ENERGY NORTHWEST

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GO2-15-092
June 26, 2015

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. 2015-002-00

Dear Sir or Madam:

Transmitted herewith is Licensee Event Report No. 2015-002-00 for Columbia Generating Station. This report is submitted pursuant to 10 CFR 50.73(a)(2)(i)(B).

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.

Executed on 6-25-15
Respectfully,

A. L. Javorik
Vice President, Engineering

Attachment: Licensee Event Report 2015-002-00

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

IE22
NRR

NRC FORM 366 (01-2014) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

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

APPROVED BY OMB: NO. 3150-0104 EXPIRES 01/31//2017

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
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4. TITLE

Inadequately fused Non-Class 1E circuit on Division 1 120/240 VAC bus

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 05000
04	29	2015	2015 – 002 – 00			06	26	2015	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: *(Check all that apply)*			
1	☐ 20.2201(b)	☐ 20.2203(a)(3)(i)	☐ 50.73(a)(2)(i)(C)	☐ 50.73(a)(2)(vii)
	☐ 20.2201(d)	☐ 20.2203(a)(3)(ii)	☐ 50.73(a)(2)(ii)(A)	☐ 50.73(a)(2)(viii)(A)
	☐ 20.2203 (a)(1)	☐ 20.2203(a)(4)	☐ 50.73(a)(2)(ii)(B)	☐ 50.73(a)(2)(viii)(B)
	☐ 20.2203(a)(2)(i)	☐ 50.36(c)(1)(i)(A)	☐ 50.73(a)(2)(iii)	☐ 50.73(a)(2)(ix)(A)
10. POWER LEVEL	☐ 20.2203(a)(2)(ii)	☐ 50.36(c)(1)(ii)(A)	☐ 50.73(a)(2)(iv)(A)	☐ 50.73(a)(2)(x)
	☐ 20.2203(a)(2)(iii)	☐ 50.36(c)(2)	☐ 50.73(a)(2)(v)(A)	☐ 73.71(a)(4)
100	☐ 20.2203(a)(2)(iv)	☐ 50.46(a)(3)(ii)	☐ 50.73(a)(2)(v)(B)	☐ 73.71(a)(5)
	☐ 20.2203(a)(2)(v)	☐ 50.73(a)(2)(i)(A)	☐ 50.73(a)(2)(v)(C)	☐ OTHER
	☐ 20.2203(a)(2)(vi)	☒ 50.73(a)(2)(i)(B)	☐ 50.73(a)(2)(v)(D)	Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER *(Include Area Code)*
JR Trautvetter, Compliance Supervisor	509-377-4337

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	15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR
☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO				

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

On April 29, 2015, it was determined that the Division 1 120/240 volts alternating current (VAC) vital instrumentation bus had been inoperable since July 1993. This was the result of a plant modification that added a vendor control panel for the reactor building effluent monitor containing a Non-Class 1E cooling fan with only a single fuse isolation protection. A coordination study was conducted to provide a detailed review for the electrical coordination of the Division 1 120/240 VAC bus. This detailed review revealed that there was an electrical coordination issue with this bus and a Non-Class 1E electrical cabinet cooling fan load that may occur under very limited conditions. In the event that a short circuit occurs in the cooling fan coincident with a loss of off-site power, there was not an adequate isolation device between the Class 1E source and the Non-1E load such that the fault on the cooling fan could potentially impact the Division 1 120/240 VAC bus and cause an under voltage condition due to the limitations in the short circuit design capacity of the associated inverters.

NARRATIVE

Event Description

On April 29, 2015, it was determined that the Division 1 120/240 volts alternating current (VAC) vital instrumentation bus [ED] had been inoperable since July 1993. This was the result of a plant modification that added a vendor control panel for the reactor building effluent monitor [IL] containing a Non-Class 1E cooling fan with only a single fuse [FU] isolation protection. A coordination study was conducted to provide a detailed review for the electrical coordination of the Division 1 120/240 VAC bus. This detailed review revealed that there was an electrical coordination issue with this bus and a Non-Class 1E electrical cabinet cooling fan [FAN] load that may occur under very limited conditions. In the event that a short circuit occurs in the cooling fan coincident with a loss of off-site power, there was not an adequate isolation device between the Class 1E source and the Non-1E load such that the fault on the cooling fan could potentially impact the Division 1 120/240 VAC bus and cause an under voltage condition due to the limitations in the short circuit design capacity of the associated inverters [INVT].

Cause

The root cause evaluation is still in progress; however, a preliminary root cause is provided. If the final root cause for the completed evaluation is significantly different, a supplement will be submitted.

The direct cause was a vendor provided electrical panel for the reactor building effluent radiological monitor was not wired adequately to meet circuit isolation requirements as required by the procurement specification. The root cause was that the modification to install the reactor building effluent radiological monitor in 1993 was implemented without verifying the vendor information.

Extent of Condition

Based on the coordination study, there are no additional concerns with the Division 1 120/240 VAC bus. All Non-Class 1E loads were removed from the Division 2 120/240 VAC bus during the 2015 refueling outage so there is no concern with this bus.

Immediate Corrective Action

The cooling fan was disconnected to remove the possibility of a fault impacting the Division 1 120/240 VAC bus.

Further Corrective Actions

A fuse was added to the configuration to provide adequate electrical isolation between reactor building effluent radiation monitor cabinet cooling fan and the Division 1 120/240 VAC bus.

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NARRATIVE

Operating Experience & Previous Occurrences

Columbia has not experienced similar occurrences in the past, based on a review of Licensee Event Report historical records.

Assessment of Safety Consequences

The safety consequences for this issue are very low. This event can only happen when a fault occurs in the cooling fan coincident with a loss of off-site power. The loss of power condition for the Division 1 120/240 VAC bus will result in most of the components failing to their safety position. This loss of power condition for the bus will only exist until the bus is repowered from the emergency diesel generator (within 15 seconds). The emergency diesel generator has sufficient capacity to clear the fault and repower the bus. Additionally, the Division 2 120/240 VAC bus would still be available.

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.