



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

November 2, 2021

Mr. Dave Brown, Site Vice President  
Energy Northwest  
MD 1023  
P.O. Box 968  
Richland, WA 99352

**SUBJECT: COLUMBIA GENERATING STATION – INTEGRATED INSPECTION  
REPORT 05000397/2021003**

Dear Mr. Brown:

On September 30, 2021, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Columbia Generating Station. On October 7, 2021, 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.

Two findings of very low safety significance (Green) are documented in this report. Both of these findings involved violations of NRC requirements. We are treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest the violations or the significance or severity of the violations documented in this inspection report, 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 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 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 Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,



Signed by Josey, Jeffrey  
on 11/02/21

Jeffrey E. Josey, Chief  
Reactor Projects Branch A

Docket No. 05000397  
License No. NPF-21

Enclosure:  
As stated

cc w/ encl: Distribution via LISTSERV®

COLUMBIA GENERATING STATION – INTEGRATED INSPECTION  
REPORT 05000397/2021003 – DATED NOVEMBER 2, 2021

**DISTRIBUTION:**

SMorris, RA  
JMonninger, DRA  
AVegel, DRP  
MHay, DRP  
RLantz, DRS  
JDixon, DRS  
DCylkowski, RC  
RWilliams, RIV/OEDO  
VDricks, ORA  
LWilkins, OCA  
MChawla, NRR  
AMoreno, RIV/OCA  
BMaier, RSLO  
JJosey, DRP  
HFreeman, DRP  
DBryen, DRP  
PNiebaum, DRP  
ADonley DRP  
MBennett, DRP  
BCorrell, IPAT  
LFlores, IPAT  
FRamirez, IPAT  
R4Enforcement

ADAMS ACCESSION NUMBER: ML21300A182

SUNSI Review      ADAMS:       Non-Publicly Available       Non-Sensitive      Keyword:  
By: HAF       Yes     No       Publicly Available       Sensitive      NRC-002

OFFICE	SRI: DRP/A	RI: DRP/A	TL: DRS/IPAT	C: DRS/EB1	C: DRS/EB2
NAME	PNiebaum	ADonley	FRamirez	VGaddy	NTaylor
SIGNATURE	<b>PKN</b>	<b>/RA/</b>	<b>FCR</b>	<b>/RA/</b>	<b>/RA/</b>
DATE	11/01/2021	10/28/2021	10/28/2021	10/27/2021	11/2/2021
OFFICE	C: DRS/OB	C: DRS/PSB1	C: DNMS/RxIB	SPE: DRP/A	C: DRP/A
NAME	HGepford	RKellar	GWarnick	HFreeman	JJosey
SIGNATURE	<b>/RA/</b>	<b>/RA/</b>	<b>/RA/</b>	<b>/RA/</b>	<b>JEJ</b>
DATE	10/28/2021	10/27/2021	10/28/2021	10/27/2021	11/2/2021

OFFICIAL RECORD COPY

**U.S. NUCLEAR REGULATORY COMMISSION  
Inspection Report**

Docket Number: 05000397

License Number: NPF-21

Report Number: 05000397/2021003

Enterprise Identifier: I-2021-003-0105

Licensee: Energy Northwest

Facility: Columbia Generating Station

Location: Richland, Washington

Inspection Dates: June 28, 2021 to September 30, 2021

Inspectors: P. Niebaum, Senior Resident Inspector  
A. Donley, Resident Inspector  
D. Antonangeli, Health Physicist  
B. Baca, Health Physicist  
J. Melfi, Project Engineer  
J. O'Donnell, Senior Health Physicist  
E. Simpson, Health Physicist

Approved By: Jeffrey E. Josey, Chief  
Reactor Projects Branch A

Enclosure

## 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.

### List of Findings and Violations

Failure to Follow Procedure Resulted in an Inadequate Operability Determination due to a Breach of Secondary Containment			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000397/2021003-01 Open/Closed	[H.5] - Work Management	71111.15
<p>The NRC inspectors identified a Green, non-cited violation (NCV) of Technical Specifications 5.4.1, Procedures, when the licensee failed to follow licensee procedure SOP-DOOR/HATCH-OPS, “Reactor Building, Turbine Building, Radwaste Building and Containment Personnel, Equipment Access Area Doors, and Hatches,” Revision 18, when the reactor building 606 foot roof access hatch was opened for maintenance on July 28, 2021. As a result, secondary containment was not declared inoperable while the access hatch was open.</p>			

Inadequate Maintenance Instructions when Performing Valve Diagnostic Testing Leads to Degraded Pipe Support			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000397/2021003-02 Open/Closed	[P.1] - Identification	71152
<p>The NRC inspectors identified a Green, non-cited violation (NCV) of Technical Specification 5.4.1, Procedures, for failure to have adequate licensee procedural guidance and practices when performing diagnostic testing on reactor core isolation cooling (RCIC) valve RCIC-MO-76, which resulted in damage to pipe support RCIC-976S. The damage to the support occurred during diagnostic testing in a prior outage on the valve per work order 02110811-08 and maintenance procedure PPM 10.25.132, “Thrust Adjustment and Diagnostic Analysis of Motor Operated Valves” for valve RCIC-MO-76. Specifically, licensee personnel manually rotated and bent portions of pipe support RCIC-976S to enable access of a torque thrust cell onto valve RCIC-MO-76. This manual rotation bent tie rods on this support and caused the support to be out of alignment.</p>			

### Additional Tracking Items

Type	Issue Number	Title	Report Section	Status
LER	05000397/2021-001-00	LER 2021-001-00 for Columbia, Breach of Secondary Containment	71153	Closed

## PLANT STATUS

Columbia Generating Station began the inspection period at 100 percent rated thermal power (RTP). On September 18, 2021, the unit was down powered to approximately 65 percent RTP for a control rod sequence exchange, a steam tunnel entry, and repairs to an adjustable speed drive channel. Columbia returned to RTP on September 20, 2021, and remained at or near RTP for the rest of the inspection period.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection 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 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.

Starting on March 20, 2020, in response to the National Emergency declared by the President of the United States on the public health risks of the coronavirus (COVID-19), resident and regional inspectors were directed to begin telework and to remotely access licensee information using available technology. During this time, the resident inspectors performed periodic site visits each week, increasing the amount of time on site as local COVID-19 conditions permitted. As part of their onsite activities, resident inspectors conducted plant status activities as described in IMC 2515, Appendix D; observed risk significant activities; and completed on site portions of IPs. In addition, resident and regional baseline inspections were evaluated to determine if all or a portion of the objectives and requirements stated in the IP could be performed remotely. If the inspections could be performed remotely, they were conducted per the applicable IP. In some cases, portions of an IP were completed remotely and on site. The inspections documented below met the objectives and requirements for completion of the IP.

