



Omaha Public Power District

444 South 16<sup>th</sup> Street Mall

Omaha, NE 68102-2247

LIC-12-0090

June 25, 2012

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

Reference: Docket No. 50-285

**Subject: Licensee Event Report 2012-006, Revision 0, for the Fort Calhoun Station**

Please find attached Licensee Event Report 2012-006, Revision 0, dated June 25, 2012. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B). 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 /epm

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 205 55-0001, 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.

<b>1. FACILITY NAME</b> Fort Calhoun Station	<b>2. DOCKET NUMBER</b> 05000285	<b>3. PAGE</b> 1 OF 3
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**4. TITLE**  
Operation of Component Cooling Pumps Outside of the Manufacturers Recommendation

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
4	24	2012	2012	- 006	- 0	6	25	2012		05000
									FACILITY NAME	DOCKET NUMBER
										05000

<b>9. OPERATING MODE</b>  5	<b>11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §:</b> <i>(Check all that apply)</i>									
<b>10. POWER LEVEL</b>  0	<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 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 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 <i>(Include Area Code)</i> 402-533-6855
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**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

<b>14. SUPPLEMENTAL REPORT EXPECTED</b> <input checked="" type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i> <input type="checkbox"/> NO	<b>15. EXPECTED SUBMISSION DATE</b>	MONTH 9	DAY 13	YEAR 2012
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**ABSTRACT** *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

The station identified that the CCW pumps were operating beyond their pump curves with the motor running into the service factor, runout conditions were not observed as there were no fluctuations in pressure, no fluctuations in motor amps, no visible signs of pitting or damage on impeller vane trailing, no damage to internal pump casing surfaces, no abnormal vibration, and no abnormal noise. A review of this condition determined that operation in this condition is a violation of plant technical specification for CCW operation

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

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE		
Fort Calhoun Station	05000285	YEAR	SEQUENTIAL NUMBER	REV NO.	2	OF	3
		2012	-	006			

**NARRATIVE**

**BACKGROUND**

The Fort Calhoun Station (FCS) Component Cooling Water (CCW) system is a closed loop system consisting of three motor driven circulating pumps, four heat exchangers (HX), a surge tank, valves, piping, instrumentation and controls. Cooling water flows from the cooled components to the HXs from a single header. From the four HXs, the flow goes to the three pumps through a single header and back to the cooled components. The surge tank is connected at the suction header of the pumps. Heat is transferred from the CCW system to the Raw Water (RW) system via the CCW HXs. CCW flows through the shell side and RW flows through the tube side of the HXs. The rejected heat is then discharged by the RW system to the Missouri River.

FCS Technical Specification (TS) 2.4 requires that "The reactor shall not be made critical, except for low-temperature physics tests, unless all the following are met:" and includes all three CCW pumps.

**EVENT DESCRIPTION**

Condition Report (CR) 2012-03254 identified issues related to the CCW pumps operating outside of the manufacturer's recommendations. As a result a team was assembled to evaluate the condition. The team reviewed historical documentation and operating data. The evaluation concluded that the CCW pumps have been operating past the end of their pump curves for periods of time beginning in late 1996. This was due to the actions FCS implemented in response to NRC Generic Letter (GL) 96-06. The action was to increase the overpressure on the CCW surge tank AC-2 and, as a result, the CCW system pressure also increased. This action resulted in increasing the pump flows past the manufactures recommendations.

Although the CCW pumps were operating beyond their pump curves with the motor running into the service factor, runout conditions were not observed as there were no fluctuations in pressure, no fluctuations in motor amps, no visible signs of pitting or damage on impeller vain trailing, no damage to internal pump casing surfaces, no abnormal vibration, and no abnormal noise. A review of this condition determined that operation in this condition is a violation of FCS TS 2.4 for CCW operation due to the flow being outside of the manufactures recommendations. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B).

**CONCLUSION**

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

**CORRECTIVE ACTIONS**

Interim action:

On 05/07/2012 the CCW System Engineer, after discussion of the issue with the Shift Manager, issued the following recommendation:

The CCW System Engineer has recommended limiting CCW System single pump flow to 5300 to ensure CCW Pump operation below the end of the pump curve. If greater CCW system flow is required to meet CCW system heat load requirements, it is recommended that the Control Room start and run a second CCW Pump. This recommendation will remain in effect until actions associated with CR 2012-03254 are complete and any subsequent procedure changes have been issued. This recommendation applies to normal operations only and is not intended to change or affect Operator response to any accident or off normal plant event."

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE		
Fort Calhoun Station	05000285	YEAR	SEQUENTIAL NUMBER	REV NO.	3	OF	3
		2012	-	006			

**NARRATIVE**

This recommendation placed the CCW single pump operations back into the region defined by the manufacturer's certified curve for normal operations.

A cause analysis is in progress. The results of the analysis 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 not 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.

LICENSING CORRESPONDENCE REVIEW FORM

LIC-12-0090

Date Issued: 6/20/12

Requested Return Date: 6/22/12

Review/Approval		Information	
Dave Bannister		Lynn Smith	
Susan Baughn			
J. Herman			
S. Miller			
Mike Cooper			
S. Swearngin			
C. Cameron			

Subject LER 2012-006 "Operation of Component Cooling Pumps Outside of Manufacturers Recommendation"

Please review and approve the attached draft correspondence (referenced above). In order to document your review for our records, please sign this form and return it to the Licensing Coordinator. If no notification is received by the requested return date, your concurrence with no comment will be assumed.

\_\_\_\_\_  
 Technical Coordinator (Ext.)

E. Matzke 6855  
 Licensing Coordinator (Ext.)

Approved with no comment.       Approved pending resolution of comments as noted.

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_  
 Reviewer's Signature

\_\_\_\_\_  
 Date

LICENSING CORRESPONDENCE REVIEW FORM SUMMARY

**LIC-12-0090**

Date Issued: 6/20/12

Requested Return Date: 6/22/12

Name	Date Comments Received	No Comments <sup>1</sup>	Comments - How Resolved <sup>2</sup>
Dave Bannister	6/24/12		Discussed and resolved
Susan Baughn	6/24/12		Corrected
J. Herman	None		
S. Miller	None		
S. Swearngin	6/23/12	X	
C. Cameron	6/24/12		Corrected
Lynn Smith	None		
Mike Cooper	None		

Subject: LER 2012-006 "Operation of Component Cooling Pumps outside of the Manufacturers Recommendation"	
<b>NOTE</b> – This submittal does ____ does not <u>X</u> include documents/files on CD-ROM. <sup>3</sup>	
NL Comment Coordinator Signature E. Matzke	Date 6/25/12
Responsible Dept. Manager (if required)	Date
Review by Nuclear Licensing Supervisor	Date

<sup>1</sup> Attach only signed Licensing Correspondence Review Form.

<sup>2</sup> Attach necessary documentation.

<sup>3</sup> Ensure that the CD-ROM files are formatted properly for electronic information exchange (EIE) to the NRC. (Reference NL-17)