



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

April 25, 2018

Mr. Brad Sawatzke  
Interim Chief Executive Officer  
Energy Northwest  
MD 1023  
P.O. Box 968  
Richland, WA 99352

**SUBJECT: COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION  
REPORT 05000397/2018001**

Dear Mr. Sawatzke:

On March 31, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Columbia Generating Station. On April 19, 2018, the NRC inspectors discussed the results of this inspection with Mr. G. Hettel, Vice President for Operations, 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. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of this NCV, 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.

B. Sawatzke

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Sincerely,

*/RA/*

Mark Haire, Chief  
Project Branch A  
Division of Reactor Projects

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

Enclosure:  
Inspection Report 05000397/2018001  
w/ Attachment: Documents Reviewed

COLUMBIA GENERATING STATION – NRC INTEGRATED INSPECTION REPORT  
 05000397/2018001 – APRIL 25, 2018

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U.S. NUCLEAR REGULATORY COMMISSION

**Inspection Report**

Docket Number: 05000397

License Number: NPF-21

Report Number: 05000397/2018001

Enterprise Identifier: I-2018-001-0010

Licensee: Energy Northwest

Facility: Columbia Generating Station

Location: Richland, Washington

Inspection Dates: January 1, 2018 to March 31, 2018

Inspectors: G. Kolcum, Senior Resident Inspector  
L. Brandt, Resident Inspector  
P. Elkmann, Senior Emergency Preparedness Inspector  
J. Braisted, Reactor Inspector  
S. Hedger, Emergency Preparedness Inspector  
E. Ruesch, Senior Reactor Inspector

Approved By: M. Haire, Chief  
Project Branch A  
Division of Reactor Projects

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee’s performance by conducting an integrated inspection at Columbia Generating Station in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC’s program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information. Findings and violations being considered in the NRC’s assessment are summarized in the table below.

### List of Findings and Violations

Failure to Follow Procedure Leads to Loss of Secondary Containment			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000397/2018001-01 Closed	H.5 – Work Management	71153 – Follow-up of Events and Notices of Enforcement Discretion
<p>The inspectors reviewed a self-revealed, Green, non-cited violation of Technical Specification 5.4.1.a for the licensee’s failure to perform maintenance in accordance with documented instructions appropriate to the circumstances. Specifically, on September 12, 2017, the failure to verify power sources per Work Order 02072924 caused an electrical transient that caused the reactor building exhaust valve and supply valve to lose power and close, resulting in a loss of secondary containment.</p>			

### Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000397/2017003-00	Momentary Loss of Secondary Containment Due to Weather	71153	Closed
LER	05000397/2017005-00	Valve Closure Results in Momentary Increase in Secondary Containment Pressure	71153	Closed
LER	05000397/2017006-00	Condition Prohibited by Technical Specifications Due to Incomplete Action Statement	71153	Closed

## PLANT STATUS

The plant began the inspection period at 100 percent rated thermal power. On January 6, 2018, the unit was down-powered to 72 percent for turbine valve testing and a control rod sequence exchange. The unit was returned to 100 percent rated thermal power on January 6, 2018. On March 31, 2018, the unit was down-powered to 70 percent for turbine valve testing and a control rod sequence exchange. The unit was returned to 100 percent rated thermal power on March 31, 2018.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection period unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors performed plant status activities described in IMC 2515 Appendix D, "Plant Status" and conducted routine reviews using IP 71152, "Problem Identification and Resolution." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## REACTOR SAFETY

### 71111.01 - Adverse Weather Protection

#### Impending Severe Weather (1 Sample)

The inspectors evaluated readiness for impending adverse weather conditions associated with high winds on February 17, 2018.

#### External Flooding (1 Sample)

The inspectors evaluated readiness to cope with external flooding on January 12, 2018.

