



Alex L. Javorik
Columbia Generating Station
P.O. Box 968, PE04
Richland, WA 99352-0968
Ph. 509.377.8555 | F. 509.377.4150
aljavorik@energy-northwest.com

January 12, 2017

GO2-17-016

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. 2016-003-00

Dear Sir or Madam:

Transmitted herewith is Licensee Event Report No. 2016-003-00 for Columbia Generating Station. This report is submitted pursuant to 10 CFR 50.73(a)(2)(v)(C) and 10 CFR 50.73(a)(2)(v)(D).

There are no commitments being made to the NRC by this letter. If you have any questions or require additional information, please contact Ms. D.M. Wolfgramm, Regulatory Compliance Supervisor, at (509) 377-4792.

Executed on 1-12-17

Respectfully,

A. L. Javorik
Vice President, Engineering

Enclosure: Licensee Event Report 2016-003-00

cc: NRC Region IV Administrator
NRC NRR Project Manager
NRC Senior Resident Inspector/988C
CD Sonoda – BPA/1399
WA Horin – Winston & Strawn



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/>)

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, Privacy and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOF-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

1. FACILITY NAME

Columbia Generating Station

2. DOCKET NUMBER

05000 397

3. PAGE

1 OF 3

4. TITLE

Failure of Fan to Start Results in Momentary Increase in Secondary Containment Pressure

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
11	20	2016	2016	003	00	01	12	2017	FACILITY NAME	DOCKET NUMBER
9. OPERATING MODE										
11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)										
1			<input type="checkbox"/> 20.2201(b)			<input type="checkbox"/> 20.2203(a)(3)(i)			<input type="checkbox"/> 50.73(a)(2)(ii)(A)	
			<input type="checkbox"/> 20.2201(d)			<input type="checkbox"/> 20.2203(a)(3)(ii)			<input type="checkbox"/> 50.73(a)(2)(ii)(B)	
			<input type="checkbox"/> 20.2203(a)(1)			<input type="checkbox"/> 20.2203(a)(4)			<input type="checkbox"/> 50.73(a)(2)(iii)	
			<input type="checkbox"/> 20.2203(a)(2)(i)			<input type="checkbox"/> 50.36(c)(1)(i)(A)			<input type="checkbox"/> 50.73(a)(2)(iv)(A)	
10. POWER LEVEL			<input type="checkbox"/> 20.2203(a)(2)(ii)			<input type="checkbox"/> 50.36(c)(1)(ii)(A)			<input type="checkbox"/> 50.73(a)(2)(v)(A)	
			<input type="checkbox"/> 20.2203(a)(2)(iii)			<input type="checkbox"/> 50.36(c)(2)			<input type="checkbox"/> 50.73(a)(2)(v)(B)	
			<input type="checkbox"/> 20.2203(a)(2)(iv)			<input type="checkbox"/> 50.46(a)(3)(ii)			<input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)	
			<input type="checkbox"/> 20.2203(a)(2)(v)			<input type="checkbox"/> 50.73(a)(2)(i)(A)			<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	
			<input type="checkbox"/> 20.2203(a)(2)(vi)			<input type="checkbox"/> 50.73(a)(2)(i)(B)			<input type="checkbox"/> 50.73(a)(2)(vii)	
			<input type="checkbox"/> 50.73(a)(2)(i)(C)			<input type="checkbox"/> OTHER		Specify in Abstract below or in NRC Form 366A		

12. LICENSEE CONTACT FOR THIS LER

LICENSEE CONTACT

Tracey Parmelee, Principal Engineer, Compliance

TELEPHONE NUMBER (Include Area Code)

(509) 377-8395

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
B	NG	JS	G080	Y					

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES (If yes, complete 15. EXPECTED SUBMISSION DATE) ☒ NO

15. EXPECTED SUBMISSION DATE

MONTH	DAY	YEAR

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)

On November 20, 2016 at 1402 PST, Secondary Containment [NH] (Reactor Building) became inoperable due to pressure increasing above the Technical Specification limit of -0.25 inches of water gauge (inwg). While the plant was ascending in power, the Reactor Building exhaust air fan unexpectedly failed to start in manual during post-maintenance testing. Prior to this event, Reactor Building Heating, Ventilation and Air Conditioning [VA] (HVAC) System A was running. Per station procedures, System A was stopped and System B was to start. The fan's failure to start resulted in no Reactor Building fans running, and increased Reactor Building pressure. For a time period of less than one minute, Secondary Containment pressure was not maintained less than or equal to -0.25 inwg. Immediate recovery actions by Operations personnel included manually starting Reactor Building HVAC System A, which quickly restored Secondary Containment pressure to less than or equal to -0.25 inwg at 1403 PST. While TS limits were exceeded for this short time period, the resulting pressure excursion was bounded by analytical results; and thus, there were no safety consequences for this condition. This event was reported under reporting criteria 10 CFR 50.72(b)(3)(v)(C) and 10 CFR 50.72(b)(3)(v)(D) as Event Notification #52382.

