



Omaha Public Power District

444 South 16th Street Mall
Omaha, NE 68102-2247

LIC-13-0084
June 14, 2013

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

Reference: Docket No. 50-285

Subject: Licensee Event Report 2013-009, Revision 0, for the Fort Calhoun Station

Please find attached Licensee Event Report 2013-009, Revision 0. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(v) and 10 CFR 50.73(a)(2)(i)(B). There are no commitments being made in this letter.

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

Sincerely,

Louis P. Cortopassi
Site Vice President and CNO

LPC/epm/rjr

Attachment

c: A. T. Howell, NRC Regional Administrator, Region IV
J. M. Sebrosky, NRC Sr. Project Manager
L. E. Wilkins, NRC Project Manager
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 information collection.

1. FACILITY NAME

Fort Calhoun Station

2. DOCKET NUMBER

05000285

3. PAGE

1 OF 3

4. TITLE

Tornado Missile Vulnerabilities

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																																				
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9. OPERATING MODE 5			11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) <table border="0"><tr><td><input type="checkbox"/> 20.2201(b)</td><td><input type="checkbox"/> 20.2203(a)(3)(i)</td><td><input type="checkbox"/> 50.73(a)(2)(i)(C)</td><td><input type="checkbox"/> 50.73(a)(2)(vii)</td></tr><tr><td><input type="checkbox"/> 20.2201(d)</td><td><input type="checkbox"/> 20.2203(a)(3)(ii)</td><td><input type="checkbox"/> 50.73(a)(2)(ii)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(viii)(A)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(1)</td><td><input type="checkbox"/> 20.2203(a)(4)</td><td><input type="checkbox"/> 50.73(a)(2)(ii)(B)</td><td><input type="checkbox"/> 50.73(a)(2)(viii)(B)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(i)</td><td><input type="checkbox"/> 50.36(c)(1)(i)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(iii)</td><td><input type="checkbox"/> 50.73(a)(2)(ix)(A)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(ii)</td><td><input type="checkbox"/> 50.36(c)(1)(ii)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(iv)(A)</td><td><input type="checkbox"/> 50.73(a)(2)(x)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(iii)</td><td><input type="checkbox"/> 50.36(c)(2)</td><td><input checked="" type="checkbox"/> 50.73(a)(2)(v)(A)</td><td><input type="checkbox"/> 73.71(a)(4)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(iv)</td><td><input type="checkbox"/> 50.46(a)(3)(ii)</td><td><input checked="" type="checkbox"/> 50.73(a)(2)(v)(B)</td><td><input type="checkbox"/> 73.71(a)(5)</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(v)</td><td><input type="checkbox"/> 50.73(a)(2)(i)(A)</td><td><input checked="" type="checkbox"/> 50.73(a)(2)(v)(C)</td><td><input type="checkbox"/> OTHER</td></tr><tr><td><input type="checkbox"/> 20.2203(a)(2)(vi)</td><td><input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)</td><td><input checked="" type="checkbox"/> 50.73(a)(2)(v)(D)</td><td>Specify in Abstract below or in NRC Form 366A</td></tr></table>								<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 checked="" 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 checked="" 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 checked="" 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
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10. POWER LEVEL 0																																														

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

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

While performing an extent of condition review for the condition identified in LER 2013-005-0, Control Room HVAC Modification Did Not Properly Address Safety Consequences, additional potential tornado missile vulnerabilities have been identified. These currently include the intake structure removable hatches, Room 81 roof openings, auxiliary feedwater steam driven pump exhaust stack, diesel fuel oil tanks vent stack and fill line, FO-1/FO-10, raw water pump cable pull boxes, and diesel generator exhaust stacks, DG-1/DG-2. These additional interactions appear to have existed since initial licensing. They do not appear to be a result of plant modifications as was the case with the control room air handlers. At the time of discovery, the unit was shutdown and defueled.