### 71111.04 - Equipment Alignment

#### Partial Walkdown (5 Samples)

The inspectors evaluated system configurations during partial systems/trains walkdowns:

- (1) diesel generator 1 starting air on February 6, 2018
- (2) diesel generator 2 starting air on February 22, 2018
- (3) diesel generator 3 starting air on February 26, 2018
- (4) diesel generator 3 governor on March 12, 2018
- (5) diesel generator 2 governor on March 29, 2018

Complete Walkdown (1 Sample)

The inspectors evaluated standby service water loop A system configurations during a complete walkdown on January 12, 2018

71111.05AQ - Fire Protection Annual/Quarterly

Quarterly Inspection (6 Samples)

The inspectors evaluated fire protection program implementation in the following selected areas:

- (1) Fire Area R-6/2: RCIC Pump Room on January 8, 2018
- (2) Fire Area R-7/1: RHR-C Pump Room on January 9, 2018
- (3) Fire Area R-8/1: LPCS Pump Room on January 10, 2018
- (4) Fire Area RC-13/2: Chiller, Communications, I & C Area on January 26, 2018
- (5) Fire Area RC-11/1: HVAC Equipment Room "A" Division 1 on January 26, 2018
- (6) Fire Area RC-12/2: HVAC Equipment Room "B" Division 2 on January 26, 2018

71111.06 - Flood Protection Measures

Internal Flooding (1 Sample)

The inspectors evaluated internal flooding mitigation protections:

- (1) Reactor Building 422' level on February 14, 2018

Cables (1 Sample)

The inspectors evaluated cable submergence protection:

- (1) Manhole E-MH-E8 on February 22, 2018
- (2) Manhole E-MH-01B, 10, 11, 13, 15 on February 28, 2018

71111.11 - Licensed Operator Requalification Program and Licensed Operator Performance

Operator Requalification (1 Sample)

The inspectors observed and evaluated a crew during a simulator evaluated scenario for licensed operator requalification training on January 22, 2018.

Operator Performance (1 Sample)

The inspectors observed and evaluated operator performance during the following activities:

- (1) maintenance on main generator seal oil pressure regulator on January 9, 2018
- (2) diesel generator 3 testing on January 24, 2018

## 71111.12 - Maintenance Effectiveness

### Routine Maintenance Effectiveness (5 Samples)

The inspectors evaluated the effectiveness of routine maintenance activities associated with the following equipment and/or safety significant functions:

- (1) fire pump 110 starting issue on January 10, 2018
- (2) standby service water loop B planned maintenance, week of January 15, 2018
- (3) diesel generator 3 annual preventive maintenance, week of January 22, 2018
- (4) SM4 relay testing on February 27, 2018
- (5) diesel generator 2 12-year maintenance, March 19-30, 2018

### Quality Control (1 Sample)

The inspectors evaluated maintenance and quality control activities associated with the following equipment performance issues:

- (1) main control room emergency chiller B maintenance, week of February 19, 2018

## 71111.13 - Maintenance Risk Assessments and Emergent Work Control (8 Samples)

The inspectors evaluated the risk assessments for the following planned and emergent work activities:

- (1) yellow risk due to standby service water system A maintenance, week of January 1, 2018
- (2) yellow risk due to maintenance on main generator seal oil pressure regulator on January 9, 2018
- (3) yellow risk for diesel generator 3 maintenance on January 22, 2018
- (4) yellow risk for circuit breaker S/2 maintenance on January 24, 2018
- (5) yellow risk for maintenance on backup transformer, February 16-17, 2018
- (6) yellow risk for standby gas treatment B and SM4 relay testing, February 26-28, 2018
- (7) yellow risk for diesel generator 3 24-hour load test and loss of coolant accident test, March 1-3, 2018
- (8) yellow risk for diesel generator 2 12-year maintenance, March 19-30, 2018



#### 71111.15 - Operability Determinations and Functionality Assessments (7 Samples)

The inspectors evaluated the following operability determinations and functionality assessments:

- (1) diesel generator 3 diesel oil valve DO-V-14 on January 22, 2018
- (2) diesel generator 3 exhaust thermocouple on January 24, 2018
- (3) diesel generator 3 temperature test switch on January 25, 2018
- (4) main control room emergency chiller B unexpected start during tagout on February 18, 2018
- (5) high pressure core spray motor oil on March 8, 2018
- (6) diesel generator 2 engine governor on March 28, 2018
- (7) diesel generator 2 fuel oil pump on March 29, 2018

#### 71111.18 - Plant Modifications (5 Samples)

The inspectors evaluated the following temporary or permanent modifications:

- (1) Engineering Change (EC) 14954, CCH Bypass Line, Emergency Chilled Water, on January 24, 2018
- (2) Temporary Modification (TM) 16326, adjust setpoint of containment instrument air pressure control valve on February 2, 2018
- (3) EC 16860 setpoint change on DG air start reducing valve pressure on February 9, 2018
- (4) TM 16170 main control room chiller B bearing high temp switch on February 16, 2018
- (5) EC 16066 vital island fire protection installation on March 31, 2018

#### 71111.19 - Post Maintenance Testing (9 Samples)

The inspectors evaluated the following post maintenance tests:

- (1) fire pump 110 maintenance on January 10, 2018
- (2) standby service water loop B maintenance on January 16, 2018
- (3) diesel generator 3 maintenance on January 25, 2018
- (4) TR-B backup transformer maintenance on February 17, 2018
- (5) tower make-up pump C maintenance on February 21, 2018
- (6) fuel pool cooling pump B maintenance on February 23, 2018

- (7) RHR-V-68B standby service water supply isolation to residual heat removal heat exchanger 1B maintenance on February 26, 2018
- (8) RHR-V-116 cross tie connection from standby service water maintenance on March 1, 2018
- (9) diesel generator 2 12-year outage on March 29, 2018

#### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

##### Routine (5 Samples)

- (1) service water spray pond quarterly surveillance test per OSP-SW-Q101, on January 4, 2018
- (2) main steam isolation valve SCRAM closure test per OSP-RPS-S402, on January 7, 2018
- (3) diesel generator 3 load testing per TSP-DG3-B502, on March 2, 2018
- (4) diesel generator 3 loss of coolant accident test per TSP-DG3/LOCA-B501, on March 3, 2018
- (5) main turbine bypass valve testing per OSP-MS-Q702, on March 31, 2018

##### In-service (1 Sample)

- (1) residual heat removal loop A operability test per OSP-RHR/IST-Q702, on February 7, 2018

#### 71114.01 - Exercise Evaluation (1 Sample)

The inspectors evaluated the licensee's biennial emergency plan exercise and subsequent identification of performance weaknesses. The exercise scenario simulated the following on March 27, 2018:

- (1) a loss of feedwater heating causing a power excursion which required the reactor be shut down
- (2) a problem with the reactor protection system which failed to shut down the reactor
- (3) a failure of some control rods to insert into the reactor
- (4) an unisolable pipe break on the reactor water clean-up system outside of containment

(5) an unfiltered and monitored radioactive release from the radioactive waste building through the plant vent which increased in activity over time

(6) emergency depressurization of the reactor

#### 71114.04 - Emergency Action Level and Emergency Plan Changes (1 Sample)

The inspectors evaluated submitted Emergency Action Level changes in-office on January 30, 2018. This evaluation does not constitute NRC approval.

#### 71114.06 - Drill Evaluation

##### Emergency Planning Drill (1 Sample)

The inspectors evaluated:

(1) a general emergency scenario drill on February 27, 2018

#### 71114.08 - Exercise Evaluation – Scenario Review (1 Sample)

The inspectors conducted an in-office review of the proposed biennial emergency plan exercise scenario between January 16 and February 22, 2018. The inspectors also discussed the proposed scenario with staff at FEMA Region X.

