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June 10, 2025

GO2-25-085

10 CFR 50.73

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Subject: **COLUMBIA GENERATING STATION, DOCKET NO. 50-397
LICENSEE EVENT REPORT NO. 2025-001-00**

Dear Sir or Madam:

Transmitted herewith is Licensee Event Report number 2025-001-00 for Columbia Generating Station. This report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(A), 10 CFR 50.73(a)(2)(ii)(A), and 10 CFR 50.73(a)(2)(i)(B).

There are no commitments being made to the Nuclear Regulatory Commission by this letter. If you have any questions or require additional information, please contact Mr. Z. K. Dunham, Regulatory Affairs Manager, at (509) 377-4735.

Executed on this 10th day of June, 2025.

Respectfully,

DocuSigned by:
A blue ink signature of David P. Brown, written in a cursive style.
D199DB13836043F...

David P. Brown
Site Vice President

Attachment: Licensee Event Report 2025-001-00

cc: NRC Region IV Regional Admin
NRC Region IV Project Manager
NRC Senior Resident Inspector/988C
C.D. Sonoda – BPA

DocuSign Envelope ID: 62DBC963-2911-4500-9551-1C5DCC16F789

NRC FORM 366

(04-02-2024)



U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R.3 for instruction and guidance for completing this form

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 04/30/2027

Estimated burden per response to comply with this mandatory collection request: 80 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the FOIA, Library, and Information Collections Branch (T-6 A10M), U. S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by email to Infocollects.Resource@nrc.gov, and the OMB reviewer at: OMB Office of Information and Regulatory Affairs, (3150-0104), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street NW, Washington, DC 20503. The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

1. Facility Name

Columbia Generating Station

☒ 050

☐ 052

2. Docket Number

397

3. Page

1 OF 3

4. Title

Pressure Boundary Leakage Resulting in a Technical Specification Required Plant Shutdown, Degraded Condition, and Condition Prohibited by Technical Specifications

5. Event Date			6. LER Number			7. Report Date			8. Other Facilities Involved		
Month	Day	Year	Year	Sequential Number	Revision No.	Month	Day	Year	Facility Name	☐ 050	Docket Number
04	12	2025	2025	- 001 -	00	06	10	2025	Facility Name	☐ 052	Docket Number

9. Operating Mode

Mode 3

10. Power Level

0 percent

11. This Report is Submitted Pursuant to the Requirements of 10 CFR §: (Check all that apply)

☒ 10 CFR Part 20	☐ 20.2203(a)(2)(vi)	☒ 10 CFR Part 50	☒ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)	☐ 73.1200(a)
☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)	☐ 73.1200(b)
☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)	☐ 73.1200(c)
☐ 20.2203(a)(1)	☐ 20.2203(a)(4)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)	☐ 73.1200(d)
☐ 20.2203(a)(2)(i)	☒ 10 CFR Part 21	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(A)	☒ 10 CFR Part 73	☐ 73.1200(e)
☐ 20.2203(a)(2)(ii)	☐ 21.2(c)	☐ 50.69(g)	☐ 50.73(a)(2)(v)(B)	☐ 73.77(a)(1)	☐ 73.1200(f)
☐ 20.2203(a)(2)(iii)		☒ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ 73.77(a)(2)(i)	☐ 73.1200(g)
☐ 20.2203(a)(2)(iv)		☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	☐ 73.77(a)(2)(ii)	☐ 73.1200(h)
☐ 20.2203(a)(2)(v)		☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)		
☐ OTHER (Specify here, in abstract, or NRC 366A).					

12. Licensee Contact for this LER

Licensee Contact

Valerie Lagen

Phone Number (Include area code)

(509) 372-5507

13. Complete One Line for each Component Failure Described in this Report

Cause	System	Component	Manufacturer	Reportable to IRIS	Cause	System	Component	Manufacturer	Reportable to IRIS

14. Supplemental Report Expected

☒ No☐ Yes (If yes, complete 15. Expected Submission Date)

15. Expected Submission Date

Month

Day

Year

16. Abstract (Limit to 1326 spaces, i.e., approximately 13 single-spaced typewritten lines)

At 02:23 on April 12, with the unit in Mode 3 at 0 percent power, pressure boundary leakage was identified on the bonnet vent line elbow connection of the Reactor Recirculation (RRC) Pump 1B discharge isolation valve, RRC-V-67B. Leakage from the area was initially identified during a drywell entry at 15 percent reactor power and later confirmed as pressure boundary leakage during a subsequent entry in Mode 3.

