docket Nos.: 50-397
License Nos.: NPF-21

Enclosure: Inspection Report 05000397/2014005
w/ Attachment: Supplemental Information

cc w/ encl: Electronic Distribution

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Letter to M.E. Reddeman from T. Farnholtz dated February 2, 2015

SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION
REPORT 05000397/2014005

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Resident Inspector (Dan.Bradley@nrc.gov)
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Electronic Distribution for Columbia Generating Station

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000397

License: NPF-21

Report: 05000397/2014005

Licensee: Energy Northwest

Facility: Columbia Generating Station

Location: North Power Plant Loop
Richland, WA 99354

Dates: September 22, 2014 – December 31, 2014

Inspectors: D. Bradley, Resident Inspector
J. Braisted, Ph.D., Reactor Inspector
M. Brooks, Physical Security Inspector
J. Drake, Senior Reactor Inspector
P. Elkmann, Senior Emergency Preparedness Inspector
S. Garchow, Senior Operations Engineer
J. Groom, Senior Resident Inspector
G. Guerra, CHP, Emergency Preparedness Inspector
M. Hayes, Operations Engineer
S. Makor, Acting Senior Resident Inspector
N. Okonkwo, Reactor Inspector

Approved By: Tom Farnholtz
Deputy Director
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000397/2014005; 09/22/2014 – 12/31/2014; Columbia Generating Station; Integrated Inspection Report.

The inspection activities described in this report were performed between September 22 and December 31, 2014 by the resident inspectors at Columbia Generating Station and inspectors from the NRC's Region IV office. NRC inspectors documented in this report two licensee-identified violations of very low safety significance. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process."

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 and remained at nearly full power for the entire inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- September 22, 2014, Division 2 critical switchgear room cooling during planned maintenance on diesel generator 2
- September 30, 2014, drywell to suppression chamber and reactor building to wetwell vacuum breakers
- October 21, 2014, reactor protection and nuclear steam supervisory shutoff systems
- October 27, 2014, automatic depressurization 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 or trains were correctly aligned for the existing plant configuration.

These activities constituted four partial system walk-down samples as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On November 10-13, 2014, the inspectors performed a complete system walk-down inspection of the low pressure coolant injection 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 6, 2014, Fire Area R-4, residual heat removal B pump room
- October 10, 2014, Fire Area R-1, reactor building 471' elevation general area
- November 20, 2014, Fire Area DG-7 and DG-10, high pressure core spray diesel day tank room and diesel deluge room
- November 20, 2014, Fire Area RC-4/1, RC-5/1, RC-6/2, RC-7/2, RC-8/2, RC-9/2, RC-14/1, radioactive waste building 467' elevation vital island rooms

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.

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

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On November 12, 2014, the inspectors observed a portion of an annual requalification test for licensed operators. The inspectors assessed the performance of the operators and the evaluators' critique of their performance. The inspectors also assessed and the modeling and performance of the simulator during the requalification activities.

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

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

On November 16, 2014, 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 control rod testing. The inspectors observed the operators' performance of the following activities:

- TSP-CRD-C101, "CRD Scram Timing with Auto Scram Timer System," Revision 23, including the pre-job brief
- OSP-CRD-C703, "Control Rod Settle Time Test," Revision 1, including the pre-job brief

In addition, the inspectors assessed the operators' adherence to plant procedures, including PPM 1.3.1, "Operating Policies, Programs, and Practices," Revision 118, 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.

.3 Biennial Review of Requalification Program

a. Inspection Scope

The licensed operator requalification program involves two training cycles that are conducted over a 2-year period. In the first cycle, the annual cycle, the operators are

administered an operating test consisting of job performance measures and simulator scenarios. In the second part of the training cycle, the biennial cycle, operators are administered an operating test and a comprehensive written examination.

The on-site inspection effort occurred from December 1-4, 2014. To assess the performance effectiveness of the licensed operator requalification program, the inspectors reviewed both the operating tests and written examinations, and observed ongoing operating test activities.

The inspectors reviewed operator performance on the written exams and operating tests. These reviews included observations of portions of the operating tests by the inspectors. The operating tests observed included seven job performance measures and six scenarios that were used in the current biennial requalification cycle. These observations allowed the inspectors to assess the licensee's effectiveness in conducting the operating test to ensure operator mastery of the training program content. The inspectors also reviewed medical records of 10 licensed operators for conformance to license conditions and the licensee's system for tracking qualifications and records of license reactivation for three operators.

The results of these examinations were reviewed to determine the effectiveness of the licensee's appraisal of operator performance and to determine if feedback of performance analyses into the requalification training program was being accomplished. The inspectors reviewed minutes of training review group meetings and operator performance-related action requests to assess the responsiveness of the licensed operator requalification program to incorporate the lessons learned from both plant and industry events. Examination results were also assessed to determine if they were consistent with the guidance contained in NUREG 1021, "Operator Licensing Examination Standards for Power Reactors", Revision 9, Supplement 1, and NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process."

In addition to the above, the inspectors reviewed examination security measures, simulator fidelity, and existing logs of simulator deficiencies.

On December 22, 2014, the licensee informed the lead inspector of the results of the written examinations and operating tests for the Licensed Operator Requalification Program. The inspectors compared these results to NRC Inspection Manual Chapter 0609, Appendix I, "Licensed Operator Requalification Significance Determination Process," values and determined that there were no findings based on these results and because all of the individuals that failed the applicable portions of their examinations and/or operating tests were remediated, retested, and passed their retake exams prior to returning to shift.

The inspectors completed one inspection sample of the biennial licensed operator requalification program.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed two instances of degraded performance or condition of structures, systems, and components (SSCs):

- September 25, 2014, system review of the standby liquid control system
- November 6, 2014, performance and maintenance effectiveness for scram discharge volume level indicating switch CRD-LIS-601D under AR 312652

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 the 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 two 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 four 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 22, 2014, yellow risk during planned maintenance on the emergency diesel generator 1
- October 14, 2014, yellow risk during planned maintenance on the reactor core isolation cooling system
- October 23, 2014, yellow risk during planned replacement of turbine seal oil valve SO-V-256
- November 4, 2014, yellow risk during planned maintenance on service water pump house cooler PRA-FC-1B

The inspectors verified that these risk assessments 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.

Additionally, on October 29, 2014, the inspectors observed portions of emergent work activities on the pump house room cooler PRA-FC-1A that had the potential to affect the capability of a mitigating system. The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected structures, systems, and components (SSCs).

The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected structures, systems, and components (SSCs).

These activities constitute completion of five 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 four operability determinations that the licensee performed for degraded or nonconforming structures, systems, or components (SSCs):

- September 30, 2014, AR 315170, operability determination associated the tripping of diesel exhaust air fan DEA-FN-52
- November 3, 2014, AR 316847, operability determination associated the use of non-quality sealant in the control room emergency filtration system
- November 5, 2014, AR 317162, operations review of air bypass around service water pump house room cooler PRA-CC-1B
- November 7, 2014, AR 317386, operability determination associated with rupture of fire protection hydrant FP-HT-1M and associated water intrusion into standby service water spray pond B

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 four operability and functionality review samples, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R17 Evaluations of Changes, Tests and Experiments and Permanent Plant Modifications (71111.17)

.1 Evaluations of Changes, Tests, and Experiments

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's implementation of evaluations performed in accordance with 10 CFR 50.59, "Changes, Tests, and Experiments," and changes, tests, experiments, or methodology changes that the licensee determined did not require 10 CFR 50.59 evaluations.

The inspectors reviewed seven evaluations required by 10 CFR 50.59; twenty-one changes, tests, and experiments that were screened out by licensee personnel; and eleven permanent plant modifications. Documents reviewed are listed in the attachment.