### **OTHER ACTIVITIES – BASELINE**

#### 71151 - Performance Indicator Verification (6 Samples)

The inspectors verified licensee performance indicators submittals listed below:

- (1) IE01: Unplanned Scrams per 7000 Critical Hours (01/01/2017 – 12/31/2017)
- (2) IE03: Unplanned Power Changes per 7000 Critical Hours (01/01/2017 – 12/31/2017)
- (3) IE04: Unplanned Scrams with Complications (01/01/2017 – 12/31/2017)
- (4) EP01: Drill/Exercise Performance (01/01/2017 – 12/31/2017)
- (5) EP02: Emergency Response Organization Drill Participation (01/01/2017 – 12/31/2017)
- (6) EP03: Alert and Notification System Reliability (01/01/2017 – 12/31/2017)

#### 71152 - Problem Identification and Resolution

##### Annual Follow-up of Selected Issues (2 Samples)

The inspectors reviewed the licensee's implementation of its corrective action program related to the following issues:

- (1) required test for Westinghouse 480v ac circuit breaker on February 20, 2018
- (2) licensee's corrective action for abnormal procedure ABN-ASH on March 31, 2018

71153 - Follow-up of Events and Notices of Enforcement Discretion

Licensee Event Reports (3 Samples)

The inspectors evaluated the following Licensee Event Reports (LERs) which can be accessed at <https://lersearch.inl.gov/LERSearchCriteria.aspx>:

- (1) LER 05000397/2017-003-00, Momentary Loss of Secondary Containment Due to Weather on June 26, 2017
- (2) LER 05000397/2017-005-00, Valve Closure Results in Momentary Increase in Secondary Containment Pressure on September 12, 2017
- (3) LER 05000397/2017-006-00, Condition Prohibited by Technical Specifications Due to Incomplete Action Statement on September 21, 2017

**INSPECTION RESULTS**

Minor Performance Deficiency	71153
<p>Minor Performance Deficiency: The inspectors reviewed LER 2017-006-00 and determined the failure to follow Procedure OSP-ELEC-W101, "Offsite Station Power Alignment Check," Revision 30, was a performance deficiency.</p> <p>Screening: The performance deficiency was minor because while it was associated with the configuration control attribute of the Mitigating Systems Cornerstone, it did not adversely affect the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, when operations personnel performed the offsite station power alignment check in its entirety, all breakers were correctly aligned, and power was available for each offsite circuit.</p>	

Failure to Follow Procedure Leads to Loss of Secondary Containment			
Cornerstone	Significance	Cross-cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000397/2018001-01 Closed	H.5 – Work Management	71153 – Follow-up of Events and Notices of Enforcement Discretion
<p>During their inspection of LER 2017-005-00, the inspectors reviewed a self-revealed, Green, non-cited violation of Technical Specification 5.4.1.a, for the licensee's failure to perform maintenance in accordance with documented instructions appropriate to the circumstances. Specifically, on September 12, 2017, the failure to verify power sources per Work Order 02072924 caused an electrical transient that caused the reactor building exhaust valve and supply valve to lose power and close, resulting in a loss of secondary containment.</p>			
<p><u>Description:</u> On September 12, 2017, electricians performed planned maintenance per Work Order 02072924 to replace the reactor core isolation cooling (RCIC) system direct current (DC) motor control center (MCC) buckets. As part of the work, electricians conducted live-dead-live checks of wiring in the cubicle to check for DC voltage. The workers found DC</p>			

voltage as expected and lifted the terminals, per instructions. Another live-dead-live test for DC power was conducted which showed no voltage. While lifting a control wire, a maintenance worker believed they saw faint evidence of arcing. Another live-dead-live test was conducted which showed no evidence of DC voltage. However, when electricians lifted the wire, it shorted out against the bucket chassis and caused a reactor building exhaust inboard isolation valve to lose power and close, resulting in a loss of secondary containment. The wire shorted because alternating current (AC) voltage was present on the control wire and the DC voltage checks were not adequate to identify the presence of AC voltage. Operations personnel responded to the incident and restored secondary containment to operable status within approximately 1 minute.

