



Omaha Public Power District

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Omaha, NE 68102-2247

LIC-12-0097

July 27, 2012

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555-0001

Reference: Docket No. 50-285

**Subject: Licensee Event Report 2012-008, Revision 0, for the Fort Calhoun Station**

Please find attached Licensee Event Report 2012-008, Revision 0, dated July 27, 2012. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B). No commitments are being made in this letter.

If you should have any questions, please contact me.

Sincerely,

D. J. Bannister  
Vice President and CNO

DJB /sds/epm

Attachment

c: E. E. Collins, Jr., NRC Regional Administrator, Region IV  
L. E. Wilkins, NRC Project Manager  
J. C. Kirkland, NRC Senior Resident Inspector  
INPO Records Center

**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**

Fort Calhoun Station

**2. DOCKET NUMBER**

05000285

**3. PAGE**

1 OF 3

**4. TITLE**

Technical Specification Violation for Fuel Movement (VA-66)

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
9	28	2011	2012	- 008	- 0	7	27	2012	FACILITY NAME	DOCKET NUMBER 05000
9. OPERATING MODE  5			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply)							
10. POWER LEVEL  0			<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)(ix)(A)				
			<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)(x)				
			<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)(v)				
			<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 checked="" 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

Erick Matzke

TELEPHONE NUMBER (Include Area Code)

402-533-6855

**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
11	15	2012

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

A review of previously completed cause analyses has identified that Fort Calhoun Station (FCS) has moved fuel while the Spent Fuel Pool Area ventilation charcoal filter (VA-66) was inoperable due to failing the methyl iodide penetration surveillance. FCS Technical Specification 2.8.3(4) requires the Spent Fuel Pool Area ventilation system to be in service prior to fuel movement. The Spent Fuel Pool Area ventilation system includes a charcoal filter which prevents the release of radioactive material to the outside atmosphere in the event of a fuel handling accident. However, the fuel handling accident analysis does not credit removal of any radioiodine through operation of the Spent Fuel Pool charcoal filter (VA-66); offsite radiological consequences are well within the 10 CFR 50.67 requirements without the charcoal filtration. There have been repeated charcoal efficiency test failures since 2005. There was evidence that the charcoal filters were not capable of meeting the 18-month surveillance frequency. Fuel movement was conducted while the Spent Fuel Pool Area charcoal filter was in service, yet potentially not able to meet the adsorption criteria, hence inoperable which is a violation of TS requirements.

A cause analysis is in progress. The results will be published in a supplement to this LER. Corrective actions included a revision of the applicable procedure to ensure that charcoal life is predicted and charcoal filter change out is performed before the charcoal expires.

This event is being reported under 10 CFR 50.73(a)(2)(i)(B), operation or condition prohibited by TS.

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Fort Calhoun Station	05000285	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 3
		2012	- 008	- 0	

**NARRATIVE**

**BACKGROUND**

The Auxiliary Building Heating, Ventilation, and Air Conditioning (HVAC) system is designed and operated to protect station personnel and the public from airborne radioactivity, and to provide environmental control for safety-related instrumentation, controls, and equipment. There are several charcoal filters in the Auxiliary Building HVAC system, including the Spent Fuel Pool (SFP) area charcoal filter (VA-66). The filters are made of activated charcoal and have one-inch thick adsorber beds. The charcoal filter (VA-66) is installed in a normally bypassed section of the exhaust ductwork which draws air from the SFP area. The exhaust from the SFP area is monitored for radioactive contamination. If radiation is detected, the charcoal filter (VA-66) can be placed on line from the Control Room. The system does not automatically realign and therefore must be in operation prior to refueling operations in the SFP.

Technical Specification (TS) 2.8.3(4) requires the Spent Fuel Pool Area Ventilation to be in service during refueling operations in the SFP to minimize the consequences of a fuel handling accident in the SFP that could affect public health and safety. The charcoal filter in the SFP ventilation system prevents the release of significant radionuclides to the outside atmosphere. When the SFP area ventilation is not in operation, refueling operations in the SFP must be immediately suspended.