The inspectors verified that, when changes, tests, or experiments were made, evaluations were performed in accordance with 10 CFR 50.59 and licensee personnel had appropriately concluded that the change, test or experiment can be accomplished without obtaining a license amendment. The inspectors also verified that safety issues related to the changes, tests, or experiments were resolved. The inspectors reviewed changes, tests, and experiments that licensee personnel determined did not require evaluations and verified that the licensee personnel's conclusions were correct and consistent with 10 CFR 50.59. The inspectors also verified that procedures, design, and licensing basis documentation used to support the changes were accurate after the changes had been made.

In the inspection of modifications the inspectors verified that supporting design and license basis documentation had been updated accordingly and was still consistent with the new design. The inspectors verified that procedures, training plans, and other design basis features had been adequately accounted for and updated. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of seven samples of evaluations and twenty-one samples of changes, tests, and experiments that were screened out by licensee personnel as defined in Inspection Procedure 71111.17-04.

b. Findings

No findings were identified.

.2 Permanent Plant Modifications

a. Inspection Scope

The inspectors verified that calculations, analyses, design change documentation, procedures, the updated final safety analysis report, the technical specifications, and plant drawings used to support the modifications were accurate after the modifications had been made. The inspectors verified that modifications were consistent with the plant's licensing and design bases. The inspectors confirmed that revised calculations and analyses demonstrated that the modifications did not adversely impact plant safety. Additionally, inspectors interviewed design and system engineers to assess the adequacy of the modifications.

These activities constitute completion of eleven samples of permanent plant modifications as defined in Inspection Procedure 71111.17-04.

.2.1 Replacement of the Residual Heat Removal Keep Fill Pump and Motor

The inspectors reviewed Engineering Change (EC) 001498, implemented to replace the residual heat removal system keep fill pump and motor, RHR-P-3 and RHR-M-P/3. The pump keeps the B and C trains of the residual heat removal system pressurized while those systems are in standby. The existing pump was subject to bearing failures, which the licensee attributed to pressure fluctuations and turbulence in the pump's suction line and the general design of the pump's bearing. This engineering change involved replacement of the existing pump with a new pump with a different impeller and bearing design. The engineering change also modified routing of piping to reduce turbulence at the pump suction. Finally, the change included an evaluation of a new motor since the licensee determined the existing motor was oversized for the application. The inspectors did not identify any concerns with the design change package.

.2.2 Permanent Reactor Building Siding System Repairs

The inspectors reviewed EC 006911, implemented to repair the reactor building metal siding system. The siding and roof decking enclosing the reactor building steel frame superstructure are designed to blow off the frame when a certain differential pressure is exceeded. This steel frame, which sits atop the refueling floor, is designed to withstand the design basis tornado. The existing reactor building siding was damaged by high winds and, initially, only temporarily repaired. This engineering change was implemented to permanently repair the siding system. This engineering change involved the use of replacement components (i.e., insulation, sub-girts, outer panels, and associated flashing) that were not like-for-like but of equivalent or improved quality. The change also evaluated the existing siding to ensure that it met the original design specifications. The inspectors did not identify any concerns with the design change package.

.2.3 Replacement of Fused Disconnects in a Control Cabinet

The inspectors reviewed EC 007694, which implemented the replacement of fuse blocks in the control cabinet for circuit breaker EC-CB-TRB. The breaker is a 115 kilovolt (kV) nonsafety-related oil circuit breaker. The existing fuse blocks and disconnects were degraded and posed a personnel safety hazard and decreased system reliability. The engineering change also involved the replacement of the existing fuse blocks and fuses with new ones intended to improve personnel safety and system reliability and provide isolation and overcurrent protection. The fuses had degraded fuse clips, which were also replaced with new clips and fuses. The inspectors did not identify any concerns with the design change package.

.2.4 Replacement of a Service Water System Valve with a Spool Piece

The inspectors reviewed EC 008632, implemented to replace service water valve SW-V-34. This valve served as a return isolation valve for the reactor core isolation cooling system room cooler and allowed for throttling of flow to the cooler. By procedure, this valve was placed in the open position and received an open signal upon starting the reactor core isolation cooling system. This valve had a long history of failing inservice testing, sticking in mid-position, and becoming obstructed with debris. Previously, eight motor-operated valves were removed from service, which performed the same function as SW-V-34, in safety-related room coolers and locked open to remove the valves from the motor-operated valve testing program. SW-V-34 was a solenoid-operated valve that was not included in the original scope. The inspectors did not identify any concerns with the design change package.

.2.5 Installation of a Permanent Source of Temporary Power

The inspectors reviewed EC 008678, which implemented the installation of 480 volt (V) electrical power to support outage and maintenance activities in the turbine generator building. The original plant design provided limited sources of electrical power throughout the turbine generator building. Additionally, the existing sources of electrical power were affected by plant bus outages that delayed work activities. The engineering change involved the installation of new electrical power distribution panels in the turbine generator building, which are powered from facility substations E-SL-F10 and E-SL-F11 and do not provide power to any plant operating equipment. These power sources are turned off during plant operating Mode 1 and are used only during plant or forced outages. The inspectors did not identify any concerns with the design change package.

.2.6 Digital Electro-Hydraulic Control System Enhancement

The inspectors reviewed EC 010208, which implemented revision to the logic in the control programmable logic controller (PLC) of the digital electro-hydraulic (DEH) control system. The Trip PLC logic did not recognize when a hydraulic trip of the main turbine had occurred that was not initiated by the DEH Trip PLC. Without a logical trip in the Trip PLC, the throttle and governor valves could re-open, resulting in a sudden change in steam flow to a potentially unsynchronized turbine, which could cause a turbine over-speed event and challenge turbine over-speed protection. The engineering change involved a revision to the logic in the control PLC to send a trip signal to the Trip PLC to trip the main turbine when both throttle valves on a single steam chest go closed. This modification will allow the Control Tricon to sense the mispositioned throttle valves and

send a trip signal to the Trip Tricon to allow the protective actions to complete and place the turbine in a safe condition. The inspectors did not identify any concerns with the design change package.

.2.7 Replacement of a Mixed Air Fan Motor

The inspectors reviewed EC 010306, implemented to replace the motor for radwaste mixed air fan WMA-M-FN/54A. The existing motor was subject to high vibrations. This engineering change involved the replacement of the existing safety-related motor with a new motor of similar size, form, fit, and function. The replacement motor has the same horsepower as the existing motor but had different values for locked-rotor current and full-load current. The inspectors did not identify any concerns with the design change package.

.2.8 Replacement of a Regulating Transformer

The inspectors reviewed EC 010419, implemented to replace the existing online regulating transformer E-TR-7BC. This transformer provides 208/120 V power to panel E-PP-7BC, which provides regulated and highly reliable power to nonsafety-related main steam isolation valve setpoint verification panels, service water sampling flow transmitters SWFT-4 and SW-FT-5, and stack monitoring system cooling and temperature control. The existing regulating transformer was originally classified as safety-related, Quality Class I, and Seismic Category I. Under EC010382, the transformer was reclassified to nonsafety-related and augmented quality. This engineering change involved the replacement of the existing transformer with a new transformer, classified as nonsafety-related, augmented quality, and Seismic Category IM. The inspectors did not identify any concerns with the design change package.

.2.9 Replacement of a Controller, Transducer, and Cables

The inspectors reviewed EC 010906, which implemented the replacement of tower makeup (TMU) level transmitter and controller, TMU-LT-1A and TMU-LC-1A, with newer models and associated signal cables. These instruments provide a support function for the TMU system by providing trip and alarm functions for low TMU pump house basin level. The existing TMU transmitter and controller had failed and had caused spurious trips and nuisance alarms. The engineering change involved the replacement of the existing transmitter, controller, and cables with updated models in order to restore the system to its previous functionality and control. The inspectors did not identify any concerns with the design change package.

