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

10 CFR 50.73

LIC-14-0116
October 3, 2014

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

Subject: Licensee Event Report 2014-004, Revision 1, for the Fort Calhoun Station

Please find attached Licensee Event Report 2014-004, Revision 1. This revision is to update the list of valves to correct one valve that was inadvertently listed but was not affected by this issue. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(v), 10 CFR 50.73(a)(2)(vii), 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(ix)(A). There are no new 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

Attachment
c: M. L. Dapas, NRC Regional Administrator, Region IV
C. F. Lyon, NRC Senior Project Manager
S.M. Schneider, NRC Senior Resident Inspector

NRC FORM 366 (02-2014) U.S. NUCLEAR REGULATORY COMMISSION

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

LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Fort Calhoun Station	05000285	1 OF 4

4. TITLE

Unqualified Limit Switches Render Safety Equipment Inoperable

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
4	24	2014	2014	004 -	01	10	3	2014	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

LICENSEE CONTACT	TELEPHONE NUMBER *(Include Area Code)*
Erick Matzke	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)*

On April 24, 2014, during a review of previous conditions affecting equipment qualification it was identified that the environmental qualification of Namco EA180 series limit switches were not being properly maintained per vendor requirements. This condition was not verbally reported at the time of discovery as the condition was identified and resolved while the plant was in an extended shutdown.

A cause evaluation was completed and determined that technical requirements from the vendor manual for maintaining environmental qualification of the Namco EA180 series limit switches were not captured in the applicable plant procedure.

The applicable plant procedure has been revised to include vendor information for maintaining environmental qualification of the limit switches. The limit switch top cover gasket and screw assemblies for all environmentally qualified Namco EA180 series limit switches were replaced and torqued in accordance with vendor requirements.

NARRATIVE

BACKGROUND

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

EVENT DESCRIPTION

On April 24, 2014, during a review of previous conditions affecting equipment qualification it was determined that a condition repaired in 2012 and 2013 may need additional review for reporting. During a comparison of vendor manual requirements in applicable plant procedures associated with the Fort Calhoun recovery efforts on May 3, 2012, it was identified that the environmental qualification of Namco EA180 series limit switches were not being properly maintained per vendor requirements in that revision 6 of maintenance procedure EM-RR-VX-0410, “Maintenance of Limit Switch Type EA-180 to Maintain EEQ Qualification,” did not require the replacement of the limit switch top cover gasket and screw assemblies and torqueing of the top cover screws to 20 to 25 inch-pounds each time the top cover was removed. Instead, EM-RR-VX-0410 called for torqueing the limit switch top cover screws to 19 to 21 inch-pounds and did not call for the replacement of the limit switch top cover gasket and screw assemblies each time the top cover was removed.

The following components are within the scope of this issue:

FCV-326 - Shutdown Cooling Heat Exchanger Low Pressure Safety Injection (LPSI) bypass flow control valve
HCV-1041A/1042A - Main Steam Isolation Valves
HCV-1107/1108A/B - Steam Generator Auxiliary Feedwater inlet valves
HCV-1387/1388 - Steam Generator Blowdown Isolation Valves
HCV-238/239 - Reactor Coolant System Charging Line stop valves
HCV-240 - Pressurizer Spray inlet valve
HCV-241 - Reactor Coolant Pumps Controlled Bleed-Off Inboard isolation valve
HCV-2504/2506/2507 A/B - Steam Generator Sample Line inboard and outboard isolation valves

HCV-2603B - Safety Injection (SI) Tanks SI-6A - 6D supply inboard isolation valve
HCV-2604A/B - Reactor Coolant Drain Tank (RCDT) supply isolation valves
HCV-2898/2899A/B - Control Room Ventilation Unit Component Cooling Water (CCW) inlet/outlet valves
HCV-2907/2908/2917/2918/2927/2928 - High Pressure Safety Injection (HPSI) suction/discharge valves
HCV-2937/2938/2947/2948 - Low Pressure Safety Injection (LPSI) suction/discharge valves
HCV-2957/2958/2967/2968/2977/2978 - Containment Spray (CS) suction/discharge Valves
HCV-2916/2936/2956/2976 - SI Tank SI-6A/D fill/drain valves
HCV-2987 - HPSI Alternate Header isolation valve
HCV-304/305/306/307 - HPSI Header cross connect and isolation valves
HCV-335 - Shutdown Cooling Heat Exchanger inlet header isolation valve
HCV-425A/425C - SI Leakage Cooler combined CCW inlet/outlet header inboard isolation valve
HCV-438A/438C - Reactor Coolant Pump (RCP) lube oil and seal coolers CCW inlet/outlet inboard isolation valve

NARRATIVE

HCV-467A/467C - Nuclear Detector Well Cooling Coolers combined CCW inlet/outlet header inboard isolation valve
HCV-545 - SI Leakage to Waste Disposal System isolation valve
HCV-746A/B - Containment Pressure Relief isolation valves
HCV-864/865 - Containment Fan Cooler Charcoal Bed Fire Protection valves
HCV-881/882/883A/884A - Hydrogen Analyzer Sample Containment Isolation valves
MS-291/292 - Power Operated Main Steam Relief valves
PCV-1849A - Containment Instrument Air inboard isolation valve
PCV-2909/2929/2949/2969 - SI Leakage Cooler pressure control valves
PCV-6680/6681A/B - Control Room Heating Ventilation and Air Conditioning (HVAC) filter control valves
PCV-742A/B/C/D/E/G - Containment Purge isolation valves
TCV-202 - RCS Letdown temperature control valve
YCV-1045A/B - Turbine Driven Auxiliary Feed Water Pump (FW-10) steam supply valves

This report is being submitted pursuant to 10 CFR 50.73(a)(2)(v), 10 CFR 50.73(a)(2)(vii), 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(ix)(A). A verbal report was not required as this event is of a historical nature.

CONCLUSION

A cause evaluation was completed and determined that technical information from the vendor manual for maintaining environmental qualification of the Namco EA180 series limit switches was not captured in procedure EM-RR-VX-0410.

CORRECTIVE ACTIONS

Procedure EM-RR-VX-0410 was revised to include vendor information for maintaining environmental qualification of the Namco EA180 limit switches.

The limit switch top cover gasket and screw assemblies for affected environmentally qualified Namco EA180 series limit switches installed in the plant have been replaced and the associated top cover screws properly torqued to 20 to 25 inch-pounds.

SAFETY SIGNIFICANCE

With the exceptions noted below, the affected limit switches provide component position indication only; they do not impact the automatic operation of the affected safety systems. In some accidents, the operators would use supplemental indication to validate proper operation of safety system function. Validation of proper system operation is a normal part of the station emergency and abnormal operating procedures and operator training.

NARRATIVE

Limit switches on MS-291/292 will initiate the filtered air mode on Control Room Ventilation whenever either safety valve is opened. Design basis accidents that could affect these switches would not impact the dose to the operators. The operations staff is provided with self-contained breathing equipment should conditions indicate that it is necessary to minimize dose to the operators.

SAFETY SYSTEM FUNCTIONAL FAILURE

This does not represent a safety system functional failure in accordance with NEI 99-02, revision 7 as the limit switches will not prevent the automatic safety functions of the impacted safety systems.

PREVIOUS EVENTS

LERs 2012-015, 2012-017, 2013-011 and 2013-016 also report issues with environmental qualification.