TS Section 3.2, Table 3-5, Item 10b.2, requires testing of the SFP area charcoal filter on a refueling frequency or every 720 hours of operation, or following significant painting, fire, or chemical release in any ventilation zone communicating with the system to ensure the methyl iodide penetration is less than 10 percent when tested in accordance with ASTM D3803-1989 at a temperature of 30 degrees C (86 degrees F) and a relative humidity of 95 percent. Laboratory testing must be completed within 31 days after removal of a sample of the charcoal adsorber.

The fuel handling accident analysis does not credit removal of any radioiodine through operation of the SFP charcoal filter (VA-66); offsite radiological consequences are well within the 10 CFR 50.67 requirements without the charcoal filtration.

**EVENT DESCRIPTION**

A review of previously completed cause analyses has identified that Fort Calhoun Station (FCS) has moved fuel while the Spent Fuel Pool Area ventilation charcoal filter (VA-66) was likely below the required adsorption capability, hence inoperable due to failing the methyl iodide penetration surveillance. FCS TS 2.8.3(4) requires the Spent Fuel Pool Area ventilation system to be in service prior to fuel movement. There have been repeated charcoal efficiency test failures since 2005. There was evidence that the charcoal filters were not capable of meeting the 18-month surveillance frequency. Fuel movement was conducted while the SFP Area charcoal filter was inoperable in violation of TS requirements.

This LER documents a condition that was prohibited by TS. Fuel was moved in the SFP when the SFP area ventilation (VA-66) was considered inoperable. After the ASTM standard for methyl iodide testing was revised, the one-inch thick charcoal adsorber beds routinely failed the penetration surveillance test. FCS documented the most recent methyl iodide penetration failure in September 2011. FCS had previously concluded (December 2009) that the methyl iodide penetration failure of the charcoal adsorber in VA-66 was not reportable since VA-66 was no longer credited in the fuel handling accident analysis. The evaluation did not recognize the TS non-compliance. When the condition was

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**NARRATIVE**

questioned as 'a condition prohibited by TS' in May 2012, the engineering review agreed with the December 2009 station position, and a new reportability evaluation was not promptly completed. The station paradigm inappropriately concluded that reportability could be evaluated at a later date since current operating conditions were not challenged, and that the 60-day reporting window commenced when the event was determined to be reportable. FCS has been systematically addressing issues that have been identified since June 2011, in response to the flooding conditions, switchgear fire, and increased oversight. This LER is being submitted beyond the 60-day regulatory reporting requirement due to non-conservative decisions with respect to procedural and regulatory reportability requirements and resource constraints caused by the operating challenges which began in June 2011.

**CONCLUSION**

A cause analysis is in progress. The conclusions of the analysis will be presented in a supplement to this LER.

**CORRECTIVE ACTIONS**

Corrective actions included a revision of the applicable procedure to ensure that charcoal life is predicted and charcoal filter change out is performed before the charcoal expires.

Additional actions will be tracked in the station's corrective action system.

**SAFETY SIGNIFICANCE**

FCS TS require the SFP area ventilation to be in operation during operations in the SFP to mitigate the consequences of a fuel handling accident. However, the FCS accident analysis for a fuel handling accident in the SFP assumes the activity is collected by the SFP area ventilation system and released, unfiltered, to the environment, via the auxiliary building vent stack. Since there is no means of isolating the SFP area, all of the airborne activity resulting from the fuel handling accident is assumed to be exhausted out of the auxiliary building in a period of two hours. The SFP area ventilation has no safety function as it is not credited for mitigating the radiological consequences of a fuel handling accident even though actual tests have demonstrated the effectiveness of VA-66 in reducing radiation doses. Therefore, there is no safety significance associated with fuel movement when VA-66 is inoperable and this event had no impact on the health and safety of the public.

**SAFETY SYSTEM FUNCTIONAL FAILURE**

This event does not result in a safety system functional failure in accordance with NEI-99-02.

**PREVIOUS EVENTS**

The station has had two similar events (movement of fuel with VA-66 inoperable) as documented in LER 90-05 and LER 94-006.