## REACTOR SAFETY

### 71111.04 - Equipment Alignment

#### Partial Walkdown Sample (IP Section 03.01) (4 Samples)

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

- (1) reactor core isolation cooling system during the annual maintenance outage for the high pressure core spray system on July 27, 2021
- (2) emergency diesel generator 1 while emergency diesel generator 2 was inoperable on August 20, 2021
- (3) high pressure core spray during annual maintenance of the reactor core isolation cooling system on September 14, 2021
- (4) standby service water system B following maintenance on September 24, 2021

Complete Walkdown Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated system configurations during a complete walkdown of standby gas treatment system B following annual maintenance on September 30, 2021.

71111.05 - Fire Protection

Fire Area Walkdown and Inspection Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the implementation of the fire protection program by conducting a walkdown and performing a review to verify program compliance, equipment functionality, material condition, and operational readiness of the following fire areas:

- (1) Fire Areas DG-2/1, DG-1 diesel generator room; DG-8/1, DG-1 day tank room; and DG-4/1, DG-1 diesel oil storage tank access room; on August 10, 2021
- (2) Fire Area RC-7, electrical equipment room number 2, on August 13, 2021
- (3) Fire Area SW-2, standby service water pumphouse 1B, on August 30, 2021
- (4) Fire Area RC-6/2, reactor core isolation cooling system pump room, on September 20, 2021
- (5) Fire Area R-8, low pressure core spray pump room, on September 20, 2021
- (6) Fire Area R1/1, standby gas treatment area, on September 29, 2021

Fire Brigade Drill Performance Sample (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated fire brigade performance during a fire drill on September 22, 2021.

71111.06 - Flood Protection Measures

Inspection Activities - Internal Flooding (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated internal flooding mitigation protections in the residual heat removal pump C room on August 20, 2021

71111.11Q - Licensed Operator Regualification Program and Licensed Operator Performance

Licensed Operator Performance in the Actual Plant/Main Control Room (IP Section 03.01) (1 Sample)

- (1) The inspectors observed and evaluated licensed operator performance in the control room during the start of emergency diesel generator 1 on August 19, 2021, and during the load reduction from 100 percent power to 65 percent power on September 18, 2021.

Licensed Operator Regualification Training/Examinations (IP Section 03.02) (1 Sample)

- (1) The inspectors observed and evaluated a licensed operator regualification evaluated scenario on July 20, 2021.



### 71111.12 - Maintenance Effectiveness

#### Maintenance Effectiveness (IP Section 03.01) (2 Samples)

The inspectors evaluated the effectiveness of maintenance to ensure the following structures, systems, and components (SSCs) remain capable of performing their intended function:

- (1) staging and use of the FLEX C-3 air compressor during refueling outage 2R25
- (2) leaking residual heat removal check valve RHR-V-122A

### 71111.13 - Maintenance Risk Assessments and Emergent Work Control

#### Risk Assessment and Management Sample (IP Section 03.01) (6 Samples)

The inspectors evaluated the accuracy and completeness of risk assessments for the following planned and emergent work activities to ensure configuration changes and appropriate work controls were addressed:

- (1) evaluation of station risk for extreme hot weather on July 1, 2021
- (2) yellow risk for high pressure core spray system annual maintenance on July 29, 2021
- (3) yellow risk for increased probability of a plant transient associated with maintenance on the turbine oil reservoir vapor extractors on August 4, 2021
- (4) elevated plant risk for breach of secondary containment for steam tunnel entry on August 11, 2021
- (5) evaluation of station risk during unavailability of emergency diesel generator 4, week of August 16, 2021
- (6) yellow risk for reactor core isolation cooling equipment outage on September 14, 2021

### 71111.15 - Operability Determinations and Functionality Assessments

#### Operability Determination or Functionality Assessment (IP Section 03.01) (6 Samples)

The inspectors evaluated the licensee's justifications and actions associated with the following operability determinations and functionality assessments:

- (1) emergency diesel generators 1, 2, and 3 elevated intake air temperatures on July 14, 2021
- (2) condition report (CR) 423467, emergency diesel generator 1 mixed air fan controller DMA-TIC-12/2 indicating low on July 23, 2021
- (3) CR 423611, maintenance craft opened the reactor building roof access hatch on July 28, 2021
- (4) CR 422728, RFW-V-65A packing leak could not be isolated after electric backseat on August 10, 2021
- (5) failure of TSP-RCS-R803, division 3 high-low pressure interface valve leak test, for reactor core isolation cooling valve 66 on September 16, 2021
- (6) degraded reactor core isolation cooling valve 1 latching mechanism components on September 28, 2021

### 71111.18 - Plant Modifications

#### Temporary Modifications and/or Permanent Modifications (IP Section 03.01 and/or 03.02) (1 Sample)

- (1) The inspectors evaluated the temporary modification of RFW-V-65A when the licensee electrically back seated the valve to reduce a packing leak on July 1, 2021.

### 71111.19 - Post-Maintenance Testing

#### Post-Maintenance Test Sample (IP Section 03.01) (7 Samples)

The inspectors evaluated the following post-maintenance test activities to verify system operability and functionality:

- (1) OSP-HPCS/IST-Q701, HPCS system operability test, following a planned system outage on July 30, 2021
- (2) OSP-CONT-M102, secondary containment integrity verification, with work order (WO) 02182918-23 on August 11, 2021
- (3) OSP-FLEX-Q704, diesel generator 4 quarterly surveillance, following maintenance to restore operability on August 19, 2021
- (4) OSP-ELEC-S702, diesel generator 2 semi-annual operability test, following corrective maintenance on August 21, 2021
- (5) Procedure 10.7.5, RCIC turbine uncoupled overspeed test run, following maintenance to restore operability on September 16, 2021
- (6) OSP-RCIC/IST-Q701, RCIC operability test, following a reactor core isolation cooling system equipment outage on September 17, 2021
- (7) OSP-SW/IST-Q702, standby service water loop B operability, following preventive maintenance on September 20, 2021

### 71111.22 - Surveillance Testing

The inspectors evaluated the following surveillance tests:

#### Surveillance Tests (other) (IP Section 03.01) (3 Samples)

- (1) OSP-ELEC-S703, HPCS Diesel Generator Semi-Annual Operability Test, on July 30, 2021
- (2) TSP-DG3/LOCA-B501, HPCS diesel generator DG3 LOCA test, on August 23, 2021
- (3) OSP-ELEC-M702, diesel generator 2 – monthly operability test, on September 27, 2021

#### Inservice Testing (IP Section 03.01) (1 Sample)

- (1) OSP-RHR/IST-Q702, RHR loop A operability test, on August 4, 2021

## 71114.06 - Drill Evaluation

### Select Emergency Preparedness Drills and/or Training for Observation (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated the emergency planning drill on August 31, 2021.

