



**Omaha Public Power District**

444 South 16<sup>th</sup> Street Mall  
Omaha, NE 68102-2247

10 CFR 50.73

February 14, 2014  
LIC-14-0015

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

Fort Calhoun Station, Unit No. 1  
Renewed Facility Operating License No. DPR-40  
NRC Docket No. 50-285

Reference: none

**Subject: Licensee Event Report 2013-015, Revision 1, for the Fort Calhoun Station**

Please find attached Licensee Event Report 2013-015, Revision 1. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(ii)(B). No commitments are being made in this letter.

If you should have any questions, please contact Terrence W. Simpkin, Manager, Site Regulatory Assurance, at (402) 533-6263.

Respectfully,

Louis P. Cortopassi  
Site Vice President and CNO

LPC/epm

Attachment

c: J. M. Sebrosky, NRC Sr. Project Manager  
M. L. Dapas, NRC Regional Administrator, Region IV  
J. C. Kirkland, NRC Sr. Resident Inspector

**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, 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

**1. FACILITY NAME**

Fort Calhoun Station

**2. DOCKET NUMBER**

05000285

**3. PAGE**

1 OF 3

**4. TITLE**

Unqualified Coating used as a Water Tight Barrier in Rooms 81 and 82

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
09	23	2013	2013	- 015 -	1	2	14	2014	FACILITY NAME	05000

**9. OPERATING MODE** 5      **11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:** (Check all that apply)

<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)
<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

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	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	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 September 23, 2013, it was identified that the floor structure in Rooms 81 and 82 may not maintain its integrity during a high energy line break environment allowing water to migrate into the rooms below that houses the diesel generators and safety related switchgear. This was reported on September 23, 2013, under 10 CFR 50.72(b)(3)(ii)(B), Unanalyzed Condition (Event Notification 49378). Fort Calhoun Station was shutdown in MODE 5 when the condition was identified and entered into the station's corrective action program as Condition Report 2013-18103.

A cause evaluation was completed and determined that corrective actions in CR 2009-0687 root cause analysis (RCA) did not resolve water intrusion into Auxiliary Building rooms containing safety related equipment due to lack of technical rigor and flawed decision making.

The floor in Room 82 was recoated. The seismic gap between containment and the auxiliary building was sealed. All penetrations that had openings below 2 feet above the floor were coated and the area around the impingement plate was sealed. Cracks in the ceilings of the switchgear and upper electrical penetration rooms were repaired.

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Fort Calhoun Station	05000285	2013	- 015 -	1		

**NARRATIVE****BACKGROUND**

Fort Calhoun Station (FCS) is a two-loop reactor coolant system of Combustion Engineering (CE) design.

**EVENT DESCRIPTION**

During a review of the stations High Energy Line Break (HELB) strategies, on September 23, 2013, it was identified that the floor structure in Rooms 81 and 82 may not maintain its integrity during a high energy line break environment allowing water to migrate into the rooms below that houses the diesel generators and safety related switchgear. This was reported on September 23, 2013, under 10 CFR 50.72(b)(3)(ii)(B), Unanalyzed Condition (Event Notification 49378). Fort Calhoun Station was shutdown in MODE 5 when the condition was identified and entered into the station's corrective action program as Condition Report (CR) 2013-18103.

USAR Appendix M (Rev 14) documents Postulated High Energy Line Breaks (HELB) outside Containment. Section 3.5.7 in Appendix M, "Protection against flooding in Room 81", in part states, "In the event of the postulated feedwater line rupture in Room 81, water would accumulate on the floor of the room. Certain modifications have been made to ensure that water will not pass through the floor of Room 81 around piping, cable trays, conduit and ventilation ductwork into the switchgear area and electrical penetration area on the floor below."

Rooms 56, 64, 63 and 19 contain the electrical switchgear, diesel generators and auxiliary feedwater pumps.

This report is submitted pursuant to 10 CFR 50.73(a)(2)(ii)(B), any event or condition that resulted in: the nuclear power plant being in an unanalyzed condition that significantly degraded plant safety.

**CONCLUSION**

A cause evaluation was completed and determined that corrective actions in CR 2009-0687 root cause analysis (RCA) did not resolve water intrusion into Auxiliary Building rooms containing safety related equipment due to lack of technical rigor and flawed decision making.

CR 2009-0687, "Unanalyzed Condition Resulting From Flooding in Room 82," (03/26/2009), identified a condition where a potential failure of both diesel generators could occur due to water leakage into Room 82.

**CORRECTIVE ACTIONS**

## Actions Completed to Address Floor Leaks:

The floor in Room 82 was recoated.

The seismic gap between containment and the auxiliary building was sealed.

All penetrations that had openings below 2 feet above the floor were coated and the area around the impingement plate was sealed.

Cracks in the ceilings of the switchgear and upper electrical penetration rooms were repaired.

## Actions Remaining to Address Floor Leaks:

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**NARRATIVE**

The floor in Room 81, the hallway between Room 82 and the filter area, and the filter area floor will be recoated.

Update USAR Appendix M to reflect calculation FC08313, Fort Calhoun Room 81 Flooring Analysis.

Develop and implement a quarterly preventive maintenance task to inspect the floor coatings in Rooms 81 and 82.

**LONG TERM CORRECTRIVE ACTIONS**

Significant changes were made to CAP processes and included the development and implementation of FCSG-24-7, Effectiveness Review of Corrective Actions to Prevent Recurrence (CAPRs). These changes are credited for resolving the problem of an inadequate corrective action to prevent recurrence (CR 2009-0687).

Revise and issue Procedures PED-HU-1, "Engineering Human Performance Program", PED- HU-2, "Human Performance Tools for Engineering", and PED-HU-3, "Engineering Risk and Rigor" or implement equivalent new procedures based on the gap analyses.

**SAFETY SIGNIFICANCE**

Potential Impact: In the event of a steam or Feedwater line break (HELB), the movement of water from Rooms 81 and 82 through floor cracks, gap, and/or penetrations could expose the switchgear and diesel generators to water intrusion conditions that could make them incapable of meeting performance requirements assumed in the current licensing basis.

**SAFETY SYSTEM FUNCTIONAL FAILURE**

This does not represent a safety system functional failure in accordance with NEI 99-02, Revision 7.

**PREVIOUS EVENTS**

CR 2009-0687, "Unanalyzed Condition Resulting From Flooding in Room 82," (03/26/2009), identified a condition where a potential failure of both diesel generators could occur due to water leakage into Room 82.