



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

October 26, 2017

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

**SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION
REPORT 05000397/2017003**

Dear Mr. Reddemann:

On September 30, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. On October 5, 2017, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. Additionally, NRC inspectors documented one Severity Level IV violation with no associated finding. 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; 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC resident inspector at the Columbia Generating Station.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Mark Haire, Branch Chief
Project Branch A
Division of Reactor Projects

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

Enclosure:
Inspection Report 05000397/2017003
w/ Attachment: Supplemental Information

COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION REPORT
 05000397/2017003– October 26, 2017

DISTRIBUTION

KKennedy, RA
 SMorris, DRA
 TPruett, DRP
 AVegel, DRS
 RLantz, DRP
 JClark, DRS
 MHaire, DRP
 RAlexander, DRP
 DLackey, DRP
 GKolcum, DRP
 LBrandt, DRP
 MBennett, DRP
 TClark, RIV/OEDO
 KFuller, RC
 VDricks, ORA
 JWeil, OCA
 JKlos, NRR
 AMoreno, RIV/CAO
 BMaier, RSLO
 THipschman, IPAT
 EUribe, IPAT
 MHerrera, DRMA
 R4Enforcement
 ROP Reports

Electronic Distribution for Columbia Generating Station

ADAMS ACCESSION NUMBER: ML17300B405

SUNSI Review: ADAMS: Non-Publicly Available Non-Sensitive Keyword:
 By: MSH/dll Yes No Publicly Available Sensitive NRC-002

OFFICE	SRI:DRP/A	RI:DRP/A	C:DRS/EB1	C:DRS/EB2	C:DRS/OB	C:DRS/PSB2
NAME	GKolcum	LBrandt	TFarnholtz	GWerner	VGaddy	HGepford
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA JCK for/	/RA/
DATE	10/25/2017	10/25/2017	10/25/2017	10/25/2017	10/25/17	10/25/17
OFFICE	TL:DRS/IPAT	SPE:DRP/A	BC:DRP/A			
NAME	THipschman	RAlexander	MHaire			
SIGNATURE	/RA RVA for/	/RA/	/RA/			
DATE	10/26/2017	10/25/2017	10/26/2017			

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000397
License: NPF-21
Report: 05000397/2017003
Licensee: Energy Northwest
Facility: Columbia Generating Station
Location: North Power Plant Loop
Richland, WA 99354
Dates: July 1 through September 30, 2017
Inspectors: G. Kolcum, Senior Resident Inspector
L. Brandt, Resident Inspector
Approved By: Mark Haire
Chief, Project Branch A
Division of Reactor Projects

Enclosure

SUMMARY

IR 05000397/2017003; 07/01/2017 – 09/30/2017; Columbia Generating Station; Operability Determinations and Functionality Assessments, Follow-up of Events and Notices of Enforcement Discretion.

The inspection activities described in this report were performed between July 1 and September 30, 2017, by the resident inspectors at Columbia Generating Station. One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. Additionally, NRC inspectors documented in this report one Severity Level IV violation with no associated finding. The significance of inspection findings is indicated by their color (i.e., Green, greater than Green, White, Yellow, or Red), that is determined using Inspection Manual Chapter 0609, "Significance Determination Process," dated April 29, 2015. Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014. 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," dated July 2016.

Cornerstone: Mitigating Systems

- Green. The inspectors reviewed a self-revealed, non-cited violation of Technical Specification 5.4.1.a, for the licensee's failure to have a high pressure core spray system fill and vent procedure appropriate to the circumstances. The licensee entered this issue into the corrective action program as Action Request 368872.

The failure to have a high pressure core spray system fill and vent procedure appropriate to the circumstances was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Procedure SOP-HPCS-FILL, "HPCS Fill and Vent," Revision 11, was not appropriate to the circumstances in that it did not ensure the high pressure core spray instrumentation lines were clear of voids. As a result, air remained in the instrumentation lines, and the high pressure core spray minimum flow instrument, HPCS-FIS-6, was degraded. The inspectors performed the initial significance determination using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The inspectors determined that the finding was 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 did 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, avoid complacency, in that the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes [H.12]. (Section 1R15)

- Severity Level IV. The inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.72(b)(3)(iv)(A) for the licensee's failure to submit an event notification to the NRC

within 8 hours of occurrence of an unplanned valid reactor protection system actuation of the reactor protection system. Specifically, the licensee did not report a reactor protection system Level 3 scram actuation when reactor vessel level dropped below +13 inches until prompted by the inspectors. The licensee subsequently restored compliance and reported the event in accordance with 10 CFR 50.72(b)(3)(iv)(A) on August 24, 2017, as an update to Emergency Notification System Report 52918 and entered the issue into their corrective action program as Action Request 370529.