## **RADIATION SAFETY**

### 71124.05 - Radiation Monitoring Instrumentation

#### Walkdowns and Observations (IP Section 03.01) (9 Samples)

The inspectors evaluated the following radiation detection instrumentation during plant walkdowns:

- (1) area radiation monitors and continuous air monitors in the reactor building, turbine building and radwaste buildings
- (2) high purity germanium detectors, HIDEX 300 SL liquid scintillation counter, iSOLO alpha counters in the chemistry count room
- (3) GEM-5 and Argos contamination monitors at the chemistry break room, control room, and the radiologically controlled area exits
- (4) SAM-12 tool monitors at the control room, radwaste building, and radiological controlled area exits
- (5) AMP-100 used as a compensatory monitoring device for offgas pre-treatment monitor OG-RE-612
- (6) friskers staged for use in the reactor, turbine, and radwaste buildings
- (7) telepoles and portable ion chambers used during survey observations
- (8) transmitting electronic alarming dosimeters used for dose rate tracking and trending at selected locations in the reactor building
- (9) portable air samplers used for monitoring working zones and perform grab samples

#### Calibration and Testing Program (IP Section 03.02) (15 Samples)

The inspectors evaluated the current calibration and testing of the following radiation detection instruments:

- (1) Canberra ARGOS 5 A/Bs: HP-EQ-42782 dated June 24, 2021, HP-EQ-42783 dated June 24, 2021, HP-EQ-42820 dated May 3, 2021, HP-EQ-42879 dated May 3, 2021
- (2) Canberra GEM 5s: HP-EQ-42733 dated May 3, 2021, HP-EQ-42734 dated May 3, 2021, HP-EQ-42737 dated August 3, 2020, and HP-EQ-42738 dated June 18, 2020
- (3) Canberra iSolos: serial number (SN) 64111 dated July 2, 2020, SN 64112 dated July 2, 2020; iSolo-2: SN 3085836 dated January 25, 2021
- (4) Eberline AMS-3 continuous air monitor: HP-EQ-34116 dated January 14, 2019; AMS-4 continuous air monitors: HP-EQ-42796 dated October 2, 2020, HP-EQ-42797 dated October 2, 2020, HP-EQ-42807 dated April 16, 2021, HP-EQ-42868 dated September 15, 2020
- (5) Eberline ion chamber RO-2s: RO126 dated March 1, 2021, RO137 dated March 1, 2021, RO172 dated June 7, 2021, RO223 dated March 1, 2021; Ludlum Model 14C: RO264 dated February 24, 2021

- (6) Eberline model ASP-1 RemBall: NO25 dated March 1, 2021
- (7) Eberline RAS-1 air samplers: HP-EQ-32364, HP-EQ-42582, HP-EQ-42775, HP-EQ-42869 batch calibration dated April 19 - 22, 2021
- (8) Fastscan whole body count system: WBC#2 dated July 23, 2020;
- (9) General Atomics high range area radiation monitors: ARM-RIS-32 dated July 1, 2021, ARM-RIS-34 dated April 6, 2020
- (10) General Electric area radiation monitors: ARM-RIS-2 dated March 5, 2021, ARM-RIS-8 dated February 3, 2021, ARM-RIS-11 dated March 30, 2020, ARM-RIS-14 dated January 7, 2021, ARM-RIS-22 dated March 16, 2020
- (11) high purity germanium gamma spectroscopy units: Ortec-5, Ortec-6, and Ortec-7 annual calibration verification under WO package 02123220-01 dated January 12, 2021
- (12) Ludlum model 2 frisker: F175 dated April 27, 2021; Ludlum Model 177 friskers: F104 dated April 28, 2021, F119 dated April 28, 2021, F150 dated April 28, 2021, F160 dated April 29, 2021
- (13) MGP AMP-100: RM-82 dated March 1, 2021
- (14) Mirion telepole IIs: T093 dated March 1, 2021, T112 dated April 27, 2021; teletector model 6112M: T-070 dated March 1, 2021
- (15) SAM12 small article monitors: HP-EQ-42713 dated June 30, 2021, HP-EQ-42813 dated February 25, 2021, HP-EQ-42814 dated February 25, 2021

#### Effluent Monitoring Calibration and Testing Program Sample (IP Sample 03.03) (3 Samples)

The inspectors evaluated the calibration and maintenance of the following radioactive effluent monitoring and measurement instrumentation:

- (1) reactor building elevated release radiation monitor PRM-RIS-1 (PRM-RE-11 stack monitor low range, PRM-RE-12 stack monitor intermediate range, and PRM-RE-13 stack monitor high range) calibration dated May 5, 2021, with associated corrective actions
- (2) liquid radwaste effluent radiation monitor FDR-RIS-606 calibrations dated September 27, 2019, and April 23, 2021, with associated corrective actions
- (3) turbine building noble gas monitors TEA-RIS-12 low range calibration dated December 5, 2019, and TEA-RIS-13 high range calibration dated November 21, 2020, with associated corrective actions

#### 71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

##### Walkdowns and Observations (IP Section 03.01) (4 Samples)

The inspectors evaluated the following radioactive effluent systems during walkdowns:

- (1) reactor building standby gas treatment system
- (2) turbine building effluent ventilation system
- (3) reactor building effluent ventilation system
- (4) radwaste building effluent ventilation system

#### Sampling and Analysis (IP Section 03.02) (3 Samples)

The inspectors evaluated effluent samples, sampling processes and compensatory samples, as available, for the following systems:

- (1) weekly effluent sampling of particulate and iodine for the radwaste, turbine, and reactor building ventilation systems using procedure PPM 16.11.16, "Weekly Iodine, Particulate, and Tritium Analysis"
- (2) compensatory weekly effluent sampling of the particulate and iodine for the radwaste ventilation systems using procedure PPM 12.5.37, "WEA Temporary Cart Sampling and Flow Monitoring"
- (3) compensatory continuous/weekly effluent sampling system setup for the turbine building effluent ventilation systems using procedure PPM 12.5.35B, "TEA Temporary Cart Sampling and Flow Monitoring"

#### Dose Calculations (IP Section 03.03) (2 Samples)

The inspectors evaluated the following dose calculations:

- (1) continuous gaseous release monthly dose assessment/analysis 2019 (November, April, May, June)
- (2) continuous gaseous release monthly dose assessment/analysis 2020 (January, February, March)

#### Abnormal Discharges (IP Section 03.04)

There were no abnormal discharges during the monitoring period.

#### 71124.07 - Radiological Environmental Monitoring Program

##### Environmental Monitoring Equipment and Sampling (IP Section 03.01) (1 Sample)

- (1) The inspectors evaluated environmental monitoring equipment and observed collection of environmental samples.

##### Radiological Environmental Monitoring Program (IP Section 03.02) (1 Sample)

- (1) The inspectors evaluated the implementation of the licensee's radiological environmental monitoring program.

##### GPI Implementation (IP Section 03.03) (1 Sample)

- (1) The inspectors evaluated the licensee's implementation of the groundwater protection initiative (GPI) program to identify incomplete or discontinued program elements. There were no incomplete or discontinued program elements identified.