The inspectors noted Work Order 02072924 Precaution and Limitations Step 2.5 states that “electrical energy may be present, follow the requirements of ISPM-7 & ISPM-20.” Step 2.6 states, in part, to “as needed, check all control wiring terminals in the cubicle for voltage prior to working in the cubicle.”

ISPM-20, “Electrical Arc Protection Work Practices and PPE Requirements,” Revision 14, Step 3.1.2 states that electrical equipment and lines shall be considered energized until verified de-energized by a “live-dead-live” check. ISPM-7, “Electrical Safety,” Revision 17, Step 3.1.10 states that all circuits shall be tested utilizing a live-dead-live method to verify that it is de-energized prior to commencing work, unless the circuit is planned to be worked live. In both procedures, two notes precede these steps. The first note states,

*“NOTE: Live-Dead-Live Check – Ensure test equipment is rated for and set to the correct voltage source (AC/DC) range prior to use. Test the meter on a known live source, perform necessary checks, then test the meter on a known live source. The live source must be the same voltage type as the circuit to be worked. (AC/DC)”*

The second note states,

*“NOTE: Pre and post voltage verification is required when performing determinations/re-terminations on a known live circuit. A “Live Dead Live” does not apply in this situation. When working on known live voltage sources per approved work documents, voltage verification is not required. (e.g. Battery surveillances)”*

Work Order 02072924 Step 4.6 states, in part,

*“Disconnect all external wiring at the bucket, using the attached de-term/re-term data sheet, [Motor Control Center] as-found diagram and/or cable termination instruction (CTI) as appropriate.”*

A warning note immediately prior to this step states,

*“Control circuits will be energized. Refer to drawing EWD-6E-007. Ensure all wire terminals are checked for voltage, prior to disconnecting. Note any discrepancies.”*

Maintenance personnel only performed a live-dead-live check for DC voltage because the workers erroneously believed only DC voltage was present in the cubicle. The inspectors noted that drawing EWD-6E-007, “Reactor Core Isolation Cooling System Pump RCIC-P-2 (E51-C002)” Revision 13, clearly shows AC voltage sources also located in the same cubicle. The inspectors determined the maintenance personnel failed to conduct a proper

live-dead-live check because the workers did not follow the warning note in Work Order 02072924 and refer to drawing EWD-6E-007.

Corrective Actions: The licensee's corrective actions included immediately restoring secondary containment to operable status and conducting a work stand down with all electricians to review requirements of Procedures ISPM-20 and ISPM-7 and reinforce the expectation that drawings will be posted at the job site at all times.

Corrective Action Reference: Action Request 371264

Performance Assessment:

Performance Deficiency: The failure to perform maintenance in accordance with documented instructions appropriate to the circumstances was a performance deficiency.

Screening: The performance deficiency was more than minor, and therefore a finding, because it was associated with the configuration control attribute of the Barrier Integrity Cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, the failure to verify power sources per Work Order 02072924 caused an electrical transient that caused the reactor building exhaust valve and supply valve to lose power and close, resulting in a loss of secondary containment.

Significance: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Attachment 04, "Initial Characterization of Findings," and Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," Exhibit 3, "Barrier Integrity Screening Questions," dated June 19, 2012. The inspectors determined the finding was of very low safety significance (Green) because the finding only represented a degradation of the radiological barrier function provided for the control room, auxiliary building, spent fuel pool, or standby gas treatment system.

Cross-cutting Aspect: This finding had a cross-cutting aspect in the area of human performance, work management, in that the licensee failed to plan and execute the work activity adequately. Specifically, electricians performed an inadequate live-dead-live check for the presence of only DC voltage when 120V AC voltage was present as reflected in the drawing [H.5].