.2.10 Replacement of a Circuit Breaker at Ashe Substation

The inspectors reviewed EC 011709, implemented to replace oil type circuit breaker A-809. The replacement breaker is an ABB SF6 gas type 230 kV circuit breaker that supplies power to the startup transformer and is located in the Ashe substation. Energy Northwest owns the breaker, but Bonneville Power Administration's (BPA) Transmission Services installed the breaker and maintains it. The existing breaker was aging and some of its components were obsolete and were either difficult to repair or could not be maintained. The engineering change, which was performed by BPA, involved the replacement of the existing breaker with a new one. The existing breaker

was tested and rated at 1,600 amperes (A) continuous with short circuit current of 33 kiloamperes (kA), while the replacement breaker was tested and rated to 3,000 A with short circuit current of 40 kA. The inspectors did not identify any concerns with the design change package.

.2.11 Deactivation and Removal of Residual Heat Removal System Valves

The inspectors reviewed EC 011109, implemented to evaluate the deactivation and removal of residual heat removal system sampling valves. These sampling valves were credited for post-fire safe shutdown. These valves were remotely indicated in the control room and were able to be operated from the control room. After completion of the engineering change, the credited post-fire safe shutdown valves were moved to manual valves inside the residual heat removal system heat exchanger rooms. The inspectors did not identify any concerns with the design change package.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- September 29, 2014, post-maintenance test of emergency diesel generator 1 following maintenance outage under Work Order 02060269
- October 3, 2014, post-maintenance test of fuel pool cooling pump FPC-P-1B following mechanical seal replacement under Work Order 02061283
- October 17, 2014, post-maintenance test of reactor core isolation cooling valve RCIV-V-19 following maintenance under Work Order 02058143
- November 3, 2014, post-maintenance test of main steam level indicating switch MS-LIS-200D and main steam level switch MS-LS-300D following replacement under Work Order 02030381
- November 21, 2014, post-maintenance test of containment monitoring system sample rack CMS-SR-13 following hydrogen detector replacement under Work Order 02057325
- December 1, 2014, post-maintenance test of control room air handling unit WMA-AH-51B following inspection and cleaning of unit filters and coils under Work Order 02057645
- December 9, 2014, post-maintenance test of electrical breaker E-CB-S/6 following maintenance under Work Order 02054476

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 seven 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 six 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:

In-service tests:

- November 29, 2014, procedure OSP-SW/IST-Q703, "HPCS Service Water Operability," Revision 22

Containment isolation valve surveillance tests:

- November 18, 2014, procedure "OSP-LPCS/IST-Q702," LPCS System Operability Test," Revision 37

Other surveillance tests:

- October 20, 2014, procedure OSP-CVB/IST-M701, "Vacuum Breaker Operability," Revision 16
- October 22, 2014, procedure OSP-ELEC-M701, "Diesel Generator 1 – Monthly Operability Test," Revision 54
- November 19, 2014, procedure ISP-RPS-Q902, "RPS (Channel A2) and EOC Recirc Pump Trip – TGV Fast Closure RPS-PS-5C – CFT/CC," Revision 9
- December 10, 2014, procedure OSP-SLC-B703, "SLC Pump Suction Flow Verification," Revision 9

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 six surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The inspectors performed an on-site review of the Columbia Generating Station Emergency Plan, Revision 60. This revision,

- Revised the Emergency Plan to incorporate the current Evacuation Time Estimate Study;
- Updated agreements with agencies that support the site during hostile action events;
- Revised drill and exercise requirements to ensure variations in scenarios;
- Added references to the FEMA Alert and Notification System design report;
- Added the definition of Hostile Action to the emergency plan; and,
- Updated titles and made other administrative and formatting corrections.

This revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q)(3) and 50.54(q)(4). The inspectors verified that the revision did not decrease the effectiveness of the emergency plan. This 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.

These activities constitute completion of one emergency action level and emergency plan change sample as defined in Inspection Procedure 71114.04.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Evolution Observation

a. Inspection Scope

On October 28, 2014, the inspectors observed simulator-based licensed operator requalification training that included implementation of the licensee's emergency plan. The inspectors verified that the licensee's emergency classifications, off-site

notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the evaluators and entered into the corrective action program for resolution.

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

b. Findings

No findings were identified.

1EP7 Exercise Evaluation – Hostile Action Event (71114.07)

a. Inspection Scope

The inspectors observed the August 26, 2014, biennial emergency plan exercise to verify the exercise acceptably tested the major elements of the emergency plan, provided opportunities for the emergency response organization to demonstrate key skills and functions, and demonstrated the licensee's ability to coordinate with offsite emergency responders. The scenario simulated,

- An attempted infiltration of the protected area by adversaries;
- An explosion inside the protected area at the vehicle entry gate;
- A loss of offsite power lines to the site because of hostile activity;
- An adversary team attacking the protected area;
- Explosions damaging the emergency diesel generators, resulting in a loss of all AC power onsite; and,
- Injuries and casualties among site employees,

to demonstrate the licensee's capability to implement its emergency plan under conditions of uncertain physical security.

During the exercise the inspectors observed activities in the Control Room Simulator and the following emergency response facilities:

- Alternate Technical Support Center;
- Alternate Operations Support Center;
- Alternate Emergency Operations Facility;
- Central and/or Secondary Alarm Station(s);
- Incident Command Post; and,

- Joint Information Center.

The inspectors focused their evaluation of the licensee's performance on event classification, offsite notification, recognition of offsite dose consequences, development of protective action recommendations, staffing of alternate emergency response facilities, and the coordination between the licensee and offsite agencies to ensure reactor safety under conditions of uncertain physical security.

The inspectors also assessed recognition of, and response to, abnormal and emergency plant conditions, the transfer of decision-making authority and emergency function responsibilities between facilities, on-site and off-site communications, protection of plant employees and emergency workers in an uncertain physical security environment, emergency repair evaluation and capability, and the overall implementation of the emergency plan to protect public health and safety and the environment. The inspectors reviewed the current revision of the facility emergency plan, emergency plan implementing procedures associated with operation of the licensee's primary and alternate emergency response facilities, and procedures for the performance of associated emergency and security functions.

The inspectors attended the post-exercise critiques in each emergency response facility to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent formal presentation of critique items to plant management. The specific documents reviewed during this inspection are listed in the attachment.

The inspectors reviewed the scenario of previous biennial exercises and licensee drills conducted between January 2013 and July 2014, to determine whether the August 26, 2014, exercise was independent and avoided participant preconditioning, in accordance with the requirements of 10 CFR 50, Appendix E, IV.F(2)(g). The inspectors also compared observed exercise performance with corrective action program entries and After-Action reports for drills and exercises conducted between January 2013 and July 2014 to determine whether identified weaknesses had been corrected in accordance with the requirements of 10 CFR 50.47(b)(14), and 10 CFR 50, Appendix E, IV.F.

These activities constituted completion of one exercise evaluation sample as defined in Inspection Procedure 71114.07.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review (71114.08)

a. Inspection Scope

The licensee submitted the preliminary exercise scenario for the August 26, 2014, biennial exercise to the NRC on June 12, 2014, in accordance with the requirements of 10 CFR 50, Appendix E, IV.F(2)(b). The inspectors performed an in-office review of the proposed scenario to determine whether it would acceptably test the major elements of the licensee's emergency plan, and provide opportunities for the emergency response organization to demonstrate key skills and functions.

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 2013 through September 2014 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 7, to determine the accuracy of the reported data.

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 2013 through September 2014 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 7, 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.

.3 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors reviewed the licensee's evaluated exercises, and selected drill and training evolutions that occurred between July 2013 and June 2014, to verify the accuracy of the licensee's data for classification, notification, and protective action recommendation opportunities. The inspectors reviewed a sample of the licensee's completed classifications, notifications, and protective action recommendations to verify their timeliness and accuracy. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the drill/exercise performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.4 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors reviewed the licensee's records for participation in drill and training evolutions between July 2013 and June 2014, to verify the accuracy of the licensee's data for drill participation opportunities. The inspectors verified that all members of the licensee's emergency response organization (ERO) in the identified key positions had been counted in the reported performance indicator data. The inspectors reviewed the licensee's basis for reporting the percentage of ERO members who participated in a drill. The inspectors reviewed drill attendance records and verified a sample of those reported as participating. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the emergency response organization drill participation performance indicator as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.5 Alert and Notification System Reliability (EP03)

a. Inspection Scope

The inspectors reviewed the licensee's records of Alert and Notification System tests conducted between July 2013 and June 2014, to verify the accuracy of the licensee's data for siren system testing opportunities. The inspectors reviewed procedural guidance on assessing Alert and Notification System opportunities and the results of

periodic alert and notification system operability tests. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the data reported. The specific documents reviewed are described in the attachment to this report.