The licensee's failure to submit the event notification was a violation that impacted the regulatory process and warrants treatment using traditional enforcement. In accordance with Section 2.2.4 and the example in Section 6.9.d.9 of the NRC Enforcement Policy, dated November 1, 2016, the violation was determined to be a Severity Level IV violation. Traditional enforcement violations are not assessed for cross-cutting aspects. (Section 4OA3.1)

PLANT STATUS

The plant began the inspection period at 100 percent power. On August 20, 2017, the plant manually scrammed the reactor due to a loss of condenser vacuum. On August 31, 2017, the reactor was made critical following completion of the forced outage. On September 2, 2017, operations personnel synchronized the main generator with the grid and began power ascension. On September 7, 2017, the plant reached 100 percent power where it remained 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)

Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

On July 31, 2017, 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 hot weather temperatures greater than 100 degrees Fahrenheit, and the licensee's planned 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)

Partial Walk-Down

a. Inspection Scope

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

- July 14, 2017, residual heat removal system train A during chemical decontamination of residual heat removal system train B
- July 14, 2017, high pressure core spray instrument line valve lineup after venting
- July 27, 2017, high pressure core spray following maintenance window

- September 13, 2017, high pressure core spray during reactor core isolation cooling maintenance window
- September 16, 2017, reactor core isolation cooling following maintenance window

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 five partial system walk-down samples, 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:

- July 14, 2017, reactor building, Fire Area R-1
- August 10, 2017, high pressure core spray pump room, Fire Area R-3
- August 16, 2017, standby service water pump houses 1A and 1B, Fire Areas SW-1 and SW-2
- September 13, 2017, residual heat removal train A and B pump rooms, Fire Areas R-4 and R-5

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.

.2 Annual Inspection

a. Inspection Scope

On August 29, 2017, the inspectors completed their annual evaluation of the licensee's fire brigade performance. This evaluation included observation of two fire drills:

- July 27, 2017, an announced drill for training a new fire brigade
- August 17, 2017, an announced drill for continuing training of a fire brigade

During these drills, the inspectors evaluated the capability of the fire brigade members, the leadership ability of the brigade leader, the brigade's use of turnout gear and fire-fighting equipment, and the effectiveness of the fire brigade's team operation. The inspectors also reviewed whether the licensee's fire brigade met NRC requirements for training, dedicated size and membership, and equipment.

These activities constituted one annual inspection sample, 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 August 3, 2017, 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 constituted 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

The inspectors observed the performance of on-shift licensed operators in the plant's main control room. The inspectors observed the operators' performance of the following activities:

- July 22, 2017, bypass valve testing and rod testing, including the pre-job brief
- August 31, 2017, preparations for startup and mode changes after forced outage

In addition, the inspectors assessed the operators' adherence to plant procedures, including the conduct of operations procedure, and other operations department policies.

These activities constituted 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)

Routine Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed three instances of degraded performance or condition of safety-significant structures, systems, and components (SSCs):

- July 17, 2017, residual heat removal train B chemical decontamination
- July 24, 2017, high pressure core spray pump maintenance
- August 7, 2017, digital electro-hydraulic pump A maintenance

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 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 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:

- July 10, 2017, Yellow risk for residual heat removal train A chemical decontamination work
- July 15, 2017, Orange risk for high pressure core spray emergency diesel generator undervoltage/degraded voltage relay testing

- July 20, 2017, Yellow risk for residual heat removal train B chemical decontamination work
- August 20, 2017, forced outage shutdown safety plan

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 results of the assessments.

These activities constituted completion of four maintenance risk assessment 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 five operability determinations that the licensee performed for degraded or nonconforming SSCs:

- July 2, 2017, operability determination of the high pressure core spray emergency diesel generator battery bank under Action Request (AR) 361654
- July 11, 2017, operability determination of the high pressure core spray system with minimum flow indicating switch reading 950 gpm under AR 368872
- July 19, 2017, operability determination of the high pressure core spray system with minimum flow indicating switch reading 600 gpm under AR 369134
- July 19, 2017, operability determination of residual heat removal train B chemistry under ARs 370505 and 370604
- August 1, 2017, operability determination of the radwaste building effluent monitor that tripped off under AR 369602

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 constituted completion of five operability review samples, as defined in Inspection Procedure 71111.15.

b. Findings

Introduction. The inspectors reviewed a self-revealed, Green, non-cited violation of Technical Specification 5.4.1.a, for the licensee's failure to have a high pressure core spray system fill and vent procedure appropriate to the circumstances.