Enforcement:

Violation: Technical Specification 5.4.1.a requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2. Section 9.a of Appendix A of Regulatory Guide 1.33, Revision 2, requires, in part, that maintenance that can affect the performance of safety-related equipment should be performed in accordance with documented instructions appropriate to the circumstances. The licensee established Work Order 02072924 to meet the Regulatory Guide 1.33 requirement. The warning note preceding Step 4.6 of Work Order 02072924 requires the electricians "Refer to drawing EWD-6E-007. Ensure all wire terminals are checked for voltage, prior to disconnecting."

Contrary to the above, on September 12, 2017, the licensee did not refer to drawing EWD-6E-007 and ensure all wire terminals are checked for voltage, prior to disconnecting. Specifically, the licensee should have identified there was live AC voltage present in the cubicle per drawing EWD-6E-007 and properly checked for AC voltage prior to disconnecting the wires. As a result, on September 12, 2017, the failure to verify power sources per Work Order 02072924 caused an electrical transient that caused the reactor building exhaust valve and supply valve to lose power and close, resulting in a loss of secondary containment.

Disposition: This violation is being treated as a Non-Cited Violation consistent with Section 2.3.2.a of the NRC Enforcement Policy.

### **EXIT MEETINGS AND DEBRIEFS**

Unless otherwise noted, the inspectors verified no proprietary information was retained or documented in this report.

- On February 20, 2018, the inspectors discussed the proposed exercise scenario with Mr. W. Webb, Branch Chief, Technological Hazards, FEMA Region X.
- On February 22, 2018, the inspectors discussed the results of the in-office review of the licensee's preliminary exercise scenario with Mr. S. Clizbe, Manager, Emergency Preparedness, and other members of the licensee staff.
- On March 30, 2018, the inspectors presented the results of the on-site inspection of the licensee's biennial emergency preparedness exercise and subsequent determination of performance weaknesses to Mr. R. Schuetz, Plant General Manager, Acting Vice President, Operations, and other members of the licensee staff. The inspectors also discussed exercise performance with Mr. W. Webb, Branch Chief, Technological Hazards, FEMA Region X.
- On April 19, 2018, the inspectors presented the integrated inspection results for the quarter to Mr. G. Hettel, Vice President for Operations, and other members of the licensee staff.

**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision/ Date
71111.01	Procedures	ABN-FLOODING	Flooding	019
		1.3.76	Integrated Risk Management	049
		ABN-WIND	Tornado/High Winds	029
71111.04	Procedures	3.1.6J	Instrument Rack Valve Line up Service BLDG, DG BLDG, SW PPHSE, CWPB, & TMU PPHSE	004
		SOP-DG1-LU	Emergency Diesel Generator (Div 1) Valve and Power Supply Lineup	005
		SOP-DG2-LU	Emergency Diesel Generator (Div 2) Valve and Power Supply Lineup	005
		SOP-DG3-LU	High Pressure Core Spray Diesel Generator Valve and Power Supply Lineup	007
		SOP-DG-DSA	Diesel Starting Air Operations	014
		OSP-SW-M101	Standby Service Water Loop A Valve Position Verification	037
		71111.05	Procedures	1.3.10B
1.3.10C	Control of Transient Combustibles			020
SOP-FP-DRAIN	Fire Protection System Drain			001
SOP-FP-FILL	Fire Protection System Fill			003
SOP-FP-LU	Fire Protection System Valve and Breaker Lineup			009
MWP-1	Maintenance Welding Operating Procedure			020
PFP-RW-525	Radwaste 525			005
10.2.222	Seismic Storage Requirements for Transient Equipment			001
Miscellaneous	ISP 17-0124			Ignition Source Permit: CCH-CR-1A, Control Room Emergency Chiller
Action Requests	375440		376161	377528
	377895	377052		