These activities constituted verification of the alert and notification system reliability performance indicator 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

To verify that the licensee was taking corrective actions to address identified adverse trends that might indicate the existence of a more significant safety issue, the inspectors reviewed corrective action program documentation associated with the following licensee-identified trends:

- A negative trend involving service water chemistry quality parameters. (ARs 310672, 312729 and 313891)
- A negative trend identified by the licensee's quality assurance organization involving unplanned entries into technical specification limiting conditions for operations. (AR 315987)

Also, the inspectors identified the following trend that might indicate the existence of a more significant safety issue, and reviewed the licensee's response to it:

- A negative trend related to the selection and installation of fuses in safety-related applications.

Because the licensee identified an emergent cross-cutting theme in P.3 (*“Resolution: The organization take effective corrective actions to address issues in a timely manner commensurate with their safety significance”*), the inspectors reviewed the licensee’s response to that theme to verify that the licensee had taken, was taking, and/or planned to take appropriate actions to address it.

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

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

b. Observations and Assessments

The inspectors’ review of the trends identified above produced the following observations and assessments:

- For negative trend involving service water chemistry quality parameters, the licensee performed an evaluation of the causes for the negative trend. The licensee implemented changes to the chemical additional strategy for the service water spray ponds and developed plans to perform a feed and bleed of the service water spray ponds to improve water quality.

The inspectors considered that in response to this trend, the licensee had completed an appropriate evaluation and had developed appropriate corrective actions.

- For the negative trend involving unplanned entries into technical specification limiting conditions for operations, the licensee assigned an action to evaluate the commonalties between the unplanned technical specification entries. At the end of the inspection period, this evaluation was ongoing.

The inspectors considered that in response to this trend, the licensee had assigned an appropriate evaluation to determine the cause of this negative trend.

- For the negative trend related to the selection and installation of fuses in safety-related applications, the licensee performed a condition evaluation and extent of condition review under AR 315840 initiated due to unexpected trips of diesel exhaust air fan DEA-FN-12 on September 24, 2014 and diesel exhaust air fan DEA-FN-52 on September 29, 2014. In each instance, the licensee identified the trip of the fan was caused by nuisance clearing of fuses. The licensee’s extent of condition review identified several additional locations where 480 volt motor control center starters were replaced with new starters that had fuses sized at or below 125% of the full load amperage contrary to the guidance in procedure EES-5, “General Fuse Selection Criteria and the Electrical Protection of 460 VAC and 125-250 VDC Motors.” Additionally, the licensee identified several instances in their extent of condition review where fuse selection for safety related applications failed to account for electrical loads that operated slightly above the full load amps for the load. On November 5, 2014, the licensee initiated AR

317288 that included an assignment to perform an apparent cause evaluation to assess the current practices related selection of fuses in safety related applications and re-evaluate extent of condition.

The inspectors concluded that the licensee had conducted an appropriate evaluation to determine the cause and extent of condition of this negative trend. The licensee failed to apply appropriate design control measure when selecting fuses for safety related applications in violation of 10 CFR 50, Appendix B, Criterion III, "Design Control." The details of this violation are discussed further in Section 4OA7.

- For the cross-cutting theme in P.3, the licensee initiated AR 292766 soon after the NRC issued the fourth finding during the current assessment cycle that had a cross-cutting aspect in P.3. As described in that AR, the licensee's review of the associated findings determined that all four of the cross-cutting aspects in the theme were associated with timeliness of corrective actions. The licensee therefore initiated and completed changes to the corrective action program which included new procedural requirements associated with extensions of corrective actions and implementation of a performance indicator that tracks corrective action resolution. The licensee also trained managers and supervisors on the importance associated with timely resolution of issues entered into the corrective action program.

For this cross-cutting theme, the inspectors determined that the licensee had entered the theme into their corrective-action program in a timely manner, completed an appropriate evaluation of the theme, developed and scheduled appropriate corrective actions to address identified weaknesses and areas for improvement, and had completed most of those corrective actions by the time of this inspection.

c. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

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

- On November 18, 2014, control room deficiencies and operator work-around program.

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, which included one operator work-around sample, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

40A3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000397/2014-004-00, "TS Surveillance 3.7.1.1 Compliance, UHS Spray Pond Level," Revision 0

On August 14, 2014, the NRC identified that licensee surveillance procedure OSP-INST-H101, "Shift and Daily Instrument Checks (Modes 1, 2, 3)," Revision 80, allowed the total volume requirement for the service water spray ponds to be met by averaging the levels in the two ponds which is contrary to Technical Specification Surveillance Requirement (TSSR) 3.7.1.1. This surveillance requirement required the licensee to verify that the water level of each ultimate heat sink spray pond is greater than or equal to 432 feet 9 inches MSL. Subsequent review revealed periods where the level in one of the two ultimate heat sink spray ponds was less than the inventory requirements for a period greater than allowed by plant's technical specifications. Consequently, 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 05000397/2014004-01, "Failure to Comply with Ultimate Heat Sink Technical Specification Level Requirements," documenting the violation of the plant's technical specifications. No additional performance deficiencies were identified. This licensee event report is closed.

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

40A6 Meetings, Including Exit

Exit Meeting Summary

On July 8, 2014, the regional inspectors discussed the in-office review of the preliminary scenario for the 2014 biennial exercise, submitted June 12, 2014, with Mr. S. Clizbe, Acting Emergency Preparedness Manager, and other members of the licensee staff. The licensee acknowledged the issues presented.

On August 29, 2014, the regional inspectors presented the results of the onsite inspection of the biennial emergency preparedness exercise conducted August 26, 2014, to Mr. G. Hettel, Vice President, Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On October 9, 2014, the regional inspectors presented the preliminary inspection results of Changes, Tests, and Experiments to Mr. A. Javorik, Vice President, Engineering, Mr. G. Hettel, Vice President, Operations, and other members of the licensee's staff. The licensee acknowledged the results as presented. While some proprietary information was reviewed during this inspection, no proprietary information was included in this report.

The regional inspectors briefed Mr. G. Hettel, Vice President, Operations, and other members of the licensee's staff of the results of the licensed operator requalification program inspection on December 22, 2014. The licensee representatives acknowledged the findings presented. After reviewing the complete biennial requalification cycle examination results, the inspectors conducted an exit with Mr. R. Hayden, Operations Exam Developer, on December 22, 2014. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On January 5, 2015, the resident inspectors presented the inspection results to Mr. B. Sawatzke, Chief Operating Officer and Chief Nuclear Officer, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

40A7 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 non-cited violations.

- Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components. Contrary to the above, from April 2010 to November 4, 2014, the licensee failed to establish measures to review the suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components. Specifically, the licensee failed to review the suitability of parts for the safety related control room emergency filtration system resulting in non-qualified sealant and rivets used for the system's air handling units. The finding was of very low safety significance because the finding only represented a degradation of the radiological barrier function provided for the control room. This issue was entered into the licensee's corrective action program as AR 316847, AR 317173 and AR 317184.
- Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires, in part, that measures shall be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components. Licensee procedure EES-5, "General Fuse Selection Criteria and the Electrical Protection of 460 VAC and 125-250 VDC Motors", Revisions 0-7, is a procedure used to select and review the suitability of fuses in safety related applications. Contrary to the above, prior to November 4, 2014, the licensee failed to establish measures to review the suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components. Specifically, the licensee failed to review the suitability of fuses used in safety related applications because procedure EES-5 did not specify that the actual full load amperage rating (as opposed to nameplate rating) of components be considered when selecting fuses. The finding was of very low safety significance because it was a design or qualification deficiency that did not result in a loss of operability or functionality. This issue was entered into the licensee's corrective action program as AR 317288, 314956 and 315170.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

C. Anderson, Supervisor, Security Operations
J. Blake, Principal Engineer
D. Brandon, Manager, Engineering
S. Brown, Manager, PSO
S. Clizbe, Acting Manager, Emergency Preparedness
D. Clymer, Supervisor, Quality Services
T. Croyle, Senior Engineer
G. Cullen, Manager, Chemistry
J. Darling, Acting Manager, System Engineering
M. Davis, Manager, Organizational Effectiveness
R. Fahnestock, Program Manager, Emergency Preparedness
M. Ferrantelli, Manager, MNTC
R. Garcia, Principal Licensing Engineer
E. Gilmour, Manager, Information Services
D. Gregoire, Regulatory Affairs Manager
D. Gregory, Principal Engineer
K. Gosney, Manager, Security
B. Guldemon, Manager, Recovery
R. Guthrie, LORQ Supervisor
R. Hayden, Operations Training Exam Developer
M. Hedges, Principal Licensing Engineer
G. Hettel, Vice President, Operations
G. Higgs, Manager, Maintenance
M. Holle, Principal Engineer
A. Javorik, Vice President, Engineering
D. Kettering, Manager, Design Engineering
J. Lee, Plant Components Supervisor
C. Moon, Quality Manager, Quality
L. Morrison, Chemistry Specialist
S. Murphy, Captain, Security
G. Pierce, Manager, Training
B. MacKissock, Plant General Manager
B. Sawatzke, Chief Operating Officer and Chief Nuclear Officer
B. Staniszewski, Supervisor, Security Programs
B. Schuetz, Plant General Manager
G. Strong, Supervisor, Electrical Design
D. Suarez, Licensing Engineer, Regulatory Affairs
M. Taha, Senior Engineer
J. Trautvetter, Supervisor, Regulatory Affairs
R. Treadway, Assistant Operations Manager
D. Wolfram, Compliance Engineer, Regulatory Affairs

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000397-2014-004-00 LER Licensee Event Report 05000397/2014-004-00, "TS Surveillance 3.7.1.1 Compliance, UHS Spray Pond Level," Revision 0 (Section 4AO3)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
M521-1	Flow Diagram Residual Heat Removal System Loop "A"	115
M521-2	Flow Diagram Residual Heat Removal System Loop "B"	113
M521-3	Flow Diagram Residual Heat Removal System Loop "C"	10

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
TSP-CVB-R801	LLRT of Drywell to Suppression Chamber Vacuum Breakers	1
10.7.8	Overhaul of Dual Disc Containment Vacuum Breaker Relief Valve	2
MSP-CVB/IST-B101	Wetwell to Drywell Vacuum Breaker Operability Testing – Refueling Shutdown	3
TSP-CONT-B801	Drywell/Wetwell Bypass Leak Rate Test (BLRT)	2
SOP-RHR-LU	RHR System Valve and Breaker Lineup	5
SOP-CIA-LU	Containment Instrument Air System Valve and Breaker Lineup	2
SOP-HVAC/CR-LU	Control, Cable, and Critical Switchgear Rooms HVAC Lineup	0
SOP-RPS-LU	Reactor Protection System Valve and Breaker Lineup	0

Action Requests (ARs)

260434	263887	264685	267692	268690
268713	284343	284438	287708	291327
300897	302481	302823	303252	307395

310055	310396	311545	311959	313407
314750	314997	242315	301716	301982
302379	303767	305894	306691	307394
307683	308036	309148	311543	314861
315572	316681	317494	316601	

Work Orders

02009785	02006300	01183734	01183734	02006202
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Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
5.08.05	Vacuum Breaker System Valve Opening Data	0
5.08.06	Containment Negative Pressure Analysis for WNP 2	1
CVI-812-00, 111	Power Uprate Project NSSS Engineering Report	2
ME-02-85-70	Seal Coolers for RHR-P-2A, 2B, and 2C	0
ME-02-93-60	Calculation for ATWS Primary Containment Temperature and Pressure Profile	0
NE-02-82-39	Calculation for Primary Containment Response to Small Link Break in Dry Well	0
NE-02-83-95	Allowable Seat Leakage of Drywell to Wetwell Vacuum Breaker Valves	0

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
22A3730	RHR Heat Exchanger	1
G02-74-017	WPPSS Nuclear Project No. 2 (Formerly Hanford No. 2) Post Construction Permit Item Transmittal of Report WPPSS-74-2-R5 Report on Drywell-Wetwell Leakage	August 9, 1974
G02-75-52	WPPSS Nuclear Project No. 2 Response to Request for Additional Information Drywell-Wetwell Leakage Study	February 25, 1975
G02-76-156	WPPSS Nuclear Project No. 2 Post-Construction Permit Item Drywell/Wetwell Leakage Study	April 23, 1976
G02-82-367	Nuclear Project No. 2 Vacuum Breaker Cycling	April 6, 1982
G02-82-977	Nuclear Project No. 2 Containment Vacuum Breaker Models	December 9, 1982

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
Technical Memorandum No. 1062	Washington Public Power Supply System WPPSS Nuclear Project No. 2 Use of Double Vacuum Breaker Valves in the Main Steam Safety/Relief Valve Discharge Line	December 13, 1977
Technical Memorandum No. 1293	Washington Power Public Supply System WNP-2 Adequacy of the Primary Containment Vacuum Breakers	March 4, 1983
Technical Memorandum No. 605	Washington Public Power Supply System WPPSS Nuclear Project No. 2 Valves for Vacuum Relief Lines Inside Containment	February 1, 1974
WPPSS-74-2-R5	Drywell to Wetwell Leakage Study	July 1974
Design Basis Document 305	Compressed Air System	5
Design Basis Document 311	Residual Heat Removal System	13
MS-PS-48D	Instrument Data Sheet	10
MS-PS-48B	Instrument Data Sheet	12
PER 296-0829	MS-PS 47(A-D) Switch Casings are not vented as assumed by their setpoint calculation	December 4, 1996
MS-PS-47D	Instrument Data Sheet	9
MS-PS-47B	Instrument Data Sheet	9

Section 1R05: Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
FPP-2.2.5	Fire Extinguisher Monthly Inspection and Annual Maintenance	2
FPP-2.2.12	Annual Fire Door Operability Test	4
Pre-Fire Plan	Columbia Generating Station Pre-Fire Plan	3

Action Requests (ARs)

302278	302927	303189	306578	312741
314309	317386	318332		

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

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.1	Operating Policies, Programs, and Practices	118
13.1.1	Classifying the Emergency	45
3.3.1	Reactor Scram	60
5.1.1	RPV Control	20
5.1.2	RPV Control – ATWS	22
5.2.1	Primary Containment Control	22
5.3.1	Secondary Containment Control	19
5.5.1	Overriding ECCS Valve Logic to Allow Throttling RPV Injection	6
ABN-Earthquake	Earthquake	12
OI-09	Operations Standards and Expectations	60
OSP-CRD-C703	Control Rod Settle Time Test	1
TSP-CRD-C101	CRD Scram Timing with Auto Scram Timer System	23
OI-54	Operations Qualification Management	22
TDI-23	LORQ Annual Exam Development and Administration	2
OI-54	Operations Qualification Management	22
SOP-RFT - RESTART -QC	Reactor Feed Pump Restart- Quick Card	5
SOP-RPS- START	Reactor Protection System Startup	4
SOP-RFW- RESTART-QC	Reactor Feedwater System Restart- Quick Card	5
SOP-SGT- START	Standby Gas Treatment Start	6
ABN-ELEC-SH6	SH-6 Distribution System Failures	0
ABN-RRC-LOSS	Loss of Reactor Recirculation Flow	11
ABN-CORE	Unplanned Core Operating Conditions	14
ABN-CR-EVAC	Control Room Evacuation and Remote Cooldown	33
SOP-RFT - RESTART -QC	Reactor Feed Pump Restart- Quick Card	5