Description. During Refueling Outage R23, the licensee replaced three valves in the high pressure core spray (HPCS) system: the injection valve (HPCS-V-4), the minimum flow valve (HPCS-V-12), and the suppression pool suction valve (HPCS-V-15). Air was introduced into the high pressure core spray system as a result of the valve installations. On June 11, 2017, the licensee performed a fill and vent of the high pressure core spray system using Procedure SOP-HPCS-FILL, "HPCS Fill and Vent," Revision 12. Dynamic venting of the high pressure core spray system was performed to sweep existing air voids to the reactor after a void found in the discharge line was determined to not be acceptable. Later that day, the licensee performed a satisfactory ultrasonic testing fill verification and concluded there were no air voids in the high pressure core spray system. On June 14, 2017, the high pressure core spray system was returned to operable status.

On July 11, 2017, an equipment operator noted that the high pressure core spray minimum flow indicating switch, HPCS-FIS-6, was reading 950 gpm with the high pressure core spray pump in standby. This flow indicating switch provides the flow signal to the high pressure core spray minimum flow valve logic and has a tolerance of ± 214 gpm for a flow of 0 gpm (high pressure core spray pump off). The licensee believed some air may have been trapped in the instrument line causing the erratic indication. Later that day, the licensee vented the minimum flow instrument line per Work Request 29137228, and the flow indicating switch returned to 0 gpm. The licensee then vented the high and low side of the instrument, performed a satisfactory calibration of the flow indicating switch, and returned the instrument to operable status.

On July 18, 2017, the licensee performed the monthly surveillance of the high pressure core spray system with Procedure OSP-HPCS-M101, "HPCS Fill Verification," Revision 10, to check for voids. A few hours later, equipment operators found HPCS-FIS-6 indicating approximately 600 gpm, with the high pressure core spray pump in standby. The licensee vented the high pressure core spray instrument lines directly on July 19, 2017, per Work Order 02115932 and observed a small quantity of air vent from flow indicating switch HPCS-FIS-6 and adjacent flow transmitter HPCS-FT-5. On July 20, 2017, the licensee completed another vent of the high pressure core spray instrument lines and ensured no air was in the instrument line. The licensee then performed a fill verification per OSP-HPCS-M101 and restored the high pressure core spray system to operable status.

During normal standby operation, the high pressure core spray pump is not running, but the system keepfill pump is running to maintain pressure in the system between 75 – 120 psig and ensure the piping remains water solid to prevent a water hammer incident from occurring. During a high pressure core spray pump start, the discharge line pressurizes to at least 1300 psig. The licensee performed an engineering analysis and determined the size of the air bubble within the instrument line would not have impacted the ability for the HPCS-FIS-6 switch to open and close the high pressure core spray minimum flow valve as required. The pressurization during a pump start would have compressed the existing air bubble within the instrument line, reducing its volume and

impact on the instrument flow. The licensee determined that with the air bubble in the instrument line, HPCS-FIS-6 was operable but degraded at standby system pressures and retained its ability to perform its design function at operating system pressures due to collapsing of the air bubble. The high pressure core spray system maintained its safety function to inject water into the vessel throughout this issue.

Steps 5.1.37 - 5.1.39 of Procedure SOP-HPCS-FILL provide instructions to vent and restore various instruments, including HPCS-FIS-6. A note in the procedure before Step 5.1.38 states that to adequately fill and vent the instruments on E-IR-H22/P024, the instrument lines must be vented for approximately 2 minutes. The inspectors determined this portion of the high pressure core spray system fill and vent procedure was not adequate to ensure air was appropriately vented from the instrument lines. Corrective actions in addition to those described above include an evaluation to determine the extent of condition to the other safety-related system fill and vent procedures.

Analysis. The failure to have a high pressure core spray system fill and vent procedure appropriate to the circumstances was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it affected the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, Procedure SOP-HPCS-FILL, "HPCS Fill and Vent," Revision 11, was not appropriate to the circumstances in that it did not ensure the high pressure core spray instrumentation lines were clear of voids. As a result, air remained in the instrumentation lines, and the high pressure core spray minimum flow instrument, HPCS-FIS-6, was degraded. The inspector performed the initial significance determination using Inspection Manual Chapter 0609, Appendix A, Exhibit 2, "Mitigating Systems Screening Questions." The inspectors determined that the finding was 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 nontechnical 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, avoid complacency, in that the licensee failed to recognize and plan for the possibility of mistakes, latent issues, and inherent risk, even while expecting successful outcomes [H.12].