## 71124.08 - Radioactive Solid Waste Processing & Radioactive Material Handling, Storage, & Transportation

### Radioactive Material Storage (IP Section 03.01) (3 Samples)

Inspectors evaluated the licensee's performance in controlling, labeling, and securing radioactive materials in the following areas:

- (1) low specific activity (LSA) pad
- (2) RW-167 container storage yard
- (3) high level storage area (NUPAC cage) on the 437 foot elevation of the radwaste building

### Radioactive Waste System Walkdown (IP Section 03.02) (2 Samples)

Inspectors walked down accessible portions of these solid radioactive waste systems and evaluated the systems' configuration and functionality, to include:

- (1) reactor water clean up filter demineralizer
- (2) equipment drain / floor drain polisher

### Waste Characterization and Classification (IP Section 03.03) (3 Samples)

The inspectors evaluated the licensee's characterization and classification of radioactive waste from the following:

- (1) reactor water cleanup filter demineralizer powdered resin system
- (2) equipment drain / floor drain polishing bead resin system
- (3) dry active waste

### Shipment Preparation (IP Section 03.04) (1 Sample)

- (1) The inspectors observed that shipments containing differing forms of radioactive material (waste streams) were prepared according to requirements. The shipments included an LSA shipment (21-68) of dry active waste for burial and an LSA shipment (21-66) of dry active waste for processing.

### Shipping Records (IP Section 03.05) (4 Samples)

The inspectors evaluated the following non-excepted radioactive material shipments through a record review:

- (1) shipment # 19-114, LSA-II, condensate filter demineralizer (resin) liners 19-093-HP and 19-096-HP, dated December 18, 2019
- (2) shipment # 20-01, type A LSA, equipment drain / floor drain filter demineralizer (tank 22 resin) liner 19-075-HP, category 2 quantity, dated January 16, 2020
- (3) shipment # 20-29, type B, reactor water clean up (resin) liner 119-101-HP, category 2 quantity, dated August 13, 2020
- (4) shipment # 21- 68, LSA-II, consolidated dry active waste (trash) liner 19-107-OT, dated June 28, 2021

## **OTHER ACTIVITIES – BASELINE**

### 71151 - Performance Indicator Verification

The inspectors verified licensee performance indicators submittals listed below:

#### MS06: Emergency AC Power Systems (IP Section 02.05) (1 Sample)

- (1) July 1, 2020, to June 30, 2021

#### MS07: High Pressure Injection Systems (IP Section 02.06) (1 Sample)

- (1) July 1, 2020, to June 30, 2021

#### MS08: Heat Removal Systems (IP Section 02.07) (1 Sample)

- (1) July 1, 2020, to June 30, 2021

#### MS09: Residual Heat Removal Systems (IP Section 02.08) (1 Sample)

- (1) July 1, 2020, to June 30, 2021

#### MS10: Cooling Water Support Systems (IP Section 02.09) (1 Sample)

- (1) July 1, 2020, to June 30, 2021

### 71152 - Problem Identification and Resolution

#### Annual Follow Up of Selected Issues (IP Section 02.03) (2 Samples)

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

- (1) CR 422006, reactor coolant system excessive heat-up rate during reactor startup, on June 16, 2021
- (2) CR 419968, reactor core isolation cooling system valve RCIC-V-76 degraded pipe support on May 18, 2021

### 71153 - Follow Up of Events and Notices of Enforcement Discretion

#### Event Report (IP Section 03.02) (1 Sample)

The inspectors evaluated the following licensee event report (LER):

- (1) LER 05000397/2021-001-00, Breach of Secondary Containment (ADAMS Accession No. ML21266A279). The inspection conclusions associated with this LER are documented in this report under Inspection Results Section 71111.15.

## INSPECTION RESULTS

Failure to Follow Procedure Resulted in an Inadequate Operability Determination due to a Breach of Secondary Containment			
Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Barrier Integrity	Green NCV 05000397/2021003-01 Open/Closed	[H.5] - Work Management	71111.15
<p>NRC inspectors identified a Green, non-cited violation (NCV) of Technical Specifications 5.4.1, Procedures, when the licensee failed to follow licensee procedure SOP-DOOR/HATCH-OPS, "Reactor Building, Turbine Building, Radwaste Building and Containment Personnel, Equipment Access Area Doors, and Hatches," Revision 18, when the reactor building 606 foot roof access hatch was opened for maintenance on July 28, 2021. As a result, secondary containment was not declared inoperable while the access hatch was open.</p>			
<p><u>Description:</u> On July 28, 2021, while Columbia was operating in Mode 1 at 100 percent reactor power, maintenance personnel failed to contact the main control room before breaching secondary containment by opening an access hatch on the reactor building roof. As a result, the main control room received the secondary containment high differential pressure alarm, which alarms when differential pressure is greater than or equal to -0.25 inches of water. The licensee wrote condition report (CR) 423611 and evaluated the operability of secondary containment. Operations staff concluded that secondary containment remained operable following an evaluation of licensee procedure OSP-INST-H101, Attachment 9.9, "Secondary Containment Drawdown Time Determination - SR 3.6.4.1.1."</p> <p>The inspectors reviewed the CR 423611 and the operability evaluation and determined operations staff should have concluded secondary containment was inoperable when the reactor building roof access hatch was opened. This was because when the access hatch was open, it represented a breach size larger than allowable. Additionally, section 2.1 of WO 02155418 used to perform the work stated, in part, that access is gained to the reactor building roof access hatch via licensee procedure SOP-DOOR/HATCH-OPS, "Reactor Building, Turbine Building, Radwaste Building and Containment Personnel, Equipment Access Area Doors, and Hatches," Revision 18. Section 5.15 of this procedure contains a caution note requiring entry into Technical Specifications limiting condition for operation (LCO) 3.6.4.1 – Secondary Containment in Modes 1, 2 and 3, and requires logging secondary containment as inoperable in the control room logs. Work order 02155418 did not list LCO 3.6.4.1, Secondary Containment on the work order impact statement as expected. The inspectors discussed this with operations staff who initiated CRs 423690, 423693, and made an 8-hour non-emergency report in accordance with 10 CFR 50.72(b)(3)(v)(C) and (D) on July 29, 2021. Event notification EN 55385 and LER 05000397/2021-001-00 contain additional information.</p> <p><u>Corrective Actions:</u> The licensee revised the operability evaluation and made the required 8-hour, non-emergency report in accordance with 10 CFR 50.72.</p> <p><u>Corrective Action References:</u> CRs 423611, 423690, and 423693</p>			



Performance Assessment:

Performance Deficiency: Failure to follow licensee procedure SOP-DOOR/HATCH-OPS, "Reactor Building, Turbine Building, Radwaste Building and Containment Personnel, Equipment Access Area Doors, and Hatches," Revision 18, when the reactor building 606 foot roof access hatch was opened for maintenance on July 28, 2021, was a performance deficiency. Specifically, the licensee failed to declare secondary containment inoperable as required.

