



# ENERGY NORTHWEST

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December 22, 2015  
GO2-15-181

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. 2015-006-01**

Dear Sir or Madam:

Transmitted herewith is Revision 1 to Licensee Event Report No. 2015-006-00 for Columbia Generating Station. This report is submitted pursuant to 10 CFR 50.73(a)(2)(ii)(B).

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

Executed on December 23, 2015

Respectfully,

*Denise Brandon, Acting Vice President, Engineering*  
*DB* 12/22/15  
A. Javorik  
Vice President, Engineering

Enclosure: Licensee Event Report 2015-006-01

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

*IEZ2  
ADD6  
NRR*

**LICENSEE EVENT REPORT (LER)**  
(See Page 2 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 and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to 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**

05000 397

**3. PAGE**

1 OF 3

**4. TITLE**

Postulated Multiple Spurious Operations Scenario That Could Adversely Impact Post-Fire Safe Shutdown

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
07	06	2015	2015 - 006 - 01			12	22	2015	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 checked="" 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)
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)(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 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 type="checkbox"/> 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

**12. LICENSEE CONTACT FOR THIS LER**

FACILITY NAME: DM Wolfgramm	TELEPHONE NUMBER (Include Area Code) (509) 377-4792
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**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>14. SUPPLEMENTAL REPORT EXPECTED</b>				<b>15. EXPECTED SUBMISSION DATE</b>		
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO				MONTH	DAY	YEAR

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

On July 6, 2015, a review of the Fire Protection and Post Fire Safe Shutdown programs found the original assessment of Multiple Spurious Operation (MSO) Scenario 2x incorrectly concluded that the number of circuit failures was above and beyond the technical requirements. This error resulted in no analysis of MSO Scenario 2x, an unanalyzed PFSS condition, and is being reported in conformance with the reporting requirements of 10CFR 50.73(a)(2)(ii)(B).

In addition this was reported to the NRC in an 8-hour report (Event Notification No. 51201) in accordance with 10 CFR 50.72(b)(3)(ii)(B).

Corrective actions include a revision to the calculation to include a re-evaluation of MSO Scenario 2x, maintaining the affected line isolated until a permanent solution for MSO Scenario 2x is developed, and procedure changes to provide more technical guidance for evaluation of PFSS MSO scenarios.

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

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1. FACILITY NAME <b>Columbia Generating Station</b>	2. DOCKET <b>05000 397</b>	6. LER NUMBER			3. PAGE <b>2 OF 3</b>
		YEAR	SEQUENTIAL NUMBER	REV NO.	
		<b>2015</b>	<b>- 006</b>	<b>- 01</b>	

**NARRATIVE**

**Plant Conditions**

At the time of discovery, the plant was in Mode 1 at approximately 64% power. No inoperable structures, components or systems contributed to this event.

**Event Description**

A self-assessment of the Columbia Generating Station (CGS) Fire Protection (FP) and Post Fire Safe Shutdown (PFSS) programs identified a potential issue with MSO Scenario 2x. MSO Scenario 2x postulates the spurious opening (due to fire-induced circuit damage) of High Pressure Core Spray (HPCS)[BG]-Valve (V)[V]-15, HPCS-V-10, and HPCS-V-11, causing a flow diversion from the Suppression Pool (SP) to the Condensate Storage Tanks (CSTs)[KA], with a resulting loss of SP inventory.

MSO Scenario 2x was investigated further, and on July 6, 2015 it was determined that this was a credible unanalyzed PFSS condition. The review of MSO Scenario 2x relative to the circuit designs for HPCS-V-15, HPCS-V-10, and HPCS-V-11 identified that the postulated fire-induced circuit failures (hot shorts) strategically placed in the open function control circuits for each valve would create a flow path that results in a loss of SP inventory.

This resulted in an unanalyzed PFSS condition, and was reported to the NRC in an 8-hour report (Event Notification No. 51201) in accordance with 10 CFR 50.72(b)(3)(ii)(B).

**Apparent Cause**

Invalid assumptions and an inadequate review of MSO Scenario 2x did not identify that, with HPCS-P-3 (HPCS keepfill pump) running, hot shorts on HPCS-V-10, HPCS-V-11, and HPCS-V-15 could result in suppression pool flow diversion and inventory loss to the CSTs.

**Extent of Condition**

As part of the focused self-assessment, the PFSS analysis specific to MSO was reviewed by two industry PFSS subject matter experts. The review identified only the evaluation for MSO Scenario 2x as a potential technically incomplete analysis.

**Immediate Corrective Action**

The calculation was revised to include a re-evaluation of MSO Scenario 2X. The motor-operator for HPCS-V-11 was deactivated through a temporary modification on June 12, 2015 due to unrelated maintenance issues during the refueling outage, which isolated the return line to the Condensate Storage Tanks and prevented this from being a credible scenario. The motor-operator for HPCS-V-11 will remain deactivated maintaining the affected line isolated until a permanent solution for MSO Scenario 2x is developed.

**Further Corrective Actions**

Procedure changes will be implemented to provide more technical guidance for evaluation of further PFSS MSO scenarios. A plant design change will be developed to permanently resolve MSO Scenario 2x.

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

1. FACILITY NAME <b>Columbia Generating Station</b>	2. DOCKET <b>05000 397</b>	6. LER NUMBER			3. PAGE <b>3 OF 3</b>
		YEAR	SEQUENTIAL NUMBER	REV NO.	
		<b>2015 -</b>	<b>006</b>	<b>- 01</b>	

**NARRATIVE**

**Operating Experience & Previous Occurrences**

An extent of condition and cause was performed for all similar LERs where inadequate design review was found. There were no LERs in recent history with the same cause.

**Assessment of Safety Consequences**

A fire did not occur at CGS. There were no actual safety consequences of the event. There was no equipment damage, injuries, or dose exposure to station personnel. There was no change in plant status or operating condition and there was no risk to the public at any time due to this event. However, had the postulated event occurred prior to having taken corrective actions, this condition would have challenged the plant's ability to achieve and maintain safe shutdown in accordance with the requirements of 10 CFR 50, Appendix R.

At all times the specified safety functions as described in postulated Design Basis Accidents were able to be fulfilled as fires are not postulated to occur simultaneously with other design basis accidents. Requirements for PFSS were not fully analyzed; however there were no actual safety consequences of this event as no fire occurred.

**Energy Industry Identification System Information**

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