Enforcement. Technical Specification 5.4.1.a, requires, in part, that written procedures be established, implemented, and maintained as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Paragraph 9.a of Regulatory Guide 1.33, Appendix A, requires, in part, 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. The licensee established Procedure SOP-HPCS-FILL, "HPCS Fill and Vent," Revision 11, for filling and venting the high pressure core spray system, a safety-related system, to meet the Regulatory Guide 1.33, Revision 2, Appendix A,

requirement. Contrary to the above, as of June 13, 2017, the licensee failed to maintain written procedures as recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Specifically, Procedure SOP-HPCS-FILL, "HPCS Fill and Vent," Revision 11, was not appropriate to the circumstances in that it did not ensure the high pressure core spray instrumentation lines were clear of air voids. As a result, air remained in the instrumentation lines, and the high pressure core spray minimum flow instrument, HPCS-FIS-6, was degraded. The licensee vented the system per work instructions to remove the air from the system and correct the condition. The licensee entered this issue into the corrective action program as AR 368872. Because this finding is of very low safety significance (Green) and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2.a of the NRC Enforcement Policy. (NCV 05000397/2017003-01, "Inadequate High Pressure Core Spray Fill and Vent Procedure")

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed three temporary plant modifications that affected risk-significant SSCs:

- July 25, 2017, high pressure core spray test return line in Engineering Change (EC) 13917
- July 26, 2017, reactor core isolation cooling low discharge pressure override switch in EC 16135
- August 22, 2017, air removal valve solenoid pilot valve and mechanical gag in EC 16670 and EC 16673

The inspectors verified that the licensee had installed these temporary modifications in accordance with technically adequate design documents. The inspectors verified that these modifications did not adversely impact the operability or availability of affected SSCs. The inspectors reviewed design documentation and plant procedures affected by the modifications to verify the licensee maintained configuration control.

These activities constituted completion of three samples of temporary modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

.2 Permanent Modifications

a. Inspection Scope

On August 28, 2017, the inspectors reviewed a permanent plant modification to the high pressure core spray system that affected risk-significant SSCs in EC 16302.

The inspectors reviewed the design and implementation of the modification. The inspectors verified that work activities involved in implementing the modification did not adversely impact operator actions that may be required in response to an emergency or other unplanned event. The inspectors verified that post-modification testing was adequate to establish the operability of the SSC as modified.

These activities constituted completion of one sample of permanent modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed five post-maintenance testing activities that affected risk-significant SSCs:

- July 17, 2017, residual heat removal train B pump under Work Order (WO) 02112075
- July 26, 2017, high pressure core spray system under WO 02110108
- August 27, 2017, reactor feedwater startup flow control valve B under WO 02117417
- September 16, 2017, reactor core isolation cooling pump under WO 02008324601
- September 18, 2017, control room supply fan train A under WO 0209119302

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 constituted completion of five post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the station's forced outage that concluded on September 7, 2017, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Review and verification of the licensee's fatigue management activities
- Review of the licensee's shutdown safety plan
- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Monitoring of heat-up and startup activities

These activities constituted completion of one outage activity sample, as defined in Inspection Procedure 71111.20.

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 SSCs were capable of performing their safety functions:

In-service tests:

- July 1, 2017, OSP-SW/IST-Q703, "HPCS Service Water Operability," Revision 27

Other surveillance tests:

- July 20, 2017, OSP-ELEC-M702, "Diesel Generator 2 – Monthly Operability Test," Revision 61
- July 21, 2017, OSP-RHR-M102, "RHR B Fill Verification," Revision 15
- July 22, 2017, OSP-UV/DV-B503, "4.16 kV Emergency Bus Undervoltage and Degraded Voltage – Logic System Functional Test (Div 3)," Revision 12
- July 26, 2017, OSP-HPCS/IST-Q701, "HPCS System Operability Test," Revision 52
- July 26, 2017, OSP-ELEC-S703, "HPCS Diesel Generator Semi-Annual Operability Test," Revision 60

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

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

Training Evolution Observation

a. Inspection Scope

On July 18, 2017, 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 constituted completion of one training observation sample, as defined in Inspection Procedure 71114.06.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstones: Mitigating Systems

40A1 Performance Indicator Verification (71151)

.1 Mitigating System Performance Index: Emergency AC Power Systems (MS06), High Pressure Injection Systems (MS07), Heat Removal Systems (MS08), Residual Heat Removal Systems (MS09), and Cooling Water Systems (MS10)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2016, through June 30, 2017, 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 emergency ac power systems, high pressure injection systems, heat removal systems,

residual heat removal systems, and cooling water support systems, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

40A2 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 Annual Follow-up of Selected Issues

a. Inspection Scope

The inspectors selected two issues for an in-depth follow-up:

- July 3, 2017, jet pump 11 flow indication change as reported in AR 340271

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.