Screening: The inspectors determined the performance deficiency was more than minor 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 protect the public from radionuclide releases caused by accidents or events.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The finding screened to Green, very low safety significance, when considering the "Control Room, Auxiliary, Reactor, or Spent Fuel Pool Building" screening questions in Exhibit 3, "Barrier Integrity Screening Questions."

Cross-Cutting Aspect: H.5 - Work Management: The organization implements a process of planning, controlling, and executing work activities such that nuclear safety is the overriding priority. The work process includes the identification and management of risk commensurate to the work and the need for coordination with different groups or job activities. Specifically, the impact statement associated with work order 02155418 did not recognize that secondary containment would be inoperable when the reactor building 606 foot hatch was opened for maintenance.

Enforcement:

Violation: Technical Specifications 5.4.1.a, Procedures, requires, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, revision 2, Appendix A, February 1978. Section 9.a of Appendix A requires maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. WO 02155418 was established and implemented to perform maintenance activities that can affect the performance of secondary containment. Section 2.1 stated in part that access is gained via the reactor building roof access hatch per SOP-DOOR/HATCH-OPS. Section 5.15 of this procedure cautions that opening the reactor building roof access hatch in Modes 1, 2, or 3 requires entry into Technical Specification limiting condition for operation 3.6.4.1.

Contrary to these requirements, on July 28, 2021, the licensee failed to follow licensee procedure SOP-DOOR/HATCH-OPS, "Reactor Building, Turbine Building, Radwaste Building and Containment Personnel, Equipment Access Area Doors, and Hatches," Rev. 18 when the reactor building 606 foot roof access hatch was opened for maintenance. As a result, operations staff did not recognize that secondary containment was inoperable and did not enter the required actions statement associated with technical specifications limiting condition for operation 3.6.4.1.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

Inadequate Maintenance Instructions when Performing Valve Diagnostic Testing Leads to Degraded Pipe Support

Cornerstone	Significance	Cross-Cutting Aspect	Report Section
Mitigating Systems	Green NCV 05000397/2021003-02 Open/Closed	[P.1] - Identification	71152

NRC inspectors identified a Green, non-cited violation (NCV) of Technical Specification 5.4.1, Procedures, for failure to have adequate licensee procedural guidance and practices when performing diagnostic testing on valve RCIC-MO-76, which resulted in damage to pipe support RCIC-976S. The damage to the support occurred during diagnostic testing in a prior outage on the valve per work order 02110811-08 and maintenance procedure PPM 10.25.132, "Thrust Adjustment and Diagnostic Analysis of Motor Operated Valves" for valve RCIC-MO-76. Specifically, licensee personnel manually rotated and bent portions of pipe support RCIC-976S to enable access of a torque thrust cell onto valve RCIC-MO-76. This manual rotation bent tie rods on this support and caused the support to be out of alignment.

Description: On May 18, 2021, inspectors identified that pipe support RCIC-976S was damaged and not in the configuration noted on the pipe hanger drawing RCIC-976S. Pipe hanger drawing RCIC-976S shows a vertical spring can supporting a horizontal upper piece of angle iron, two vertical tie rods, and a lower horizontal piece of angle iron. The reactor core isolation cooling (RCIC) system pipe is connected to the lower horizontal piece of angle iron with a U-bolt clamp. The as-found condition of this support had the horizontal pieces of angle iron at about a 45-degree angle instead of horizontal, with the tie rods bent and almost in contact with the pipe.

The licensee repaired the pipe support under WO 02179663 on May 27, 2021. The licensee evaluated the effect of the damaged support on the RCIC system and determined that the pipe stresses were within design limits. The licensee concluded the damage to the pipe hanger damage likely occurred during the prior outage when the licensee performed diagnostic testing on valve RCIC-MO-76 per PPM 10.25.132, "Thrust Adjustment and Diagnostic Analysis of Motor Operated Valves." This diagnostic testing was performed on May 31, 2019, under WO 02110811-08. To perform this maintenance activity and gain access, the workers would have had to rotate the valve to place a load cell.

Step 1.2.1 of Attachment 9.10, "Thrust and Torque Instrumentation Setup and Removal Guidelines" in procedure PPM 10.25.132 notes that a torque thrust cell ... "can be installed between the actuator and the valve. Installation requires the actuator be rotating the actuator [stet]. A careful inspection for interferences or other problems (such as insufficient motor lead length to allow rotation) is required."

The inspectors concluded that the interferences caused by the hanger affecting the torque thrust cell installation were not adequately addressed or removed during this maintenance. As a result, the pipe support/hanger was left degraded since May 13, 2019, until discovered by the inspectors on May 18, 2021, and repaired by the licensee on May 27, 2021.

Corrective Actions: The licensee's corrective actions included fixing the pipe support and modifying procedure PPM 10.25.132 and work orders to ensure removal of the pipe supports

before performing diagnostic testing in the future. The licensee also conducted an extent of condition review of similar pipe support configurations and did not identify any additional degraded pipe supports.

Corrective Action References: CR 419968 and WO 02179663

Performance Assessment:

Performance Deficiency: The failure to provide adequate work instructions during the installation of a torque thrust cell on valve RCIC-V-76 was a performance deficiency. As a result, licensee personnel manually rotated and bent portions of pipe support RCIC-976S.

Screening: The inspectors determined the performance deficiency was more than minor because it was associated with the configuration control 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, on May 31, 2019, during the performance of diagnostic testing on motor-operated valve RCIC-MO-76, interferences were not removed or assessed when performing maintenance which led to the damage of the associated pipe support. Additionally, the inspectors determined that this issue was sufficiently similar to example 3.k in NRC's inspection manual chapter (IMC) 0612, Appendix E, "Examples of Minor Issues" dated January 1, 2021, to conclude that the performance deficiency was more than minor because the licensee had to perform actions (an evaluation) to continue to demonstrate operability of RCIC.

Significance: The inspectors assessed the significance of the finding using Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The finding was determined to be of very low safety significance (Green) under Exhibit 2, "Mitigating Systems Screening Questions," because the performance deficiency did not impact the operability or PRA functionality of the affected structure, system or component. Specifically, the licensee was able to demonstrate that the RCIC system remained operable with the damaged pipe support by performing an evaluation.

Cross-Cutting Aspect: P.1 - Identification: The organization implements a corrective action program with a low threshold for identifying issues. Individuals identify issues completely, accurately, and in a timely manner in accordance with the program. Specifically, the licensee did not identify the need to have instructions to remove and reinstall the pipe support to prevent damage to the pipe support when performing a diagnostic test on valve RCIC-MO-76.

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, 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 implemented WO 02110811-08 using procedure PPM 10.25.132, "Thrust Adjustment and Diagnostic Analysis of Motor Operated Valves," Revision 33, to perform diagnostic testing on motor-operated valve RCIC-MO-76. Step 1.2.1 of the "Thrust and Torque Instrumentation Setup and Removal Guidelines" contained in procedure PPM 10.25.132 states that a torque thrust cell ... "can be installed between the actuator and the valve. Installation requires the actuator be rotating the actuator [stet]. A careful inspection for interferences or other problems (such as insufficient motor lead length to allow rotation) is required."