Action Requests (ARs)

298189	315794	277928	282284	282747
282829	282874	287593	288406	288457
289456	289705	290212	292437	294704
296374	297126	297417	298026	299431
300103	302282	310015	302863	304188
305488	306009	306204	310013	306192
306584	308723	309882	312554	313049
313238	313243	313447	313049	313477
315158	315831	314980	317943	
279426	292899	292974	294801	298189
299604	303790	303811	303822	304116
305155	308710	310628	310791	311759
312110	313491	314918	314940	314954
314980				

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
LR00227E1	2014 Biennial Written Exam – Reactor Operator	November 3, 2014
LR00227E1	2014 Biennial Written Exam – Senior Reactor Operator	November 3, 2014
LR00227E2	2014 Biennial Written Exam – Reactor Operator	November 3, 2014
LR00227E2	2014 Biennial Written Exam – Senior Reactor Operator	December 1, 2014
LR00227E3	2014 Biennial Written Exam – Reactor Operator	December 1, 2014
LR00227E3	2014 Biennial Written Exam – Senior Reactor Operator	December 1, 2014
	Individual Failures Cycles 13-1 Thru 14-5	December 1, 2014
	Crew D 3rd Quarter Shift Hours	December 1, 2014
	RO and SRO License Restrictions	December 1, 2014
	Crew D Training Records 1/1/2013-12/2/2014	December 1, 2014
	2013 Annual Exam Report	December 1, 2014
	2014 Annual Exam Report	December 1, 2014

Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.56	Conduct of Maintenance	10
1.5.11	Maintenance Rule Program	12
1.5.13	Preventative Maintenance Optimization Living Program	31
5.7.1	RPV and Primary Containment Flooding SAG	6

Action Requests (ARs)

312652	314051	293752	296995	314095
314141	314221	314344	279479	316163
316163	304973	305194	230546	304973
287154	287725	295899	295972	295988
295997	300722	305192	305614	305645
305692	305956	308925	311255	311281
312363	313360	314897	287154	

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NE-02-86-03	SLC NPSHA	2

Engineering Changes

<u>Number</u>	<u>Title</u>	<u>Revision</u>
12935	DES-2-11, Evaluate SLC-RV-29A&B Disch Pipe Void Condition	March 28, 2014

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
1.3.47	Fuse Replacement Control	11
1.3.76	Integrated Risk Management	41
1.3.83	Protected Equipment Program	18

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	33
ABN-ELEC-DG4-CROSSTIE/MC-8A	DG4 Crosstie to MC-8A	4
OI-41	Operations Work Control Expectations	55

Action Requests (ARs)

317140	314936	314961
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Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.66	Operability and Functionality Evaluation	30

Action Requests (ARs)

315170	315476	315449	017348	317162
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Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
E/I-02-92-14	Heat Load Calculation for Electrical Equipment and Cables	3-5
EQ-02-92-10	Temperature Capability Evaluation of Safety Related Equipment Locating in the Diesel building and Experiencing Elevated Design Basis Ambient Temperatures	3
NE-02-12-07	Room Temperatures for DG Corridors [D104, D113], RW Corridor C121, and Cable Chase [C230]	0

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
M551	Flow Diagram HVAC Circ Water, Make-Up Water & Service Water Pump Houses & Diesel Generator Bldg	66

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision</u>
TM-2121	Environmental Conditions Caused by an 8" Line Break Originating in the C-120 Corridor	1

Section 1R17: Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications

Calculations

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2.06.20	Cable Ampacity Calculation for Scheduled Power Cable in "CARPS"	6
2.14.01	Fast Transfer Analysis	2
CE-02-08-06	Evaluation of New Replacement and Original (Properly Installed) Reactor Building Siding System Components	1
CE-02-10-02	Evaluation of the OLNC Skid Modification and its Seismic Restraint for use on Reactor Building Floor Elevation 501' and for Storage on Reactor Building Floor Elevation 548'	0
CE-02-87-017	Analysis for Alternate Support Type-AP, Reactor Building El. 500'-0" to El. 547'-0"	0
E/1 02-02-02	Breaker and MOC Assembly Operating Force Analysis	1
E/1-02-92-09	Short Circuit Current Calculation for 4.16 kV and 6.9 kV Buses	2
EQ-02-92-10	Temperature Capability Evaluation of Safety-Related Equipment Located in the Diesel Building and Experiencing Elevated Design Basis Ambient Temperatures	3
ME-02-07-03	Calculation for R18 Fuel Pool Analysis	0
ME-02-83-21	Spray Pond Water Level Range	2
ME-02-92-41	Calculation for Ultimate Heat Sink Analysis	6

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.19.3A	Vibration Monitoring	3
10.25.181	Single Cell Charging of Batteries	6
12.18.3	On-Line Noble Chemistry	2
18.1.28	Main Turbine DEH Trip Logic Modification Test	1
CSP-DO-C101	Diesel Generator New Fuel Test	13
CSP-DO-M101	Diesel Generator Storage Tank Fuel Test	5
DBD-317-AC	Design Base Document AC Electrical Distribution System	3

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
DDSI-DOC-01	Procedure, Manual, and Form Revision and Distribution	13
EES-5	General Fuse Selection Criteria and the Electrical Protection of 7 460VAC and 125-250 VDC Motors	
OSP-MS-Q701	Turbine Valve Surveillance	16
OSP-SW-M103	HPCS Service Water Valve Position Verification	22
SWP-PRO-02	Preparation, Review, Approval, and Distribution of Procedures	40

Engineering Changes

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
001498	Residual Heat Removal Keep Fill Pump (TER 98-0014-0)	5
004953	2.14.01, Rev. 2	0
006175	CMR to Document the Effect of the Correction in Fuel Pool Volume in 5.35.08	0
006308	Replacement of SW-V-822A and SW-V-823A	August 30, 2012
006911	Permanent Reactor Building Siding System Repairs (AR CR 177262)	0
007342	Calc CE-02-08-06 Rev 0 – Evaluate New Vertical Members for the Reactor Building Siding Corners – This CMR Supports EC FCR 7341 EC FCR 7341 Page 400	October 8, 2008
007399	Advance FCR (Amendment 0) – Various Material Substitutions Needed to Support Construction Schedule	September 12, 2008
007569	Calc CE-02-06-08 Rev 0 - Evaluate the Impact of AR CR 188406 Upon the Replacement RB Exterior Siding Design	November 7, 2008
007621	CMR for Analysis for Peak Service Water Temperature produced in Calc. Me-02-92-41	0
007694	Replacement of Fused Disconnect in E-CB-TRB with New Fuse Blocks & Fuses	0
008032	CMR to Determine if the R19 Fuel Pool Heat Load is Bounded by the R18 Heat Load	0
008222	Calc CE-02-08-06 Rev 0 – Evaluate the EC FCR 7994 RB East Face Siding Repair for the AR CR 194990 Condition. EC FCR 7994 Pg 400.	June 2, 2009
008299	Calc CE-02-08-06 Rev 0 – Evaluate EC FCR 7399 Concrete Anchors	June 10, 2009
008378	Calc CE-02-08-06 Rev 0 – Document Acceptability of EC PDC 6911 Siding Design for Implementation (Without Insulation) on the RB Elevated Release Stack	June 18, 2009
008632	SW-V-34 Replace with Spool Piece	1