- July 26, 2017, fuel bundle cladding leaks as reported in ARs 336352, 340357 and 342773

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 constituted completion of two annual follow-up samples, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

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

.1 Reactor Manual Scram due to Loss of Condenser Vacuum

a. Inspection Scope

On August 20, 2017, the licensee manually scrambled the reactor due to a loss of main condenser vacuum. The inspectors observed plant parameters and status for mitigating systems/trains and fission product barriers, evaluated whether the licensee appropriately resolved event issues prior to restart, and confirmed the licensee made timely notifications to the NRC as required. In addition, the inspectors reviewed operator logs, computer data, recorder data, and procedural requirements to assess licensee personnel performance in response to the reactor scram.

This activity constituted completion of one event follow-up sample, as defined in Inspection Procedure 71153.

b. Findings

Introduction. The inspectors identified a Severity Level IV, non-cited violation of 10 CFR 50.72(b)(3)(iv)(A) for the licensee's failure to submit an event notification to the NRC within 8 hours of occurrence of an unplanned valid reactor protection system actuation of the reactor protection system.

Description. At 4:05 p.m. on August 20, 2017, Columbia Generating Station was manually scrambled per Procedure ABN-BACKPRESSURE, "Loss of Main Condenser Backpressure," Revision 5, due to a loss of main condenser vacuum. The licensee submitted Emergency Notification System Event Report 52918 at 7:46 p.m. on August 20, 2017, in accordance with 10 CFR 50.72(b)(2)(iv)(B) for any event or condition that results in actuation of the reactor protection system when the reactor is critical. The report stated that one of two reactor feedwater startup flow control valves did not adequately operate to control reactor vessel level which resulted in a high-level (Level-8) actuation, tripping the reactor feedwater system.

During their review of the scram, the inspectors identified that the reactor feedwater startup control valve malfunction resulted in a low-level (Level-3) reactor protection system actuation in addition to the Level-8 reactor protection system actuation mentioned in the report. This Level-3 actuation occurred 18 minutes after the manual scram, approximately 3 minutes before the Level-8 actuation. A Level-3 actuation occurs when reactor level reaches +13 inches, and a Level-8 actuation occurs when reactor level reaches +54 inches. During the event, level dropped as low as +6 inches before rising as high as +60 inches. 10 CFR 50.72(b)(3)(iv)(A) requires, in part, that the licensee notify the NRC as soon as practical, and in all cases, within 8 hours of occurrence of any event or condition that results in valid actuation of any of the systems listed in paragraph (b)(3)(iv)(B) except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation. 10 CFR 50.72(b)(3)(iv)(B)(1) requires reporting of a valid action of the reactor protection system, including from a

reactor scram and reactor trip. The inspectors determined this Level-3 actuation was a valid actuation of the reactor protection system, was not part of a pre-planned sequence during testing or reactor operation, and should have been reported. After being prompted by the inspectors, the licensee subsequently restored compliance and reported the event in accordance with 10 CFR 50.72(b)(3)(iv)(A) on August 24, 2017, as an update to Emergency Notification System Event Report 52918.

Analysis. The inspectors determined that the licensee's failure to submit an event notification to the NRC within 8 hours of occurrence of an unplanned valid reactor protection system actuation in accordance with 10 CFR 50.72(b)(3)(iv)(A) was a violation that impacted the regulatory process. The Reactor Oversight Process's significance determination process does not specifically consider the regulatory process impact in its assessment of licensee performance. Therefore, it is necessary to address this violation using traditional enforcement to adequately deter noncompliance. In accordance with Section 2.2.4 and the example in Section 6.9.d.9 of the NRC Enforcement Policy, dated November 1, 2016, the violation was determined to be a Severity Level IV violation. Traditional enforcement violations are not assessed for cross-cutting aspects.

Enforcement. As required by 10 CFR 50.72(b)(3)(iv)(A), the licensee is to notify the NRC as soon as practical, and in all cases, within 8 hours of occurrence of any event or condition that results in valid actuation of any of the systems listed in paragraph (b)(3)(iv)(B) except when the actuation results from and is part of a pre-planned sequence during testing or reactor operation. As required by 10 CFR 50.72(b)(3)(iv)(B)(1), a valid action of the reactor protection system is to be reported, including: reactor scram and reactor trip. Contrary to the above, on August 20, 2017, the licensee did not notify the NRC within 8 hours of occurrence of a valid actuation of the reactor protection system which was not part of a pre-planned activity. Specifically, the licensee did not report the Level-3 scram reactor protection system actuation when reactor vessel level dropped below +13 inches until prompted by the inspectors. After NRC review of the event determined the reactor protection system actuation was valid, the licensee subsequently restored compliance and reported the event in accordance with 10 CFR 50.72(b)(3)(iv)(A) on August 24, 2017, as an update to Emergency Notification System Event Report 52918. Because this violation was not repetitive or willful and was entered into the licensee's corrective action program as Action Request 370529, this issue is being treated as a Severity Level IV non-cited violation, consistent with Section 2.3.2.a of the NRC Enforcement Policy. (TE 05000397/2017003-02, "Failure to Report Unplanned Valid Reactor Protection System Actuation")