Contrary to the above, on May 31, 2019, maintenance occurred on RCIC-MO-76 using instructions that were not appropriate for the circumstances. Specifically, WO 02110811-08 failed to contain adequate instructions to address the interference problem which ultimately led to damage of the RCIC pipe hanger, RCIC-976S.

Enforcement Action: This violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.

## **EXIT MEETINGS AND DEBRIEFS**

The inspectors verified no proprietary information was retained or documented in this report.

- On July 1, 2021, the inspectors presented the public radiation safety inspection results to Mr. R. Schuetz, Site Vice President, and other members of the licensee staff.
- On October 7, 2021, the inspectors presented the integrated inspection results to Mr. D. Brown, Site Vice President, and other members of the licensee staff.

**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision or Date	
71111.04	Corrective Action Documents	Action Requests (ARs)	424457, 425221, 425508, 423666, 398768, 377422, 425576, 725595		
	Drawings	M512-2	Flow Diagram Diesel Oil & Miscellaneous Systems Diesel Generator Building	041	
		M519	Flow Diagram Reactor Cores Isolation Cooling System	103	
		M520	Flow Diagram HPCS and LPCS Systems Reactor Building	105	
		M524-1	Flow Diagram Standby Service Water System, Reactor, Radwaste, D.G. Bldg's and Yard	140	
		M524-2	Flow Diagram Standby Service Water System Reactor, Radwaste, D.G. Bldg.'s and Yard	124	
		M544	Flow Diagram HVAC-Standby Gas Treatment Reactor Building	076	
	Procedures	OSP-ELEC-C701	Diesel Generator 1 – AC Source Operability Check	014	
		OSP-SW-M102	Standby Service Water Loop B Valve Position Verification	047	
		SOP-DG1-LU	Emergency Diesel Generator (DIV 1) Valve and Power Supply Lineup	007	
		SOP-DG1-STBY	Emergency Diesel Generator (DIV 1) Standby Lineup	022	
		SOP-HPCS-LU	HPCS Valve and Breaker Lineup	004	
		SOP-HPCS-STBY	Placing HPCS in Standby Status	004	
		SOP-RCIC-STBY	Placing RCIC in Standby Status	012	
		SOP-SGT-LU	Standby Gas Treatment System Lineup	000	
		SOP-SGT-STBY	Placing Standby Gas Treatment in Standby Status	002	
	Work Orders			02184042, 02184044, 02153758, 02117221, 02173335, 29161905, 29162728, 29141412, 29161954	
	71111.05	Calculations	FP-02-85-03	Combustible Loading Calculation	011
			NE-02-85-19	Post Fire Safe Shutdown (PFSS) Analysis	014
		Corrective Action Documents	Action Requests (ARs)	402774, 415524, 417503, 418461, 424939, 425369	

71111.05	Corrective Action Documents Resulting from Inspection	Action Requests (ARs)	424136, 424250	
	Fire Plans	PFP-DG-BUILDING	Diesel Generator Building	004
		PFP-MN-XFMR-YD-MISC	MN XFMR YD Misc Bldgs	007
		PFP-RB-422	Reactor 422	006
		PFP-RB-572	Reactor 572	005
	Miscellaneous		Fire Impairment Permit 21-0184	
			Drill Report for Scenario RX-E-TR-7-BB on 3/31/21 (Crew F)	000
			Drill Report for Scenario 19-010 on 4/21/21 (Crew A)	000
		Fire Safe Shutdown Program Overview, FPF 4.1-2	Normal Shutdown Manual Action Feasibility Review	006
	Procedures	1.3.10	Plant Fire Protection Program Implementation	036
		1.3.10C	Control of Combustibles	022
		ABN-FIRE	Fire	043
		TPD-22	Fire Brigade Training Program Description	006
	Work Orders		02169521, 02171425	
71111.06	Calculations	ME-02-02-02	Reactor Building Flooding Analysis	004
	Drawings	M539	Flow Diagram Floor Drain System Reactor Building	090
		M567	Reactor Building Plan El. 422'-3" and El. 441' General Arrangement	028
	Procedures	5.3.1	Secondary Containment Control	022
		5.5.27	RB 422 max Safe Operating Level Measurement	005
		ABN-ELEC-LOOP	Loss of All Off-Site Electrical Power	018
	ABN-FLOODING	Flooding	022	
71111.11Q	Corrective Action Documents	Action Requests (ARs)	422410	
	Miscellaneous	LR002530	Simulator Guide for Cycle 21-3 Evaluated Scenario	000
71111.11Q	Procedures	3.2.6	Power Maneuvering	020

		OI-09	Operations Standards and Expectations	079
		OSP-ELEC-C701	Diesel Generator 1 – AC Source Operability Check	014
		SWP-TQS-01	Training, Qualifications and Standards	020
		SWP-TQS-02	Training Committees	018
		TDI-02	Systematic Approach to Training	043
		TDI-08	Licensed Operator Requalification Program	018
		TDI-23	LORQ Annual Exam Development and Administration	016
71111.12	Corrective Action Documents	Action Requests (ARs)	417982, 418184, 418190, 418473, 419032, 419736, 420790	
	Drawings	M521-1	Flow Diagram Residual Heat Removal System Loop A	108
	Miscellaneous	IST-4	Inservice Testing Program Plan, Fourth Inspection Interval	5.001
	Procedures	1.5.11	Maintenance Rule Program	016
		1.5.18	Managing B.5.b and FLEX Equipment Unavailability	009
		ABN-CAS	Control Air System Failure	012
71111.13	Corrective Action Documents Resulting from Inspection	Action Requests (ARs)	424224	
	Miscellaneous	L21-E-GEN-DG4-001	eSOMs Tracker	
		P-HPCS-SYS-1-001	Clearance Order	
	Procedures	1.3.83	Protected Equipment Program	034
		1.5.11	Maintenance Rule Program	016
		1.5.14	Risk Assessment and Management for Maintenance/Surveillance Activities	043
		1.5.18	Managing B.5.b and FLEX Equipment Unavailability	009
		FLEX-01	FLEX Program	003
	Work Orders		02157618	
71111.15	Calculations	E/I-02-91-02	Calculation for Division 1 and 2 and 3 Diesel Generator Loading	021
	Corrective Action Documents	Action Requests (ARs)	408585, 420359, 420469, 420338, 422040, 425160, 425266	
	Drawings	41A-00, 55,1	Valen Engineering - 20" & 24" Gate Valve	007
	Procedures	IST-4	Inservice Testing Program Plan Fourth Ten-Year Inspection	005