Inspection Procedure	Type	Designation	Description or Title	Revision/ Date	
71111.06	Procedures	1.3.57	Barrier Impairment	036	
		ME-02-02-02	Calculation for Reactor Building Flooding Analysis	002	
	Work Orders	02100891	02116122		
71111.11	Procedures	OI-09	Operations Standards and Expectation	068	
		13.1.1A	Classify the Emergency – Technical Bases	033	
		13.1.1	Classifying the Emergency	049	
	Miscellaneous		Energy Northwest 4.0 Critique Summary for Crew F Evaluated Scenario Cycle 18-1	01/22/2018	
71111.12	Procedure	1.5.11	Maintenance Rule Program	015	
	Work Orders	02046756	02061863	02080115	02100745
		02110118	02113431	02123160	
	Action Requests	373929	373936	375680	375996
376135		376155			
71111.13	Procedures	1.3.76	Integrated Risk Management	049	
		26871	High Risk Work Plan	013	
		1.3.83	Protected Equipment Program	026	
	Miscellaneous		High Risk Work Plan for MCR Chiller 'A' Outlet Line	12/20/2017	
71111.15	Procedure	1.3.66	Operability and Functionality Evaluation	034	
	Action Requests	375995	375997	375998	376135
		376155	377143	377670	378475
378407		378408			
71111.18	Procedure	EC 14954	CCH Bypass Line	000 - 004	
	Work Order	02085978			
	Action Request	376012			
71111.19	Procedures	OSP-ELEC-S703	HPCS Diesel Generator Semi-Annual Operability Test	060	
		TSP-DG2-B502	Standby Diesel Generator DG2 Load Testing	024	
		OSP-ELEC-M702	Diesel Generator 2 – Monthly Operability Test	062	
		OSP-ELEC-W101	Offsite Station Power Alignment Check	031	
		15.1.4	FP-P-110 Operability Test	038	
		SOP-TMU-START	Tower Makeup Water System Start	013	
		SOP-TMU-OPS	Tower Makeup Water Operation	011	

Inspection Procedure	Type	Designation	Description or Title		Revision/ Date
71111.19	Procedures	OSP-FPC/IST-Q701	Fuel Pool Cooling System Operability Surveillance		037
		OSP-SW/IST-Q702	Standby service Water Loop B Operability		032
		8.3.447	Testing RHR-V-89, RHR-V-115, and RHR-V-116		001
		OSP-SW-M102	Standby Service Water Loop B Valve Position Verification		038
	Work Orders	02096335	02120536	02123160	02090131
	Action Requests	373929	373936	375680	
71111.22	Procedures	SYS-2-27	Sonar Inspection – Service Water Spray Pond Sediment Measurements		000
	Calculations	ME-02-83-21	Calculation for Spray Pond Water Level Change		002
		ME-02-92-41	Calculation for Ultimate Heat Sink Analysis		007
	Work Orders	02090434	02092445	02097247	
71114.01	Procedures and Documents	EPIP 13.1.1	Classifying the Emergency		
		EPIP 13.1.1A	Classifying the Emergency, Technical Bases, January 17, 2018		033
		EPIP 13.2.1	Emergency Exposure Levels/Protective Action Guides, December 21, 2017		022
		EPIP 13.2.2	Determining Protective Action Recommendations, December 21, 2017		020
		EPIP 13.4.1	Emergency Notifications, August 29, 2017		043
		EPIP 13.5.1	Local, Protected Area or Site Evacuation, March 8, 2017		029
		EPIP 13.8.1	Emergency Dose Projection System Operations		038
		EPIP 13.10.1	Control Room Operations and Shift Manager Duties, February 14, 2017		035
		EPIP 13.10.2	TSC Manager Duties, February 14, 2017		035
		EPIP 13.10.9	Operations Support Center Manager and Staff Duties, January 24, 2017		049
EPIP 13.11.1	EOF Manager Duties, October 4, 2017		044		

