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

LIC-12-0039
April 10, 2012

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

References: 1. Docket No. 50-285
2. Letter from OPPD (D. J. Bannister) to NRC (Document Control Desk) dated March 1, 2012 (LIC-12-0022)

Subject: Licensee Event Report 2012-001, Revision 0, for the Fort Calhoun Station

Please find attached Licensee Event Report 2012-001, Revision 0, dated April 10, 2012. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(v)(B) and (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 /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

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 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.

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

Inadequate Flooding Protection Procedure

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
2	10	2012	2012	- 001 -	0	4	10	2012	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)	☐ 20.2203(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)
☐ 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)
☐ 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

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
6	15	2012

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

During a review of the station's procedures for responding to external flooding conditions, it was determined that the guidance is not adequate to mitigate a design basis flood event (1014 feet mean sea level (msl)).

A root cause analysis is in progress. Following completion of the cause analysis a revision to this LER will be submitted to provide the results of the analysis.

Compensatory actions have been identified and are being implemented. Additional corrective actions are being evaluated.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Fort Calhoun Station	05000285	2012	- 001	- 0	2 OF 3

NARRATIVE

BACKGROUND

As a result of a Nuclear Regulatory Commission (NRC) inspection conducted from January 1 to June 21, 2010, the NRC determined that Fort Calhoun Station (FCS) did not have adequate procedures to protect the intake structure and auxiliary building against external flooding events. Specifically, contrary to Technical Specification 5.8.1.a, the station failed to maintain procedures for combating a significant flood as recommended by Regulatory Guide 1.33, Appendix A, section 6.w, "Acts of Nature." The NRC identified the following violation of NRC requirements associated with a yellow significance determination process finding in the mitigating systems cornerstone in inspection report 05000285/2010008 dated October 6, 2010:

> Technical Specification 5.8.1.a, "Procedures," states, "Written procedures and administrative policies shall be established, implemented, and maintained covering the following activities: (a) The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, 1978." NRC Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," Section 6, recommends procedures for combating emergencies and other significant events. Section 6.w, "Acts of Nature," includes, in part, procedures for combating floods.
>
> Contrary to Technical Specification 5.8.1.a, since 1978, written procedures and administrative policies were not maintained covering the applicable procedures recommended by NRC Regulatory Guide 1.33, Revision 2, Appendix A. Specifically, the licensee failed to maintain written procedures for combating a significant external flood as recommended by NRC Regulatory Guide, Appendix A, Section 6.w, "Acts of Nature." The licensee's written procedures did not adequately prescribe steps to mitigate external flood conditions in the Auxiliary Building and Intake Structure up to 1014 feet mean sea level, as documented in the Updated Final Safety Analysis Report [USAR].

The NRC reported that the station's flood protection strategy was not fully effective during worst-case Missouri River flooding scenarios. The strategy required workers to install floodgates in front of the doors to the plant's auxiliary building and intake structure, and then stack and drape sandbags over the top of the floodgates up to a height of five feet. The procedural guidance was inadequate because the cross-section on top of the floodgates would not support a stacked sandbag configuration that would retain five feet of moving water.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Fort Calhoun Station	05000285	2012	- 001 -	0	3 OF 3

NARRATIVE

EVENT DESCRIPTION

During an inspection of flood preparations by the NRC in response to NRC findings previously noted, it was determined that the guidance is not adequate to mitigate a design basis flood event (1014 feet mean sea level (msl)). As a result of the procedural inadequacies, the intake structure was vulnerable to water inflow during an extreme flooding event. This inflow had the potential to affect the operability of both trains of safety related raw water pumps (ultimate heat sink). As a result the station implemented the actions listed in the corrective actions below.

On February 10, 2012, an eight (8) hour report was made under 10 CFR 50.72 (b)(3)(ii)(B) to the NRC Headquarters Operation Office (HOO) at 1754 CST (Event Number (EN) 47658). After further evaluation this report is being made per 10 CFR 50.73(a)(2)(v)(B) and (D).

CONCLUSION

A root cause determination is in progress. The results of the evaluation will be published in a revision to this LER.

CORRECTIVE ACTIONS

Compensatory actions have been identified and were implemented.

1. The station revised AOP-01, Acts of Nature, Section I – Flood, and Attachment D, Flooding Protective Actions, and the Floating Step Monitoring Index. Corrections were made to add steps to provide alternate filling capability for maintaining Intake cell level.
2. Changes were also made to Operating Instruction OI-CW-1, “Circulating Water System Normal Operation,” to address deficiencies in controlling the circulating water system during design basis conditions.

Additional corrective actions will be made following completion of the cause evaluation.

SAFETY SIGNIFICANCE

The Fort Calhoun Station is required to be protected from flooding within the station’s licensing basis. The safety related equipment required to mitigate the consequences of an accident were affected by these findings. The openings could have jeopardized the ability of the safety related equipment to perform their design basis function during an accident. Other methods of removing decay heat and mitigating the consequences of a flooding event were available. Therefore, this external flooding concern has substantial importance to safety as indicated by the Yellow Finding issued for this event.

SAFETY SYSTEM FUNCTIONAL FAILURE

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

PREVIOUS EVENTS

LER 2011-003

LICENSING CORRESPONDENCE REVIEW FORM

LIC-12-0039

Date Issued: 4/2/12 **Requested Return Date:** **4/4/12**

Review/Approval		Information	
Dave Bannister		Lynn Smith	
Susan Baughn		Woody Goodell	
J. Herman		Brad Blome	
S. Miller			
Mike Cooper			
K. Hyde			
C. Cameron			

Subject___ Inadequate Flooding Protection Procedure

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.

_____ E. Matzke 6855
Technical Coordinator (Ext.) 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-12-0039

Date Issued: 4/2/12 Requested Return Date: 4/4/12

Name	Date Comments Received	No Comments[1]	Comments - How Resolved[2]
Dave Bannister	4/2/12		See sheet.
Susan Baughn			
J. Herman			
S. Miller	4/3/12		See email string
Mike Cooper			
Woody Goodell			
K. Hyde	4/2/12	X	
C. Cameron	4/*4/12		See sheet.
Lynn Smith			

Subject: Inadequate Flooding Protection Procedure	
NOTE – This submittal does ____ does not __X__ include documents/files on CD-ROM.[3]	
NL Comment Coordinator Signature E. Matzke	Date 04/10/12
Responsible Dept. Manager (if required)	Date
Review by Nuclear Licensing Supervisor	Date

[1] Attach only signed Licensing Correspondence Review Form.
[2] Attach necessary documentation.
[3] Ensure that the CD-ROM files are formatted properly for electronic information exchange (EIE) to the NRC. (Reference NL-17)