<u>Procedures Number</u>	<u>Title</u>	<u>Revision</u>
008676	CMR to Calculation CE-02-87-17 for Seismic Restraint of the OLNC to Two Existing Conduit Supports Type AP on RB 501' Near Column Line H.3 & 7.7, Next to Rack "B" H22-P015. – PDC 8950	0
008678	Install Permanent Source of Temp. Power on T471 West	5
008950	Online Noble Chemistry (ONLC)	5
009118	2.14.01 Rev. 2 PDC 9058 (Breaker Replacement for SM-1, -2 & -3	0
009123	Master EC – SM-8 CT Shorting Switches Overcurrent Relay CKT from CR Ammeter CKT	0
009164	Calculation RHR-2018-1, Rev.2, Calculation for Suction Side Piping of Keep Fill Pump RHR-P-3	June 13, 2010
009894	CMR to Calculation CE-02-10-02 for the Change in the Sizes of the OLNC Skid	0
009945	Replace Motor for SA-M-C/1	0
010208	DEH Control System Enhancement for R20	0
010306	Replace Motor WMA-M-FN/54A	July 19, 2011
010382	Power FPC-LS-5A and 5B from E-PP-7AE	3
010419	Replace Transformer E-TR-7BC	1
010430	Revise Fuse Size for CRA-FN-2A2	0
010704	Cycle 22 Core Design	
010906	Replacement of Controller, Transducer & Cable TMU-LC-1A	1
011079	Replace 230KV Circuit Breaker A809 at ASHE Substation A809 E-CB-TRS	0
011109	Deactivate RHR Sample Valves RHR-V-60A & 75A: Removal of RHR-V-60B & RHR-V-75B	October 10, 2012
011486	FY13 Replace ITE Gould Starters with Spectrum	0
011862	Install Bleed & Feed System for SW Spray Ponds Temporary Modification for Reducing TSS in SW Ponds	1
011903	CMR for R21 Fuel Pool Heat Up Analysis	0
011955	CMR to Document Required RCC Temperature During SW Div. 1 Maintenance Window	0
012414	Upsize Fuses for High Inertia Fan Motor Loads to Conform with EES-5 Criteria	0
012516	CMR to Determination of Humidity/Temperature Chart	0
013049	Replace Motor for CW-FN-36 (CW-M-FN/36)	0

<u>Drawings</u> <u>Number</u>	<u>Title</u>	<u>Revision</u>
46E050	AC Electrical Distribution System, Transformer TR-N1 4.16KV BRKR E-CB-N1/1, Sh. 1	16
46E051	AC Electrical Distribution System, Transformer TR-N1 4.16KV BRKR E-CB-N1, Sh. 2	8
46E054	AC Electrical Distribution System, Transformer TR-N1 4.16KV BRKR E-CB-N1/3, Sh. 1	15
46E055	AC Electrical Distribution System, Transformer TR-N1 4.16KV BRKR E-CB-N1-3, Sh. 2	7
46E056	AC Electrical Distribution System, Transformer E-TR-S 4.16KV BRKR E-CB-S/1, Sh. 1	16
46E057	AC Electrical Distribution System, Transformer TR-S 4.16KV BRKR S-1, Sh. 2	7
46E060	AC Electrical Distribution System, Transformer TR-S 4.16KV BRKR E-CB-S/3, Sh. 1	16
46E061	AC Electrical Distribution System, Transformer TR-S 4.16KV BRKR S-1, Sh. 2	16
46E167	AC Electrical Distribution System, 480V SWGR SL-63 FDR BRKRS, Sh. 2	
CVI-225-99,2	E Instrument Rack 29 & 30 Details & Bill of Material	8
CVI-225-99,3	Instrument Rack 29 & E control Panel TB/MU2004 Connection Wiring Diagram	4
D-220-OLNC-INJ	Online Noble Chemistry Injection from Sample Point to 24" RFW "A" & "B" Lines Reactor Building Elevation 501'-0"	0
DI- SPLASHSHIELD- 359	Splash Shield for Keep Fill Pumps	NI
D-OLNSKID-261	Detail Drawing Reactor Building EI-548'-0" On-Line NobleChem TW Skid Seismic Restraint Bracket Details	NI
D-OLNSKID-264	Detail Drawing Reactor Building EI-548'-0" On-Line NobleChem TW Skid Seismic Restraint Bracket Details	NI
D-VLV-008	Feed Flow Venturi Calibration Isolation Valve Assembly	0
E502-1	Main One-Line Diagram	51
E503-11	Auxiliary One-Line Diagram (MCC's)	63

<u>Drawings</u> <u>Number</u>	<u>Title</u>	<u>Revision</u>
E503-12	Auxiliary One-Line Diagram (MCC's)	83
E503-1A	Motor Control Center Starter Details	0
E503-1C	Motor Control Center Starter Details	3
E503-1E	Motor Control Center Starter Details	1
E503-1G	Motor Control Center Starter Details	5
E503-7	Auxiliary One-Line Diagram (MCC's)	88
E503-8	Auxiliary One-Line Diagram (MCC's)	95
E503-9	Auxiliary One-Line Diagram (MCC's)	73
E505-6	Auxiliary One-Line Diagram (MCC's)	97
E507-2	Main Three Line Diagram	25
E507-3	Main One-Line diagram	
E519-13	Motor Valve & Miscellaneous Control Elementary Diagram for 31 Reactor	
E-525	500KV Motor Driven Disconnect Switches & 115KV Oil Circuit 8 Breaker Elementary diagrams	
E559-E-IR-29	Term Board & Fuse Arrangement E Instrument Rack 29	0
EWD-46E-047, Sheet 1	Electrical Wiring Diagram AC Electrical Distribution System for 115KV Oil Circuit Breaker 52-TR-B, Sht. 1	2
EWD-46E-332	Electrical Wiring Diagram, AC distribution System, Power Panel E-PP-7BC	13
EWD-55E-002	Electrical Wiring Diagram TMU Pump 1A & TMU Circuit Breaker P1A	16
EWD-55E-016	Electrical Wiring Diagram Tower Make-Up Water	13
EWD-55E-016B	Electrical Wiring Diagram Tower Make-Up Water	9
EWD-55I-003	Electrical Wiring Diagram TMU Level Indicators 1A & 1B	11
M502, Sheet 1	Flow Diagram Main & Exhaust Steam System Turbine Generator Building	40
M502, Sheet 2	Flow Diagram, Main & Exhaust Steam System, Turbine Generator Building	30
M509-2	Flow Diagram Seal Oil Supply, Turbine Generator	27
M634-07-M1	Analog Loop Diagram for Analog Board BD-G1	6

<u>Drawings</u> <u>Number</u>	<u>Title</u>	<u>Revision</u>
M959	Electro-Hydraulic Fluid System, Turbine Generator Building	17
RHR-2018-2	RHR Suction Line from RHR-882-5 to RHR-P-3	X
RHR-2019-3	Discharge Line from RHR-P-3	7
 <u>Miscellaneous</u>		
<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
0000-0026-6299	PANAC1110 Error Correction 10 CFR 50.59 Evaluation Bases (Rev. 1)	9
157829	WNP2-ASHE No. 2	0
280-RLCU00093-01	2K2X1-10 ARV Mark III 1 Stage Test Report	September 7, 2012
672D811	Breaker Nameplates	2
COLR 11-21	Columbia Generating Station, Cycle 21, Core Operating Limits Report	0
EMS-30182	EMS for E-DISC-7BID & CAT ID 4191 adding Ground Fault circuitry to reflect existing plant documentation	0
FSAR 9.1.3, Amendment 20	Spent Fuel Pool Cooling & Cleanup System	December 2009
GE-NE-208-17-0993	Spent Fuel Cooling	1
GNF-0000-0108-5208-01-R0	10 CFR 50.59 Evaluation Guidance for ODYNM10A & ODYNV09A Revision	May 2011
GNF-S 0000-0130-8941-R1	GESAM2E6 Error Correction 10 CFR 50.59 Evaluation Basis	June 2011
GNF-S 0000-0139-9889	ISCOR9E7 Error Correction 10 CFR 50.59 Evaluation Basis	October 2011
GO2-13-082	Columbia Generating Station, Docket No. 50-397, Cycle 22 Core Operating Limits Report (COLR), Revision 0	July 14, 2013
MES-3	Piping Design Guide	4