			Interval		
	Work Orders		02144020, 02113444, 02144982, 02179902, 02181627		
71111.18	Corrective Action Documents	Action Requests (ARs)	422503, 422728		
	Miscellaneous		Control Room Operator Logs, June 30-July 1, 2021		
		MES-10		Motor Operative Valve Sizing and Switch Setting	010
		MMDS RFW-MO-65A		MOV Master Data Sheet	014
	Procedures	10.25.176		Back Seating Motor-Operated Valves (MOVs)	011
		SWP-CM-02		Temporary Configuration Changes	004
	Work Orders		02145404		
71111.19	Corrective Action Documents	Action Requests (ARs)	424287, 425269, 425268, 425265, 425257		
	Corrective Action Documents Resulting from Inspection	Action Requests (ARs)	424228		
	Procedures	SOP-ENTRY-STMTNL		Personnel Entry into Steam Tunnel	010
		SWP-TST-01		Post-Maintenance Testing Program	017
	Work Orders		02153296, 02160243, 02168154, 29162182, 02149044, 02181627		
71111.22	Corrective Action Documents	Action Requests (ARs)	425470		
	Procedures	SOP-DG2-START	Emergency Diesel Generator (DIV 2) Start	034	
	Work Orders		02147342, 02147639, 02180823		
71114.06	Miscellaneous		ERO Team 'C' Drill Report	03/09/2021	
			ERO Team 'B' Drill Report	04/06/2021	
			Team 'D' EP Drill Scenario	08/31/2021	
	Procedures	13.2.2	Determining Protective Action Recommendations	020	
71124.05	Calibration Records	0060045	iDC Recalibration/Certification: Initial iDC calibration with DMC-3000 golden dosimeters. New drawer with DMC-3000 insert.	05/16/2020	
		0060045	iDC Recalibration/Certification: Initial iDC calibration with new drawer with DMC-2000 insert.	06/23/2020	



		HP-EQ-0064845	Hopewell Designs, Inc. BX3A Box Calibrator calibration/verification	01/24/2020
		NO16	Eberline (Thermo-Fisher) ASP-1 with NRD Probe - Neutron Transfer Standard	01/07/2020
		Shepard 149	Shepherd Panoramic Neutron Irradiator Calibration/Verification	01/27/2021
		Shepherd 0057267	Gamma Irradiator Calibration: Shepherd 142-10 Verification	10/08/2020
		Shepherd 28-42711	Gamma Irradiator Calibration: Shepherd 28 Verification	10/07/2020
	Corrective Action Documents	Action Requests (ARs)	415181, 416283, 361706, 401046, 401047, 402058, 405381, 414236, 416283, 417658, 417740, 418254, 418272	
	Miscellaneous		Calibration Lab Irradiator Periodic Dose Rate Decay Adjustment	12/28/2020
			Routine Calibration Sources - Process and Effluent Monitors	06/16/2021
	Procedures	CI-13.10	Canberra iSolo Alpha/Beta Counting System	005
		CI-13.12	Global Value Gamma Ray Analyzer System	007
		HPI-12.100	Calibration of the SAM12 Small Article Monitor	007
		HPI-12.106	Calibration of the VF FCM-11 Large Area Probe Contamination Monitor	000
		HPI-12.92	Calibration of the Canberra GEM-5 Gamma Sensitive Portal Monitor	007
		HPI-12.98	Calibration of the Canberra Argos-5 A/B Whole Body Contamination Monitor	007
		HPI-5.6	Calibration of the Renaissance Fastscan Whole Body Count System	008
		HPI-7.23	Mirion TelePole II Telescopic Survey Meter Calibration	000
		HPI-7.25	Ludlum Model 177 Alarm Ratemeter Calibration with GM Probe	008
		HPI-7.5	Eberline Model RO-2 and RO-2A Calibration	010
		HPI-7.50	Calibration of the Eberline Model ASP-1 with NRD Neutron Detector	006
		HPI-7.52	Ludlum Model 14C Geiger Counter Calibration With 44-6 GM Detector	004
		HPI-7.59	MGP Model AMP Series Survey Meter Calibration	002

		HPI-7.9	Calibration of the Teletector Model 6112	010
		PPM 10.24.243	Eberline/Thermo Scientific AMS-4 Calibration	002
		PPM 16.1.11	Reactor (Rx) Building Elevated Discharge Radiation Activity Monitoring & Sampling System - CC/RC	003
	Self-Assessments	AR-SA 00413681	Snapshot Self-Assessment Report: NRC IP 71124.05 Radiation Monitoring Instrumentation	04/08/2021
		AU-RP/RW-19	Quality Services Audit Report: Radiation Protection and Process Control Programs	12/12/2019
		AU-RP/RW-20	Quality Services Audit Report: Radiation Protection and Process Control Programs	01/14/2021
71124.06	Calculations		Dose assessments for January, February, and March 2020 according to PPM 16.12.2	
			Dose assessments for April, May, June, and November 2019 according to PPM 16.12.2	
	Corrective Action Documents	Action Requests (ARs)	00401638, 00402154, 00402417, 00402685, 00403474, 00403544, 00404378, 00404595, 00404595, 00405458, 00405883, 00406638, 00407257, 00407959, 00408042, 00409371, 00409571, 00409996, 00410046, 00410055, 00410573, 00410877, 00411390, 00411393, 00413884, 00413899, 00414374, 00414891, 00414891, 00415102, 00416525, 00417056, 00417107, 00418058, 00418760, 00418795, 00420004	
	Miscellaneous		Energy Northwest Columbia Generating Station 2nd Quarter 2019 - Results of environmental cross check program	
			Energy Northwest Columbia Generating Station 3rd Quarter 2019 - results of radiochemistry cross check program	
	Procedures	PPM 10.2.82	HEPA Filter In-Place Testing	008
		PPM 12.5.35B	TEA Temporary Cart Sampling and Flow Monitoring	012
		PPM 16.1.11	Rx Bldg Elevated Discharged Radiation Activity Monitoring & Sampling System - CC/RC	003
		PPM 16.10.1	Radioactive Liquide Waste Discharge to the River	008
		PPM 16.11.1	Monthly Grab Gas Samples	014
		PPM 16.11.4	Monthly Composite Particulate Sample Analysis	008
		PPM 16.11.5	Quarterly Composite Particulate Sample Analysis	008
		PPM 16.11.6	Weekly Iodine, Particulate, and Tritium Analysis Results	025
		PPM 16.12.1	Liquid Release Dose Assessments	007