40A5 Other Activities

(CANCELLED) Licensee Event Report (LER) 05000397/2016005-00, "Leak in Minimum Flow Line Makes HPCS and Primary Containment Inoperable"

On December 18, 2016, during a forced plant outage reported under LER-2016-004, a leak was identified on the minimum flow line of the high pressure core spray system downstream of the primary containment isolation valve. The high pressure core spray system had been running on minimum flow after being used to maintain reactor pressure vessel water level. The leak was identified during a walk down by operations personnel after the high pressure core spray pump had been secured. Due to the location of the leak downstream of the primary containment isolation valve, the licensee initially determined that this leak constituted a breach of primary

containment. However, on May 24, 2017 (ADAMS Accession No. ML17144A372), the licensee reported to the NRC that upon further evaluation of the event, Energy Northwest had concluded that neither the high pressure core spray system nor the primary containment were made inoperable as initially reported. Therefore, by that letter, the licensee requested cancellation of LER-2016-005 previously communicated to the NRC.

The inspectors reviewed the initial report and the licensee's technical evaluation and justification for cancellation of the report. No issues or findings were identified. This LER is cancelled.

40A6 Meetings, Including Exit

Exit Meeting Summary

On October 5, 2017, 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 licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

A. Black, Manager, Emergency Services
D. Brandon, Design Engineering Manager
S. Brush, ALARA Planner, Radiation Protection
B. Cook, Manager, Training
G. Crawford, Welding Engineer
M. Davis, Manager, Chemistry and Radiological Services
J. Dorwin, Engineer, Code Programs
C. Forrester, Acting Manager, Emergency Preparedness
K. Gillard, Analyst, Chemistry and Radiological Services
D. Gregoire, Manager, Regulatory Affairs
G. Hettel, Vice President, Operations
A. Holt, Supervisor, Information Services
M. Hummer, Licensing Engineer
M. Khaudiser, Manager, Chemistry and Radiation Safety
D. Kovacs, Manager, Information Services
N. LaBella, Inservice Inspection, Nondestructive Examiner
C. Moon, Manager, Quality
G. Pierce, Manager, Training
J. Pierce, Manager, Continuous Improvement
R. Prewett, Maintenance Manager
M. Rice, Design Authority
S. Richter, Inservice Inspection Engineer
R. Wynegar, Licensing Engineer
R. Sanker, Radiological Support Supervisor, Radiation Protection
B. Sawatzke, Chief Nuclear Officer
B. Schuetz, Plant General Manager
J. Smith, Radiological Operations Supervisor, Radiation Protection
D. Stephens, Operations Manager
D. Suarez, Regulatory Compliance Engineer
M. Sullivan, Manager, Security Operations
D. Wolfgramm, Compliance Supervisor, Regulatory Affairs

NRC Personnel

R. Deese, Senior Risk Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000397/2017003-01	NCV	Inadequate High Pressure Core Spray Fill and Vent Procedure (Section 1R15)
05000397/2017003-02	TE	Failure to Report Unplanned Valid Reactor Protection System Actuation (Section 4OA3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
13.1.1	Classifying the Emergency	47
ABN-ELEC GRID	Degraded Off Site Power Grid	7
SOP- HOTWEATHER- OPS	Hot Weather Operations	6
SOP- WARMWEATHER- OPS	Warm Weather Operations	11

Section 1R04: Equipment Alignment

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
M520	Flow Diagram: HPCS and LPCS Systems Reactor Building	103
M521-1	Flow Diagram: Residual Heat Removal System Loop 'A'	115

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.66	Operability and Functionality Evaluation	32
5.0.12	Station Blackout and Extended Loss of AC Power Basis	0
OI-69	Time Critical Operator Actions	7
OSP-HPCS- M102	HPCS Valve Lineup	3
SOP-CRD-LU	Control Rod Drive System Lineup	0
SOP-DG3- START	High Pressure Core Spray Diesel Generator Start	26
SOP-ELEC- 125V-OPS	125 VDC System Operation	3
SOP-ELEC-250- OPS	250 VDC System Operation	2
SOP-ELEC- 4160-OPS	4160 Volt AC Electrical Power Distribution System Operation	12
SOP-RHR-LU	RHR System Valve and Breaker Lineup	7