This event is being reported pursuant to 10 CFR 50.73(a)(2)(i)(A) as a Plant Shutdown Required by Technical Specifications, 10 CFR 50.73(a)(2)(ii)(A) as a Degraded or Unanalyzed Condition that Resulted in the condition of the nuclear power plant, including its principal safety barriers being seriously degraded, and 10 CFR 50.73(a)(2)(i)(B) as an Operation or Condition Prohibited by Technical Specifications.

There were no structures, systems, or components that were inoperable at the beginning of the event that contributed to the event.

NRC FORM 366A

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 04/30/2027

(04-02-2024)

**LICENSEE EVENT REPORT (LER)
CONTINUATION SHEET**

(See NUREG-1022, R.3 for instruction and guidance for completing this form
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1. FACILITY NAME		2. DOCKET NUMBER		3. LER NUMBER		
Columbia Generating Station		397	YEAR 2025	- SEQUENTIAL NUMBER 001	- REV NO. 00	

NARRATIVE**Description of events:**

At 02:23 on April 12, 2025, in Mode 3, a leak in on the bonnet vent line elbow connection of the Reactor Recirculation (RRC) pump 1B discharge isolation valve, RRC-V-67B [AD-ISV] was identified as pressure boundary leakage. Leakage from the area was initially identified during drywell entry at 15 percent reactor power on April 11, 2025, and later confirmed as pressure boundary leakage during a subsequent entry in Mode 3. Technical Specification (TS) Limiting Condition of Operation 3.4.5.a requires no pressure boundary leakage in Modes 1, 2, or 3. Technical Specification Actions 3.4.5 C.1 and C.2 require the unit to be in Mode 3 within 12 hours and Mode 4 in 36 hours. The unit was in Mode 3 at the time of the event. Mode 4 was entered at 09:32 on April 12, 2025.

Plant Conditions:

At the time of the event, the plant was in Mode 3 at 0 percent power.

Energy Industry Identification System (EIIIS) codes are identified as [XX].

Background:

On 7/1/2023 (approximately 2 weeks after startup from the previous refueling outage) an indication was received that a Reactor Coolant System (RCS) [AB] leak existed when both Containment Monitoring System Radiation Ratemeters [IK-MTR] were reading higher than normal and tracking similarly. During this time Equipment Drain Radioactive (EDR) [WK] leakage and Floor Drain Radioactive (FDR) [WK] leakage, containment temperature, and containment pressure were steady and did not indicate a leak. Chemistry performed an isotopic analysis of a grab sample of the containment atmosphere which did not indicate leakage. In July 2023, a Technical Issues Resolution Process was initiated to analyze trends indicating potential leaks in containment. In August 2023, an Operational Decision-Making Issue (ODMI) was created to establish RCS leakage monitoring criteria and identify trigger points with actions. The leakage remained constant throughout the operating cycle and did not challenge the TS RCS Operational limits of 5 gallons per minute of unidentified leakage, or an increase of 2 gallons per minute over 24 hours of unidentified leakage.

Root Cause:

Vent piping attached to the bonnet of RRC-V-67B was not designed to prevent high cycle fatigue. This resulted in cyclic fatigue of a weld on a 3/4-inch vent line from the RRC-V-67B socket welded connection. This is a legacy issue associated with the original design's lack of dynamic analysis, or with the 1996 and 1997 GE analysis and testing of small-bore piping in support of Adjustable Speed Drive modifications. Adjustable speed drive controls the speed of the RRC [AD].

Safety Significance:

The Reactor Coolant System (RCS) [AB] leak was initially estimated to be between 0.05 and 0.10 gallons per minute. While the leak remained below the TS RCS Operational limits for unidentified leaks from the time of initial indication until positive identification, if the leak had increased and exceeded TS unidentified leak rate limits, an orderly shutdown would have been initiated and the reactor would have been placed in cold shutdown condition in accordance with the TS.

Immediate Corrective Actions:

The RRC-V-67B weld leak was repaired.

NRC FORM 366A

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NARRATIVE

Planned Corrective Actions:

1. Perform verification that cracks have not been initiated at the surfaces and roots of welds identified as being subject to cyclic fatigue.
2. Ensure a drywell walkdown is performed to assess evidence of leakage from the welds identified as the suspect population.
3. Implement RCS Leakage ODMI for next cycle.
4. Redesign the RRC-V-67B vent line to sufficiently address the cyclic fatigue issue.
5. Implement the new design of RRC-V-67B vent line.
6. Perform extent of condition by use of non-destructive examinations on identified small-bore pipe welds on small bore pipe welds to find evidence of through wall leakage.
7. Perform pipe stress/vibrational analysis on lines identified as being susceptible to cyclic fatigue and perform an engineering change to remove susceptibility to cyclic fatigue.

Previous Similar Events:

No similar events identified in last 10 years.