The station is performing extent of condition reviews associated with LER 2013-005-0. The station will determine the scope and resolutions to mitigate the currently identified interactions as well as any additional interactions prior to plant restart.

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CONTINUATION SHEET**

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NARRATIVE

BACKGROUND

Fort Calhoun Station was licensed prior to the General Design Criteria and Standard Review Plan. The station was designed in accordance with the 70 draft General Design Criteria published for comment in the Federal Register (32 FR 10213) on July 11, 1967. Criterion 2 of the 70 draft General Design Criteria, which discusses tornadoes and appears in the FCS USAR, is provided below.

CRITERION 2 - PERFORMANCE STANDARDS

Those systems and components of reactor facilities which are essential to the prevention of accidents which could affect public health and safety or to mitigation of their consequences shall be designed, fabricated, and erected to performance standards that will enable the facility to withstand, without loss of the capability to protect the public, the additional forces that might be imposed by natural phenomena such as earthquakes, tornadoes, flooding conditions, winds, ice and other local site effects. The design bases so established shall reflect: (a) Appropriate consideration for the most severe of these natural phenomena that have been recorded for the site and the surrounding area and (b) an appropriate margin for withstanding forces greater than those recorded to reflect uncertainties about the historical data and their suitability as a basis for design.

EVENT DESCRIPTION

While performing an extent of condition review for the condition identified in LER 2013-005-0, Control Room HVAC Modification Did Not Properly Address Safety Consequences, additional tornado missile vulnerabilities were identified. These currently include:

- Intake Structure Removable Hatches for the Raw Water Pumps
- Room 81 Roof Openings
- Auxiliary Feedwater Steam Driven Pump Exhaust Stack, FW-10
- Diesel Fuel Oil Tanks Vent Stack and Fill Line, FO-1/FO-10
- Raw Water Pump Cable Pull Boxes
- Diesel Generator Exhaust Stacks, DG-1/DG-2

These additional interactions do not appear to be a result of plant modifications, as was the case with the control room air handlers. The station is currently performing reviews of previously identified interactions with additional plant walkdowns to determine the scope and resolutions to mitigate any identified interactions. At the time of discovery, the unit was shutdown with fuel removed.

This report is being submitted pursuant to;

1. 10 CFR 50.73(a)(2)(v): any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to (A) shutdown the reactor and maintain it in a safe shutdown condition; (B) remove residual heat; (C) control the release of radioactive material; or (D) mitigate the consequences of an accident, and

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2. 10 CFR 50.73(a)(2)(i)(B): any operation or condition which was prohibited by the plant's Technical Specifications.

CONCLUSION

As discussed above, these additional interactions do not appear to be a result of plant modifications as was the case with the control room air handlers. These additional interactions appear to have existed since initial licensing. Some of the interactions had inappropriately been considered acceptable using probabilistic analysis.

CORRECTIVE ACTIONS

The station is performing extent of condition reviews associated with LER 2013-005-0. The station will determine the scope and resolutions to mitigate the currently identified interactions as well as any additional interactions prior to plant restart.

SAFETY SIGNIFICANCE

During a tornado strike, it is expected that one or more pieces of equipment identified during the extent of condition required for safe shutdown, mitigation of the consequences of an accident, control the release of radioactive material, or remove residual heat may become unavailable. The duration of the event (tornado strike) would be of a short duration. However, the duration of the resulting conditions would be expected to persist from a few hours to several days. Redundancy of equipment, such as a third diesel engine driven auxiliary feedwater pump, broadens the mitigation responses available.

SAFETY SYSTEM FUNCTIONAL FAILURE

This event does result in a safety system functional failure in accordance with Nuclear Energy institute, NEI-99-02, Regulatory Assessment Performance Indicator Guideline, Revision 6.

PREVIOUS EVENTS

One previous event, LER 2013-005, was identified. It was the extent of condition from the event identified in LER 2013-005 that lead to the current LER. The conditions identified in the current LER are legacy issues that could not have been prevented or corrected by the actions taken or planned in LER 2013-005.