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SOP-RHR-STBY	Placing RHR in Standby Status	4

Section 1R05: Fire Protection

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	Drill Critique Sheet for 07/27/17 Drill: Crew D	0
	Drill Critique Sheet for 08/17/17 Drill: Crew A	0
A509	Miscellaneous Floor Plans	38
BIP17-0200	Broken Stop Bolt ~1/2 Inch Hole Through Door	March 23, 2017
FM892-1	Fire Barrier and Fire Boundary Plan Ground Floor Elevations 437'-0", 441'-0" and Misc Floors	21
FM892-4	Fire Barrier and Fire Boundary Plan Reactor Building Misc Elevations	13

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.10	Plant Fire Protection Program Implementation	34
1.3.10A	Control of Ignition Sources	15
1.3.57	Barrier Impairment	36
15.3.7	Fire Door Operability – Semiannual, annual, Biennial	9
FPP-1.6	Combustible Loading Calculation Control	2
FPP-2.2.7	Fire Protection Water System Inspections	5
FPP-2.2.12	Annual Fire Door Operability test	4
PFP-MN-XFMR-YD-MISC	MN XFMR YD Misc Bldgs	6
PFP-RB-422	Reactor 422	6
PFP-RB-441	Reactor 441	5
PFP-RB-471	Reactor 471	5
PFP-RB-501	Reactor 501	3
TPD-22	Fire Brigade Training Program Description	3

Action Requests (ARs)

369491

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

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
TDI-06	Simulator Management	17
TDI-08	Licensed Operator Requalification Program	11
TDI-11	Shift Manager Program	3

Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.1	Operating Policies, Programs, and Practices	120
1.5.11	Maintenance Rule Program	14

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Miscellaneous Documents

<u>Title</u>	<u>Revision/Date</u>
Columbia Generating Station Forced Outage FO-17-01 Shutdown Safety Plan	0
Instrument Master Data Sheet: HPCS-FIS-6	12
PARAGON Risk Week of July 10, 2017	July 10, 2017

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.76	Integrated Risk Management	49
1.3.85	On-Line Fire Risk Management	5
1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	39
ISPM-7	Electrical Safety	14
OI-14	Columbia Generating Station Operational Challenges and Risk Program	13
OI-69	Time Critical Operator Actions	7

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.66	Operability and Functionality Evaluation	32
OI-9	Operator Standards and Expectations	63
OSP-HPCS-M101	HPCS Fill Verification	10
SOP-HPCS-FILL	HPCS Fill and Vent	12

Action Requests (ARs)

367613 368872 368968 369134

Work Orders (WOs)

02078463 02078731 02079573 02079574 02115932
29137728

Section 1R18: Plant Modifications

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
E538-7VA-1	Internal Connection Diagram Local Instrument Rack IR-9	3
EC 16670	Bypass AR-SPV-1/1 to Open AR-V-1 and Keep it Open	0
EC 16670	Bypass AR-SPV-1/1 to Open AR-V-1 and Keep it Open	1
M511	Flow Diagram Gas & Air Removal System	57

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.5.13	Preventative Maintenance Optimization Living Program	34
10.2.226	Mechanically Gagging Equipment	2

Action Requests (ARs)

370326 370327 370344

Work Orders (WOs)

02117416

Section 1R19: Post-Maintenance Testing

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision</u>
10.25.13	Westinghouse Medium Voltage Circuit Breakers	33
10.25.13A	4.16 kV Vacuum Breaker Maintenance with Stored Energy	17
10.25.13B	DHP-VR-350 3000 Amp Circuit Breaker Maintenance	02
10.25.141A	Installation of Electrically Operated Grounding Devices	13
CBP-01	Circuit Breaker Program	1
CRLY-01	Critical Relay Program	0
SOP-TST-01	Post Maintenance Testing Program	16

Section 1R20: Refueling and Other Outage Activities

Miscellaneous Documents

<u>Title</u>	<u>Date</u>
Estimated Critical Position Calculation at 150F	August 22, 2017
Estimated Critical Position Calculation at 300F	August 22, 2017
Operator Logs	August 20, 2017
Paragon FO-17-01	August 20, 2017
Reactivity Control Plan: Cycle 24 August Startup	August 22, 2017
SCRAM Trip Report	August 21, 2017

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.84	Reactivity Management Control	3
3.1.1	Master Startup Checklist	58
3.1.2	Reactor Plant Startup	84
3.2.1	Normal Plant Shutdown	88
3.3.1	Reactor Scram	63