The cause of the exhaust fan's failure to start was a faulty control switch for the fan. Corrective actions for this event include replacement of the control switch. There were no other event-related equipment malfunctions.

**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	05000-397	YEAR 2016	- SEQUENTIAL NUMBER 003	- REV NO. 00

NARRATIVE**Plant Conditions**

At the time of the event, the plant was operating in Mode 1 at approximately 97% power, and ascending to 100% power. There were no structures, systems, or components that were inoperable at the start of the event that contributed to the event.

Event Description

On November 20, 2016 at 1402 PST, the Reactor Building [NG] exhaust air fan [FAN] (REA-FN-1B) failed to start in manual during a post-maintenance task on the fan. Prior to this event, Reactor Building Heating, Ventilation and Air Conditioning [VA] (HVAC) System A was running. Per station procedures, System A was stopped and System B was to start. The fan's failure to start resulted in no Reactor Building fans running, and increased Reactor Building pressure. For a time period of less than one minute, Secondary Containment [NH] pressure was not maintained less than or equal to -0.25 inches of water gauge (inwg), resulting in Technical Specification (TS) 3.6.4.1 not being met.

This event is reportable as an event that could have prevented fulfillment of safety functions needed to control the release of radiation, and mitigate the consequences of an accident per 10 CFR 50.73(a)(2)(v)(C) and 10 CFR 50.73(a)(2)(v)(D). This condition was reported under 10 CFR 50.72(b)(3)(v)(C) and 10 CFR 50.72(b)(3)(v)(D) via Event Notification #52382 for an event or condition that could have prevented fulfillment of a safety function needed to control the release of radioactive material.

Immediate Corrective Actions

Operations personnel manually started Reactor Building HVAC System A and quickly restored Secondary Containment pressure to less than or equal to -0.25 inwg. Secondary Containment was declared operable following successful start of the System A Reactor Building exhaust air fan.

Assessment of Safety Consequences

This event resulted in an unplanned entry into TS 3.6.4.1.A, in which Secondary Containment pressure was greater than -0.25 inwg for approximately one minute. The peak pressure during this event was -0.12 inwg. While the actual pressure was beyond the range allowed by Technical Specifications, the purpose of maintaining a slight vacuum is to assist in drawdown of secondary containment to support accident response of the safety related Standby Gas Treatment [BH] (SGT) system. Existing engineering analysis demonstrates that for this event, the drawdown credited in accident response could have been attained using either of the two available trains of the SGT system, thus there were no potential safety consequences. There was no actual safety consequence associated with this event since there was no loss of safety function and no potential for radiological release.

Cause of Event

The investigation into the apparent cause of the unexpected failure to start of the Reactor Building exhaust air fan, and resultant loss of Secondary Containment has determined that a faulty control switch [JS] for fan REA-FN-1B was the cause of the fan failing to start.

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NARRATIVE**Similar Events**

A loss of the ability to maintain Secondary Containment pressure greater than required by Technical Specifications has occurred at, and was reported by, Columbia Generating Station (Columbia) twice in the past two years. The first incident was the result of an incorrectly sized lug installed in the fuse block during initial construction and the second incident occurred when an exhaust air valve unexpectedly closed. Prior to this two year time period, Columbia has experienced losses of Secondary Containment due to weather-related conditions, as well as human performance errors. Columbia has implemented corrective actions for these previous events.

Further Corrective Actions

Causal evaluation determined that the failure of the fan was a result of a faulty control switch; corrective actions are to replace the control switch for fan REA-FN-1B. Additionally, the control switches for the System A exhaust air fan and both Reactor Building supply air fans will be replaced as well, as they are the same make, model, and age as the control switch in fan REA-FN-1B.

Energy Industry Identification System (EIIIS) Information codes from IEEE Standards 805-1984 and 803-1983 are represented in brackets as [XX] and [XXX] throughout the body of the narrative.