Miscellaneous

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
PS-G-1002 (48-00, 71)	Westinghouse Instruction Manual for Power Substation Transformers and Load Interrupter & Switchgear	December 2003
SD 204	Standby Service Water	14
VSP-ENW-KK1- 12-072	Columbia TRACG DIVOM 50.59 Report	August 22, 2012
Spec. #15004	Procurement Specification for Power Transformer, Non- Safety-Related, E-TR-5/53 & 6/63	0

Fire Protection Engineering Evaluation

<u>Title</u>	<u>Title</u>	<u>Revision</u>
Control of Combustibles	Emergency Diesel Fuel Flash Point	2

10 CFR 50.59 Screenings

11-0181	13-0245	14-0110	13-0238	11-0176
11-0194	13-0294	14-0164	14-0165	12-0138
13-0022	14-0099	12-0184	14-0050	12-0155
13-0038	13-0041	13-0035	13-0085	08-0159
11-0249	05-0218	10-0102	10-0262	11-0152
11-0180	11-0183	12-0016	13-0042	

10 CFR 50.59 Evaluations

11-0005	13-0001	13-0005	10-0002	10-0001
12-0001	13-0003	11-0003	11-0006	

Action Requests

00314861	00239894	00236249	00291250	00257553
00296545	00236786	00001853	00262802	00261575
00315683	00219739	00188462	00178245	00009662
00182043	00237755	00185299	00240485	
00193983	00178616	00024422	00246232	

Work Orders

02007691	02005109	02005107	01184720	01166446
00254507	01150692			

Licensing Document Change Notices

13-0013	10-0010
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Applicability Determinations

13-0249	13-0520	08-0846	10-0555
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Purchase Orders

00330412

Calculation Modification Records

92-0093

Section 1R19: Post-Maintenance TestingProcedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.4.3	Instrument Setpoints	24
10.25.4	Lubrication and Inspection of Limitorque MOV(s)	27
10.25.74	Testing Motor Operated Valve Motors and Controls	29
ICP-CMS-Q301	Accident Monitoring Instruments Containment Hydrogen/Oxygen Analyzer – Div 1 – CC	1
ISP-MS-Q943	DIV 2 Channel Isolation Actuation on Reactor Level 1 and Reactor Level 2 – CFT	6
OSP-ELEC-S701	Diesel Generator 1 Semi-Annual Operability Test	54
OSP-FPC/IST- Q701	Fuel Cooling System Operability Surveillance	33
SOP-DG1- START	Emergency Diesel Generator (DIV 1) Start	27
SWP-TST-01	Post Maintenance Testing Program	16
OSP-ELEC- 6900V-OPS	6900 Volt AC Electrical Distribution System Operation	2

Action Requests (ARs)

315522	315944	316865	315158	316894
306598	317163	317313	318498	

Work Orders

02030381	02061283	02058143	02056259	02057325
02055887	02060914	02060269	02057645	

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
FPC-604-14.17	Fuel Pool Circulation Pump 1B Suction From 10" Pool Circ. Line	14

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.5.13	Preventive Maintenance Optimization Living Program	31
AMPBD-B4C	Aging Management Program Basis Document – Boron Carbide Monitoring Program	0
ISP-RPS-Q902	RPS (Channel A2) and EOC Recirc Pump Trip – TGV Fast Closure RPS-PS-5C – CFT/CC	9
OSP-CVB/IST-M701	Vacuum Breaker Operability	16
OSP-ELEC-M701	Diesel Generator 1 – Monthly Operability Test	54
OSP-LPCS/IST-Q702	LPCS System Operability Test	37
OSP-SLC-B703	SLC Pump Suction Flow Verification	9
OSP-SW/IST-Q703	HPCS Service Water Operability	22

Action Requests (ARs)

315864	318176	319081	319189	319654
312778	313099	314568	314936	315476
317356	317747	305645	311281	312363
316163	319053	301887	308581	313870
314408	315030			

Work Orders

02056891	02061988	02058020	02058354
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Section 1EP4: Emergency Action Level and Emergency Plan Changes

Procedure

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EPI-16	50.54(Q) Change Evaluation	13

Section 1EP6: Drill EvaluationProcedures

<u>Number</u>	<u>Title</u>	<u>Revision</u> <u>Date</u>
13.1.1	Classifying the Emergency	45
13.1.1A	Classifying the Emergency – Technical Bases	29

Action Requests (ARs)

317234	313693	316727	316712	317501
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Section 1EP7: Exercise Evaluation – Hostile Action EventProcedures and Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
	Columbia Generating Station Emergency Plan	59, 60
1.3.1	Operating Policies, Programs, and Practices	118
13.1.1	Classifying the Emergency	45
13.1.1A	Classifying the Emergency – Technical Bases	29
13.10.8	Security Lieutenant Checklist	4
13.2.2	Determining Protective Actions	17-1
13.4.1	Emergency Notifications	41
13.10.1	Control Room Operation and Shift Manager's Duties	34
13.10.2	TSC Manager Duties	33
13.10.9	Operations Support Center Manager and Staff Duties	46-1
13.11.1	EOF Manager Duties	44
13.14.10	NRC Imminent Threat Actions	2
EPI-13	Emergency Notification System	7-1
EPI-17	After Action Report, Improvement Plan Formatting, Distribution, and Retention	8-1
EPI-21	Drill and Exercise Development and Implementation	15-2

Procedures and Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EPI-22	NRC Imminent Threat Actions	2

Action Request (Corrective Action Program, AR-)

00289447	00289479	00289571	00289632	00290686	00292516
00293414	00296868	00298502	00298965	00299451	00301181
00301626	00304833	00305197	00308226	00313436	00313487
00313488	00313492	00313494	00313495	00313498	00313499

1EP8 Exercise Evaluation – Scenario Review

No additional documents reviewed

Section 40A1: Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
MSPI-01-BD-0001	Mitigating System Performance Index (MSPI)	16
31.1.1	Classifying the Emergency	43-45
13.2.2	Determining Protective Actions	17-1
13.4.1	Emergency Notifications	41
EPI-18	Emergency Preparedness Performance Indicators	21
TWI-6.2.32	EP River Siren Polling Text	0
TSI-6.2.22	Biannual Emergency Response Siren System Activation Test	0

Action Requests (ARs)

295220	295555	295889	295928	296000
296314	297464	297753	297792	298050
298299	298929	299032	301586	301765
301800	302072	302851	302852	305218
305697	307013	307040	307347	307357
307537	310381	310515	310644	310789

311253	311294	311768	313948	314436
314486	314546	314548	314565	314567
314617	314655	315863		

Section 4OA2: Problem Identification and Resolution

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EES-5	General Fuse Selection Criteria and the Electrical Protection of 460 VAC and 125-250 VDC Motors	7
OI-14	Columbia Generating Station Operational Challenges and Risk Program	11
SWP-CAP-01	Corrective Action Program	30
SWP-CAP-07	Trending Program	9

Action Requests (ARs)

315799	312351	312729	315917	316776
315030	308805	312652	313270	314095
314141	315024	315028	315029	315030
315799	315840	316082	314956	304389
304573	304857	305268	308056	308466
308936	309400	309947	309952	310447
310482	310672	311545	312729	313259
313317	313891	314027	314206	314564
314825	315134	315731	315987	316017
316497	316788	316854	316907	317247
313891	315987	316672	312729	316788
316460	317173	317184	317163	317207
319601	310862	317820	307971	313547
314861	273137			

Work Orders

02066051	02061477	29117386	02061287	02028172
02033081	02050688	02032937	02060057	02005866
02050987	02047034			

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-INST-H101	Shift and Daily Instrument Checks (Modes 1, 2, 3)	80

Action Requests (ARs)

312706