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
3.4.4	Natural Circulation	5
6.3.5	Full Core Verification	12
9.3.6	Estimated Critical Position Calculation	5
9.3.7	Reactor Shutdown and Startup Calculations	2
9.3.12	Plant Power Maneuvering	34
13.8.1	Emergency Dose Projection System Operations	36
OCC-01	Outage Control Center Norms	5
OI-09	Operations Standards and Expectation	67
OI-51	OPS Outage Preparation	12
OSP-MS-M701	Bypass Valves Test	11
SOP-CFD-BW/PC	Main Condensate Filters Demineralizer Backwash and Precoat	3
SOP-CFD-DRAIN	Main Condensate Filters Demineralizer Drain	2
SOP-CFD-FILL	Main Condensate Filters Demineralizer System Fill	10
SOP-CFD-LU	Main Condensate Filters Demineralizer System Valve Breaker Lineup	2
SOP-CFD-OPS	Main Condensate Filters Demineralizer System Operations	12
SOP-CFD-SHUTDOWN	Main Condensate Filters Demineralizer System Shutdown	4
SOP-ENTRY-WW	Personnel Entry Into Wetwell	9
SOP-FPC-ASSIST-ALT	Alternate Fuel Pool Cooling Assist	11
SOP-FPC-OPS	Fuel Pool Cooling and Cleanup Operations	10
SOP-RHR-SDC	RHR Shutdown Cooling	27
SWP-CHE-02	Chemical Process Management and Control	27
SWP-FFD-04	Work Hour Controls	19
SWP-PUR-04	Material, equipment, Parts and Supplies Procurement	15

Section 1R22: Surveillance Testing

Miscellaneous Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	Operations Logs	July 22, 2017
	Operations Logs	July 26, 2017
E539-10C	E-SM-4 (Unit 102) Auxiliary Cubicle Connection Diagram	2
E539-10D	E-SM-4 (Unit 102) Auxiliary Cubicle Connection Diagram	2
EWD-7E-026	High Pressure Core Spray System, HPCS Bus Potential and Undervoltage	17
M512-1	Flow Diagram Diesel Oil & Miscellaneous Systems Diesel Generator Building	47

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.83	Protected Equipment Program	24
OSP-ELEC-S703	HPCS Diesel Generator Semi-Annual Operability Test	60
OSP-UV/DV-B503	4.16 kV Emergency Bus Undervoltage and Degraded Voltage LSFT (Div 3)	12
SOP-DG3-SHUTDOWN	High Pressure Core Spray Diesel Generator Shutdown	15
SOP-DG3-STBY	High Pressure Core Spray Diesel Generator Standby Lineup	18
SOP-HPCS-FILL	HPCS Fill	12
SOP-HPCS-INJECTION	HPCS RPV Injection	11
SOP-HPCS-LU	HPCS Valve and Breaker Lineup	3
SOP-RCIC-DRAIN	RCIC Drain	4
SOP-RCIC-FILL	RCIC Fill and Vent	16
SOP-RCIC-INJECTION	RCIC RPV Injection	10
SOP-RCIC-LU	RCIC Valve and Breaker Lineup	3
SOP-RCIC-OIL	RCIC Turbine or Pump Oil Fill and Prime	10
SOP-RCIC-SUCTION	RCIC Suction Transfer	1

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OSP-SW/IST-Q703	HPCS Service Water Operability	27

Action Requests (ARs)

369238	369251	370636
--------	--------	--------

Work Orders (WOs)

02074155	02096334	02097676	02105942
----------	----------	----------	----------

Section 1EP6: Drill Evaluation

Miscellaneous Documents

<u>Title</u>	<u>Revision/Date</u>
CGS ERO Drill Manual: Team 'A' – July 18, 2017	0
Columbia Generating Station ERO Team "A" Drill Report July 18, 2017	August 14, 2017

Action Requests (ARs)

360195	369126	369130	369131	369204
370041	370042			

Section 4OA1: Performance Indicator Verification

Miscellaneous Documents

<u>Title</u>
MSPI Derivation Reports

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.5.11	Maintenance Rule Program	15
NEI-99-02	Regulatory Assessment Performance Indicator Guidelines	7
PPM 1.5.13	Preventive Maintenance Optimization Living Program	37
SWP-CAP-01	Corrective Action Program	37

Section 4OA2: Problem Identification and Resolution

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
9.3.32	Fuel Integrity Monitoring	12
SWP-CAP-01	Corrective Action Program	33
SWP-CAP-05	Corrective Action Review Board	19
SWP-CAP-06	Condition Report Review	22

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

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1.3.68	Work Management Process	33
ABN- BACKRPESSURE	Loss of Main Condenser Backpressure	5