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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. 2013-007-00**

Dear Sir or Madam:

Transmitted herewith is Licensee Event Report No. 2013-007-00 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 Mr. J.R. Trautvetter, Regulatory Compliance Supervisor, at (509) 377-4337.

Respectfully,

 for Alex Javorik

A. L. Javorik  
Vice President, Engineering

Attachment: Licensee Event Report 2013-007-00

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

IED2  
NRR

**LICENSEE EVENT REPORT (LER)**(See reverse for required number of  
digits/characters for each block)

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 Section (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects.resource@nrc.gov](mailto:infocollects.resource@nrc.gov), and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-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**

05000397

**3. PAGE**

1 OF 3

**4. TITLE**

Secondary Containment Pressure Exceeded During Severe Weather Conditions

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
08	25	2013	2013 - 007 - 00			10	24	2013	FACILITY NAME	DOCKET NUMBER
										05000
										05000

  

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)(i)(C)	<input type="checkbox"/> 50.73(a)(2)(vii)
	<input type="checkbox"/> 20.2201(d)	<input type="checkbox"/> 20.2203(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)
	<input type="checkbox"/> 20.2203(a)(1)	<input type="checkbox"/> 20.2203(a)(4)	<input type="checkbox"/> 50.73(a)(2)(ii)(B)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)
	<input type="checkbox"/> 20.2203(a)(2)(i)	<input type="checkbox"/> 50.36(c)(1)(i)(A)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)(A)
	<input type="checkbox"/> 20.2203(a)(2)(ii)	<input type="checkbox"/> 50.36(c)(1)(ii)(A)	<input type="checkbox"/> 50.73(a)(2)(iv)(A)	<input type="checkbox"/> 50.73(a)(2)(x)
	<input type="checkbox"/> 20.2203(a)(2)(iii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(v)(A)	<input type="checkbox"/> 73.71(a)(4)
	<input type="checkbox"/> 20.2203(a)(2)(iv)	<input type="checkbox"/> 50.46(a)(3)(ii)	<input type="checkbox"/> 50.73(a)(2)(v)(B)	<input type="checkbox"/> 73.71(a)(5)
	<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)(C)	<input type="checkbox"/> OTHER
	<input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 50.73(a)(2)(i)(B)	<input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

  

10. POWER LEVEL	
100	

**12. LICENSEE CONTACT FOR THIS LER****FACILITY NAME**

Desirée M Wolfgramm, Senior Licensing Engineer

**TELEPHONE NUMBER (Include Area Code)**

509-377-4792

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

**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 August 25, 2013 at 1818 hours secondary containment was declared inoperable during a suddenly occurring thunderstorm. Secondary containment pressure was not maintained greater than or equal to 0.25 inches of vacuum water gauge as required by Technical Specification 3.6.4.1. This condition was experienced for a period of no greater than 160 seconds. Operations took manual control of the system and quickly adjusted Reactor Building Exhaust Air flow to restore secondary containment to less than -0.25 inches water gauge. While Technical Specification limits were exceeded, the resulting pressure excursion was bounded by analytical results, and thus there were no safety consequences for this event. The cause for the event was determined to be failure of the Reactor Exhaust Air/Reactor Outside Air system to automatically maintain a stabilized negative differential pressure in the Reactor Building at the controller setpoint value of -0.6 inches water gauge. The system controller is not designed to respond to very quick changes in building differential pressure as was experienced during this period of suddenly shifting wind direction and increasing wind speed. Corrective actions include investigating methods to alert operations to a potential issue with secondary containment before the Technical Specification, LCO 3.6.4.1.A, for secondary containment pressure is reached.

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**NARRATIVE****Plant Conditions**

At the time of event, the plant was operating in Mode 1 at 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 August 25, 2013 at 1818 hours, during a suddenly occurring thunderstorm, the secondary containment [NH] pressure was not maintained greater than or equal to 0.25 inches of vacuum water gauge. This condition existed for a period of no greater than 160 seconds. Because Reactor Building [NG] pressure increased above -0.25 inches of water gauge (inwg) secondary containment was logged as inoperable in the surveillance log and Technical Specification 3.6.4.1 Action A was entered.

**Extent of Condition**

This condition of Reactor Building differential pressure momentarily rising above the prescribed limit is specific to the Reactor Building Heating Ventilation and Air Cooling (HVAC) [VA] and Standby Gas Treatment (SGT) [BH] systems, and their capability to establish and maintain secondary containment vacuum. No other systems are affected as a result of this condition.

**Immediate Corrective Action**

Operations took manual control of the Reactor Exhaust Air (REA) differential pressure (dP) controller [PDC] and quickly adjusted Reactor Building Exhaust Air flow to restore secondary containment pressure to less than -0.25 inwg. Later, after the storm had passed, operators placed the controller back in automatic.

**Cause**

During normal plant operation, the non-safety related Reactor Building HVAC system maintains environmental conditions within the Reactor Building at a vacuum with respect to the outside. Various operational equipment manipulations and environmental conditions can result in the momentary increase of differential pressure to above the Technical Specification maximum allowable pressure of -0.25 inwg. Operational activities include the starting or stopping of SGT or Reactor Exhaust Air/Reactor Outside Air (REA/ROA) fans [FAN]. Environmental conditions which can cause a momentary increase in pressure include high, outside gusting winds. During normal operation with no external driving forces, the REA/ROA system does an excellent job of automatically maintaining a stabilized negative differential pressure in the Reactor Building at the controller setpoint value of -0.6 inwg. However, the system controller is not designed to respond to very quick changes in building differential pressure due to a nearly instantaneous shift in wind direction as was experienced during the thunderstorm.

**Operating Experience & Previous Occurrences**

A loss of the ability to maintain secondary containment below the required negative pressure has occurred at Columbia Generating Station (Columbia) twice in the past two years. On July 24, 2012, reported under LER 2012-003-00, secondary containment was compromised due to an inadvertent trip of one set of the redundant Reactor Building HVAC fans, during ongoing maintenance on the SGT system.

The second instance occurred on December 10, 2011, reported under LER 2011-004-00. Secondary containment was declared inoperable and the cause was determined to be ice buildup and subsequent release on exterior equipment supplying the Reactor Building HVAC system.

Each of these events have associated corrective actions and the causes are not applicable to the current cause of weather related pressure excursion, nor would corrective actions from these past events prevented occurrence of this event.

**Further Corrective Actions**

The potential for these momentary pressure excursions will continue to occur with the currently designed control system. Columbia is investigating methods to alert operations to a potential issue with secondary containment before the

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**NARRATIVE**

Technical Specification secondary containment pressure is reached.

**Assessment of Safety Consequences**

This event resulted in an unplanned entry into LCO 3.6.4.1.A. Secondary containment pressure was above -0.25 inwg for no more than 160 seconds. The peak pressure during this event was -0.03 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 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 no event involving radiological hazards were experienced during the event.

**Energy Industry Identification System (EIIIS) Information**

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.