



Omaha Public Power District

444 South 16th Street Mall

Omaha, NE 68102-2247

LIC-12-0112

August 13, 2012

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

Reference: Docket No. 50-285

Subject: Licensee Event Report 2012-012, Revision 0, for the Fort Calhoun Station

Please find attached Licensee Event Report 2012-012, Revision 0, dated August 13, 2012. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B), 10 CFR 50.73(a)(2)(v)(D), and 10 CFR 50.73(a)(2)(vii)(D).

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 /rjr/sds

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, 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 4

4. TITLE

Multiple Safety Injection Tanks Rendered 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
03	19	2012	2012	- 012	- 0	08	13	2012	FACILITY NAME	DOCKET NUMBER
										05000
									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)

- | | | | |
|---|---|---|--|
| <input type="checkbox"/> 20.2201(b) | <input type="checkbox"/> 20.2203(a)(3)(i) | <input type="checkbox"/> 50.73(a)(2)(i)(C) | <input checked="" 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 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 checked="" type="checkbox"/> 50.73(a)(2)(v)(D) | Specify in Abstract below
or in NRC Form 366A |

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
12	18	2012

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

Fort Calhoun Station (FCS) operating procedures allow filling and sluicing multiple safety injection tanks (SITs) while at power, rendering the SITs inoperable during the evolution. The use of this procedure allowed multiple safety injection tanks to be concurrently filled while FCS was at power. FCS Technical Specifications (TS) and accident analysis do not allow more than one SIT to be inoperable. This condition was identified on March 19, 2012, while the unit was in Mode 5, by the NRC during initial license examination preparation.

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

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

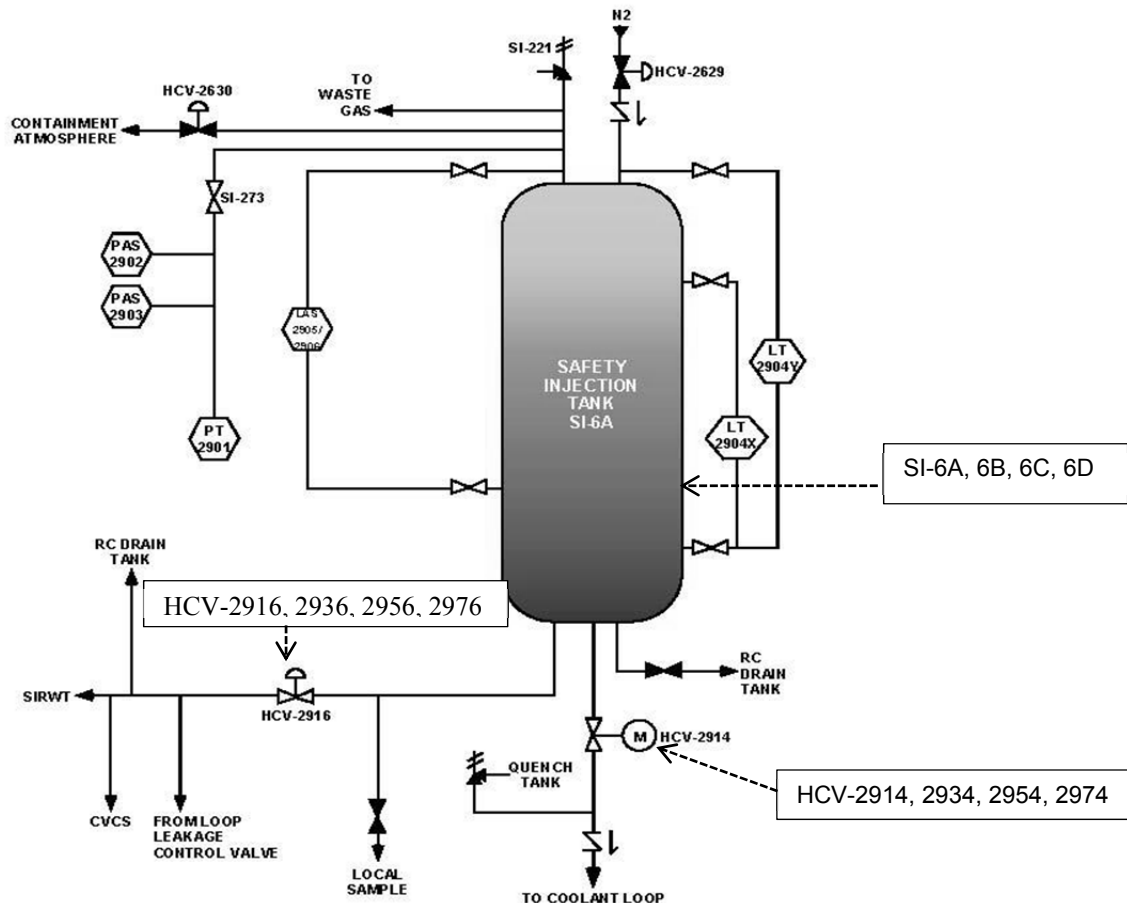
1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
Fort Calhoun Station	05000285	YEAR	SEQUENTIAL NUMBER	REV NO.	2 OF 4
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NARRATIVE