		PPM 16.12.2	Monthly Gaseous Release Dose Assessment	016
		PPM 16.14.1	Gaseous Monitor Setpoint Determinations	006
		PPM 16.14.2	Liquid Monitor Setpoint Calculations	007
		SWP-PRO-02	Preparation, Review, Approval and Distribution of Procedures	053
	Self-Assessments	AR-SA 00412732	Energy Northwest Snapshot Self-Assessment Report - NRC IP 71124.06 Radioactive Gaseous and Liquid Effluent Treatment	02/25/2021
		AR-SA 00413740	Energy Northwest Snapshot Self-Assessment Report - Performance Indicator(PI) Verification PR-01: Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual Radiological Effluent Occurrences	01/07/2021
71124.07	Calibration Records	WO 02080912 01	Flow Proportional Composite Water Sampler	09/22/2017
		WO 02119828 01	Collins Automatic Samplers for Water Pollution Control	10/22/2019
		WO 02141215 01	Wind Speed/Direction Channel Calibration 33 foot and 245 foot	04/21/2021
		WO 02162662 01	Meteorology Temperature Monitoring Instruments	04/23/2021
	Corrective Action Documents	Action Requests (ARs)	00404038, 00404668, 00404711, 00407313, 00407596, 00416009, 00416264, 00416842, 00415514, 00403088	
	Miscellaneous		Columbia Generating Station Radiological and Environmental Monitoring Program 2019 Annual Radiological Environmental Operating Report	04/14/2020
			Columbia Generating Station Radiological and Environmental Monitoring Program 2020 Annual Radiological Environmental Operating Report	04/12/2021
	Procedures	PPM 1.11.1	Radiological Environmental Monitoring Program Implementation Procedure	013
		PPM 10.24.74	Periodic Inspection of Meteorological System	017
		SOP 08.06	REMP Sample Scheduling, Collection, and Shipping	004
		SOP 09.10	Environmental TLD Calculations	001
		SOP 11.06	Fish Collection and Preparation	003
		SOP 11.07	REMP Water Sample Collection	007
SOP 11.08		Distribution and Collection of Environmental Dosimeters	011	
SOP 11.09		REMP Air Sample Collection	007	
	SOP 12.07	Radiological Inter-Laboratory and Intra-Laboratory Comparison Programs	001	

	Self-Assessments	AR-SA 00413683	Energy Northwest Snapshot Self-Assessment Report	01/07/2021
		Audit Report: AU-CH-20	Chemistry and Environmental Monitoring Program	10/14/2020
71124.08	Corrective Action Documents	Action Requests (ARs)	00400816, 00401606, 00402288, 00403248, 00404206, 00408435, 00409904, 00410019, 00410982, 00412657, 00413761, 00416263, 00419571	
	Corrective Action Documents Resulting from Inspection	Action Requests (ARs)	00422605	
	Miscellaneous		Access Request/Termination Form	08/24/2020
			Access Request/Termination Form	02/18/2021
		2020	Columbia Generating Station Scaling Factors	04/29/2021
	Procedures	11.2.23.1	Shipping Radioactive Materials and Waste	022
		11.2.23.14	Sampling of Radioactive Waste Streams	014
		11.2.23.4	Packaging Radioactive Material and Waste	027
		11.2.23.45	Management of Spent Fuel Pool Filters, Irradiated, and Non-Irradiated Items to Support Packaging, Transportation, and Disposal as Low-Level Radwaste	001
		11.2.23.46	Shipment of Category 1 and 2 Material	000
		11.2.23.50	Type B Packaging and Requirements Checklist	000
		HPI-16.9	Radioactive Waste Shipping Training Requirements	000
		HSP-SSC-O801	Sealed Source and Device Surveillance Testing	006
		Part37-01	Columbia Generating Station Part 37 Security Plan for the Protection of Category 1 and Category 2 Quantities of Radioactive Material	06/21/2018 (Rev. 2)
		SPIP-SEC-66	Security Measures for the Protection of Category 1 and Category 2 Radioactive Materials	000 (Minor 003)
		SWP-RMP-01	Radioactive Waste Management Program	004
		SWP-RMP-02	Radioactive Waste Process Control Program	008
		SWP-RMP-04	Radioactive Shipping Program	001
	Radiation Surveys	VSDS_Prod-M-20210519-14	Building 167 and Storage Quarterly	05/19/2021
		VSDS_Prod-M-20210607-7	Outside LSA Pad and Spray Pond Monthly	06/07/2021
VSDS_Prod-M-		RW 437 NUPAC Update Survey after O/T Loading	06/21/2021	

		20210621-5		
	Self-Assessments	AR-SA 00399689	Snapshot Self-Assessment Report: Annual Review of Columbia Generating Station (CGS) Implementation of 10 CFR Part 37, Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material (Part 37 RAM)	10/31/2019
		AR-SA 00411466	Snapshot Self-Assessment Report: Annual 10 CFR Part 37 Program Assessment	10/24/2020
		AR-SA 00413741	Snapshot Self-Assessment Report: Assess Columbia's Radiation Protection Organization readiness for NRC Inspection 71124.08, Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation.	03/21/2021
		AU-RP-RW-20	Quality Services Audit Report: Radiation Protection and Process Control Programs	01/14/2021
		AU-RP/RW-19	Quality Services Audit Report: Radiation Protection and Process Control Programs	12/12/2019
		Shipping Records	2019	Radioactive Shipping Log
	2020		Radioactive Shipping Log	
	2021		Radioactive Shipping Log	
	Shipment # 19-114		LSA-II, Condensate Filter Demineralizer (Resin) Liners 19-093-HP and 19-096-HP	12/18/2019
	Shipment # 20-01		>Type A LSA, Equipment Drain / Floor Drain Filter Demineralizer (Tank 22 Resin) Liner 19-075-HP, Category 2 Quantity	01/16/2020
	Shipment # 20-29		Type B, Reactor Water Clean Up (Resin) Liner 119-101-HP, Category 2 Quantity	08/13/2020
	Shipment # 21-68		LSA-II, Consolidated Dry Active Waste (Trash) Liner 19-107-OT	06/28/2021
	Work Orders	02156377-01	HSP-SSC-O801 Sealed Source Check	09/15/2020
		02171504-01	HSP-SSC-O801 Sealed Source Check	02/01/2021
71151	Corrective Action Documents	Action Requests (ARs)	387833, 418190	
	Miscellaneous		MSPI Emergency AC Power System Derivation Reports	09/14/2021
			MSPI High Pressure Injection System Derivation Reports	09/14/2021
			Control Room Operator Logs for 7/1/2020 to 6/30/2021	
		MSPI Margin Report through June 2021	09/14/2021	

			MSPI UAI Derivation Report for RHR	06/30/2021
			MSPI URI Derivation Report for RHR	06/30/2021
			MSPI UAI Derivation Report for Heat Removal	06/30/2021
			MSPI URI Derivation Report for Heat Removal	06/30/2021
			MSPI UAI Derivation Report for Cooling Water	06/30/2021
			MSPI URI Derivation Report for Cooling Water	06/30/2021
			MSPI UAI Derivation Report for Emergency AC Power Systems	06/30/2021
			MSPI URI Derivation Report for Emergency AC Power Systems	06/30/2021
			MSPI UAI Derivation Report for High Pressure Injection Systems	06/30/2021
			MSPI URI Derivation Report for High Pressure Injection Systems	06/30/2021
		MSPI-01-BD-0001	Mitigating System Performance Index Basis Document	021
71152	Miscellaneous	Main Control Room Logs		06/16/2021