Inspection Procedure	Type	Designation	Description or Title	Revision/ Date
71114.01	Procedures and Documents	EPIP 13.14.11	EP Equipment	013
		EPIP 13.14.8	Drill and Exercise Program, June 29, 2016	018
		EPI-13	Emergency Notification System, August 29, 2017	008
		EPI-17	After Action Report, Improvement Plan, Formatting, Distribution, and Retention, December 9, 2013	008
		EPI-21	Drill and Exercise Development and Implementation, June 22, 2017	018
		5.2.1	Primary Containment Control	027
		5.8.1	Post-LOCA Hydrogen/Oxygen Monitoring	002
		12.5.33	Reactor Coolant Sampling	004.001
		12.17.1	EOP Reactor Water Sampling	12/21/2017
		DWG M528-2	Flow Diagram Control Rod Drive System	009
		RWP 30004172	2018 Emergency Drill Response Activities	12/21/2017
			Columbia Generating Station ERO Team "B" Drill Report, January 12, 2016, After Action Report/Improvement Plan	02/11/2016
			Columbia Generating Station ERO Team "B" Dress Rehearsal Drill Report, February 23, 2016, After Action Report/Improvement Plan	04/23/2016
			Columbia Generating Station ERO Team "B" Exercise Drill Report, March 29, 2016, After Action Report/Improvement Plan	04/29/2016

Inspection Procedure	Type	Designation	Description or Title	Revision/ Date
71114.01	Documents		Columbia Generating Station ERO Team "B" Exercise Drill Report, March 29, 2016, After Action Report/Improvement Plan	04/29/2016
			Columbia Generating Station ERO Team "D" Drill, Drill Report, May 3, 2016, After Action Report/Improvement Plan	06/03/2016
			Columbia Generating Station ERO Team "A" Drill, Drill Report, August 30, 2016, After Action Report/Improvement Plan	09/22/2016
			Columbia Generating Station ERO Team "C" Drill, Drill Report, October 25, 2016, After Action Report/Improvement Plan	11/22/2016
			Columbia Generating Station ERO Team "B" Drill, Drill Report, January 10, 2017, After Action Report/Improvement Plan	02/07/2017
			Columbia Generating Station ERO Team "D" Drill, Drill Report, March 14, 2017, After Action Report/Improvement Plan	04/24/2017
			Columbia Generating Station ERO Team "A" Drill, Drill Report, July 18, 2017, After Action Report/Improvement Plan	08/15/2017
			Columbia Generating Station ERO Team "C" Drill, Drill Report, October 31, 2017, After Action Report/Improvement Plan	11/31/2017
			Fire Brigade/First Responder Drill 2016, Contaminated/Injured Man	11/03/2016
			Fire Brigade/First Responder Drill 2017, Contaminated/Injured Man	11/28/2017

Inspection Procedure	Type	Designation	Description or Title	Revision/ Date	
71114.01	Documents		Apparent Cause Evaluation, Violation of 10 CFR 50.54(q)(2) for Failure to Conduct Medical Emergency Drill in 2015	04/11/2016	
	Action Requests	347032	347050	347265	347490
		348108	350241	353342	354107
		356181	356227	356618	356826
		357471	360335	360547	361134
		361195	363014	366567	366884
		366958	368177	368192	369531
		369776	371856	373325	373732
		374110	374115	374117	372561
		375641	377563	378325	378339
		378341	378394	378441	378471
378644					
71114.04	Procedures and Documents		Columbia Generating Station Emergency Plan	065	
		EPIP 13.1.1A	Classifying the Emergency, Technical Bases	033	
		EPI-16	50.54(Q) Change Evaluation, July 19, 2017	015	
71151	Procedures	EPI-18	Emergency Preparedness Performance Indicators, May 31, 2017	025	
	Action Requests	358298	360339	361467	366785
		368711	369130	369725	372372
		373237	373325		
71152	Action Requests	346054	376191	377044	
71153	Action Requests	371646	371777	376985	