BACKGROUND

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

The FCS Updated Safety Analysis Report (USAR) Section 6.2.2, System Description, states that the safety injection system [BP] for this plant consists of both passive and active components. The four pressurized safety injection tanks (SITs) [6A, 6B, 6C, 6D] are of the passive type and require no outside power or safety injection actuation signal to operate. The SITs inject large quantities of borated water into the reactor coolant system (RCS) [AB] following a large pipe break. The water rapidly covers and cools the core, thereby limiting clad melting and metal water reaction. The separate and independent tanks are each connected to one of the four safety injection nozzles [NZL]; one nozzle is located on each of the four RCS cold legs. The driving head for water injection is provided by a nitrogen cover gas at a pressure of 240 pounds per square inch (psig) minimum. As the RCS pressure falls below tank pressure, check valves [V] open in the line connecting each tank to the system. Thus, these tanks will initiate their discharge when the RCS pressure drops below approximately 240 psig minimum. The figure below is provided to aid in understanding the event.



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NARRATIVE

FCS USAR Section 6.2.1, Design Bases, states that the system requirements during a Design Basis large break loss of coolant accident (LBLOCA) are met with the assumption of three of the four SITs delivering borated water to the core and with one high pressure safety injection (HPSI) pump [BQ] delivering approximately 75 percent of its rated flow to the core and one low-pressure safety injection (LPSI) pump delivering approximately 75 percent of its rated flow to the core.

Technical Specification (TS) Limiting Condition for Operation (LCO) 2.3, Emergency Core Cooling, Minimum Requirement (1)(c) requires that all four SITs are operable and pressurized to at least 240 psig and a maximum of 275 psig with tank level of at least 116.2 inches (67 percent) and a maximum level of 128.1 inches (74 percent) with refueling boron concentration. Minimum Requirement 1(ii) states that all valves, piping and interlocks associated with the above components and required to function during accident conditions are operable. Valves HCV-2914, 2934, 2974, and 2954 (SIT 6A, 6B, 6C and 6D outlet valves) shall have power removed from the motor operators by locking open the circuit breakers in the power supply lines to the valve motor operators. Valve FCV-326 (Shutdown Cooling Heat Exchangers AC-4A & 4B LPSI Bypass Flow Control Valve) shall be locked open. TS LCO 2.3 Modification of Minimum Requirements (2)f. states that one safety injection tank may be inoperable for reasons other than g. [temperature/pressure] or h. [born concentration] for a period of no more than 24 hours.

The normal at-power line-up for SIT-6A, 6B, 6C, and 6D is to have HCV-2914 [ISV], 2934, 2954, and 2974 locked open with power removed and to have HCV-2916, 2936, 2956, and 2976 (SIT 6A, 6B, 6C and 6D fill/drain valve) closed. Valves HCV-2916, 2936, 2956, and 2976 all receive an accident signal to automatically close.

EVENT DESCRIPTION

FCS operating procedures allow filling and sluicing multiple safety injection tanks (SITs) while at power. Since the filling operation requires opening the valves (which receive a signal to close post accident), these valves would be required to close via electrical signals, which is not a passive feature. Since the tanks are credited as a passive feature, the opening of the valves could impact the tanks' passive design feature, hence rendering the SITs inoperable during the evolution. The use of this procedure allowed multiple SITs to be concurrently inoperable while FCS was at power. FCS TS and accident analysis do not allow more than one SIT to be inoperable. This condition was identified on March 19, 2012, while the unit was in Mode 5, by the NRC during initial license examination preparation.

This report is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B), 10 CFR 50.73(a)(2)(v)(D), and 10 CFR 50.73(a)(2)(vii)(D).

This LER reports a condition where multiple SITs could be filled, hence potentially rendering them inoperable using approved plant procedures. The initial Operation's review focused on the current operating conditions, noting that the condition would need to be resolved prior to start up. 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.

U.S. NUCLEAR REGULATORY COMMISSION

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NARRATIVE

CONCLUSION

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

CORRECTIVE ACTIONS

A cause analysis is in progress. The corrective actions will be published in a supplement to this LER.

SAFETY SIGNIFICANCE

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

SAFETY SYSTEM FUNCTIONAL FAILURE

This event does result in a safety system functional failure in accordance with NEI-99-02.

PREVIOUS EVENTS

A cause analysis is in progress. Previous events will be determined from the results of the cause analysis.