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

LIC-13-0015
February 19, 2013

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

Reference: Docket No. 50-285

Subject: Licensee Event Report 2012-021, Revision 0, for the Fort Calhoun Station

Please find attached Licensee Event Report 2012-021, Revision 0, dated February 19, 2013. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(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
Vice President and CNO

LPC/rjr

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

NRC FORM 366 (10-2010) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 10/31/2013

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.

LICENSEE EVENT REPORT (LER)

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

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

4. TITLE

HCV-2987, HPSI Alternate Header Isolation Valve

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
01	29	2012	2012	021 -	0	02	19	2013	FACILITY NAME	DOCKET NUMBER 05000

9. OPERATING MODE

5

10. POWER LEVEL

0

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

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☒ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☐ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☒ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	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 January 29, 2012, while reviewing design calculations as part of the extent of condition for condition report 2011-9945, it was identified that valve HCV-2987, High Pressure Safety Injection Alternate Header Isolation, would not have been able to fulfill its design safety function found in Updated Safety Analysis Report Table 9.12.1 and Technical Specification 2.3. The last FlowScan analyses performed in 2008 indicated a higher than acceptable valve packing friction to the point that the valve would not have been able to fulfill its function after the 24 hour mission time with a loss of instrument air. No corrective action was taken after the 2008 FlowScan analyses to fix the condition. At the time of discovery in 2012, Fort Calhoun Station (FCS) was in Mode 5 (refueling).

A causal analysis is in progress and the preliminarily root cause identified failure of the station to compare FlowScan data with approved calculations and a lack of corrective actions. Repacking and testing of the valve has been planned. Completion of the AOV Program procedure, currently being developed, will assure that the appropriate test activities are defined and that the results are appropriately addressed.

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Fort Calhoun Station	05000285	2012	- 021 -	0	2 OF 3

NARRATIVE

BACKGROUND

Fort Calhoun Station (FCS) Technical Specification Limiting Conditions for Operation 2.3, Emergency Core Cooling, requires that all valves, piping and interlocks associated with the components in this specification to be operable.

FCS Updated Safety Analysis Report (USAR) Section 9.12, Compressed Air, defines the mission time of valve HCV-2987 as 24 hours in Table 9.12-1, Safety Related Valves and Bubblers Operable after Loss of Instrument Air.

FCS USAR Section 6.2, Engineered Safeguards – Safety Injection System, also discusses the "alternate hot leg injection path" which is used for accidents where only one high pressure safety injection (HPSI) pump is available.

EVENT DESCRIPTION

On January 29, 2012, while reviewing design calculations as part of the extent of condition for Condition Report (CR) 2011-9945, it was identified that valve HCV-2987, High Pressure Safety Injection Alternate Header Isolation, would not have been able to fulfill its design safety function found in USAR Table 9.12.1 and Technical Specification 2.3. The last FlowScan analyses performed in 2008 indicated a higher than acceptable valve packing friction to the point that the valve would not have been able to fulfill its function after the 24 hour mission time with a loss of instrument air. No corrective action was taken after the 2008 FlowScan analyses to fix the condition. At the time of discovery in 2012, FCS was in Mode 5 (refueling).

This condition is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B): Any operation event or condition which was prohibited by the plant's Technical Specifications and 50.73(a)(2)(v)(B) “Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat. The condition was initially identified on January 29, 2012, and incorrectly determined to be not reportable. On December 12, 2012, the error in the original reportability evaluation was identified.

CONCLUSION

FCS is in the process of completing a causal analysis and has preliminarily identified failure of Fort Calhoun station to compare FlowScan data with approved calculations and lack of corrective actions as the root cause. Contributing causes include poor turnover between engineers and the lack of an air operated valve (AOV) program procedure. Repacking and testing of the valve has been scheduled for prior to the plant startup. Completion of the AOV Program procedure, currently being developed, will assure that the appropriate test activities are defined and that the results are appropriately addressed.

If the condition or results from the completed analysis would significantly change the perception of the course, significance, implications, or consequences of the event, or if it results in substantial changes in the corrective action planned, this Licensee Event Report will be supplemented.

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NARRATIVE

CORRECTIVE ACTIONS

Repacking and testing of the valve has been scheduled. Completion of the AOV Program procedure, currently being developed, will assure that the appropriate test activities are defined and that the results are appropriately addressed. The calculations associated with valve HCV-2987 will be reviewed and revised an necessary to assure that all information is consistent.

SAFETY SIGNIFICANCE

The potential failure of valve HCV-2987 as discussed requires a loss of instrument air and would result in a reduction in the available injection paths. As discussed in USAR Section 6.2.1, the safety injection system is designed to keep the core covered for extended periods of time after initial injection. One high-pressure pump has sufficient capacity with 25 percent spillage to maintain the core water level at the start of recirculation, and during Long Term Core Cooling (LTCC). However, to mitigate control problems that may be caused by hardware limitations, procedures require that two HPSI pumps be utilized during simultaneous hot and cold leg injection. If only one HPSI pump is operable, then the alternate hot leg injection path with one LPSI pump is used challenging the operation of HCV-2987 to operate during its required mission time.

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

Twenty-two Licensee Event Reports initiated since January 1, 2010, were identified with the same reporting criteria;

- 10 CFR 50.73(a)(2)(i)(B), Any operation or condition which was prohibited by the plant's Technical Specifications.
- 10 CFR 50.73(a)(2)(v)(B) “Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat.

None of the Licensee Event Reports reviewed contained the same underlying concern or reason of this event, such as the same root cause, failure, or sequence of events. A number of these Licensee Event Reports are still being investigated. If the root cause, failure, or sequence of events in any of the pending investigations is found to be similar to this event, then that Licensee Event Report will include Licensee Event Report 2012-021-0 as a previous event.