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

LIC-12-0072
June 1, 2012

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

Reference: Docket No. 50-285

Subject: Licensee Event Report 2012-005, Revision 1, for the Fort Calhoun Station

Please find attached Licensee Event Report 2012-005, Revision 1, dated June 1, 2012. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(i)(B), 50.73(a)(2)(ii)(B), 50.73(a)(2)(v)(B) and (D), and 50.73(a)(2)(vii). If you should have any questions, please contact me.

The following commitments are being made in this letter.

1. Prior to plant restart, the Emergency Diesel Generator (EDG) surveillance tests will be revised to perform a test of the fuel oil transfer pumps ensuring auto operation is verified on a monthly basis. This is an ongoing commitment.

2. Prior to plant restart, the EDG design basis document will be updated to include verification information for the diesel generator fuel oil transfer pumps. This is a one-time commitment.

Sincerely,

J. R. Goodell
Division Manager Nuclear Perform Improvement & Support

JDG/sds/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 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 4

4. TITLE

Technical Specification Violation Due to Inadequate Testing of Emergency Diesel Fuel Pumps

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
02	21	2012	2012	- 005 -	1	06	01	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)
- ☐ 20.2201(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 February 21, 2012, during a review of Fort Calhoun Station surveillance procedures, it was identified that the Emergency Diesel Generator (EDG) fuel oil transfer pumps have not been tested in accordance with the requirements of Technical Specifications (TSs). The inadequate testing was caused by a procedure change made in 1990 that removed the required monthly test of the automatic low level start feature of the fuel oil transfer pumps. There is reasonable assurance that the EDGs and fuel transfer pumps would function as required as the low level switches are calibrated on a refueling frequency.

The apparent cause of this event is a lack of technical rigor in the procedure change process employed in 1990s.

Corrective actions have been developed to revise the EDG surveillances to include fuel oil transfer pump surveillance testing.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Fort Calhoun Station	05000285	2012	- 005	- 01	2 OF 4

NARRATIVE

BACKGROUND

The Emergency Diesel Generators (EDGs) fuel oil transfer pumps are skid mounted electric pumps located next to each of the EDGs. There are two pumps for each EDG. Each EDG has a suction pipe from the diesel generator fuel oil storage tank (FO-1). The fuel oil transfer pumps for each EDG draw fuel from the suction pipe for the respective EDG. Each EDG has a wall mounted fuel oil day tank that is supplied by the fuel transfer pumps. The day tanks have level indication on the outside of the tank, a manual drain valve on the bottom of the tank, a vent, and an overflow line that goes back to F0-1. Each day tank also has four level switches, high and high-high level switches, and low and low-low level switches. The fuel oil transfer pumps have three control switches. Each pump has a three-position switch with positions HAND, OFF, and AUTO. There is also a two-position selector switch with positions labeled NO 1 and NO 2.

During normal operation, the control switches for each fuel oil transfer pump are placed in AUTO and the selector switch is placed in the NO 1 position. In this arrangement, when the day tank low level switch actuates, the number 1 fuel oil transfer pump energizes to fill the tank. In the event that the number 1 fuel oil transfer pump fails to operate, the low-low level switch will start the number 2 fuel oil transfer pump. With the selector switch in the NO 2 position, the number 2 fuel oil transfer pump would start on low level and the number 1 pump would start on low-low level.

The original Fort Calhoun Station (FCS) Technical Specifications (TSs) issued May 24, 1973, included a requirement to test the diesel generator fuel oil transfer pumps monthly. Monthly fuel oil transfer pump testing is currently required by TS 3.7(1)e. and Table 3-2, Item 12.

EVENT DESCRIPTION

During a review of surveillance procedures, a failure to perform complete surveillance testing of the full automatic functions of the EDG fuel oil transfer pumps was identified (Condition Report (CR) 2012-01324). However, procedure changes made in 1990 removed the test of the automatic start of the fuel oil transfer pumps on low level in the fuel oil day tank. Consequently, the EDGs cannot be considered operable because all auxiliary equipment to support operability has not demonstrated that it is fully capable of performing its safety function. This report is being made per 10 CFR 50.73(a)(2)(i)(B), 50.73(a)(2)(ii)(B), 50.73(a)(2)(v)(B) and (D), and 50.73(a)(2)(vii).

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Fort Calhoun Station	05000285	2012	- 005 -	01	3 OF 4

NARRATIVE

CONCLUSION

Prior to 1989, fuel oil transfer pump testing was included in the EDG surveillance procedures. The cause evaluation identified that the specific procedure steps to test the automatic start of the fuel oil transfer pumps on low level was removed by a procedure revision made in May 1990. Fuel oil transfer pump trip on high level remained in the procedure. The procedure change was prompted by a modification that replaced the fuel transfer pumps and added pressure gauges and flow rate meters. Other procedure changes not pertinent to the modification were made at the same time. The additional changes included fully removing steps to place the fuel oil transfer pump transfer switches in AUTO for the purpose of testing. By operating the fuel oil transfer pumps in HAND, the length of the monthly EDG run would be shortened. The procedure revision summary did not provide discussion on the changes made beyond the scope of the modification. The FCS EDG configuration results in unavailability hours under the maintenance rule during surveillance testing, so reducing EDG run time would reduce unavailability time. The change was made 22 years ago, making it very difficult to reconstruct thoughts and discussions surrounding the procedure change. Clearly, there was a lack of understanding surrounding the purpose of the testing of the auto start feature of the fuel oil transfer pump, but there is no indication that the change was made to violate or circumvent TS requirements.

Several historical organizational and/or programmatic defenses may have failed. The procedure revision process used in the 1990s did not have the technical rigor that is currently employed at FCS. In addition, the surveillance test program does not clearly link surveillance requirements to specific surveillance tests. Furthermore, the design basis document for the EDGs does not currently contain sufficient information on fuel oil transfer pump testing and verification.

The procedure changes made in 1990 removed the test of the automatic start of the fuel oil transfer pumps on low level in the EDG day tank. Without full testing of the automatic functions of the fuel oil transfer pumps, they cannot be considered operable. Consequently, the EDGs cannot be considered operable because all auxiliary equipment to support operability has not demonstrated that it is fully capable of performing its safety function.

The apparent cause of this event is a lack of technical rigor in the procedure change process employed in the 1990s.

Contributing causes are a lack of documentation indicating which surveillance tests satisfy specific technical specification surveillance requirements, and a lack of design basis information on verification methods for the fuel oil transfer pumps.

1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE
		YEAR	SEQUENTIAL NUMBER	REV NO.	
Fort Calhoun Station	05000285	2012	- 005	- 01	4 OF 4

NARRATIVE

CORRECTIVE ACTIONS

1. Prior to plant restart, the Emergency Diesel Generator (EDG) surveillance tests will be revised to perform a test of the fuel oil transfer pumps ensuring auto operation is verified on a monthly basis. This is an ongoing commitment.

2. Prior to plant restart, the EDG design basis document will be updated to include verification information for the diesel generator fuel oil transfer pumps. This is a one-time commitment.

SAFETY SIGNIFICANCE

Failure to fully test the automatic functions of the fuel oil transfer pumps renders the pumps inoperable. Therefore, consistent with the definition of OPERABLE, the EDGs cannot be considered operable as they rely upon the fuel oil transfer pumps to ensure an adequate fuel supply when the EDGs are performing their safety function. The EDGs have been technically inoperable in excess of TS allowed times. However, there is reasonable assurance that the EDGs and fuel transfer pumps would function as required as the low level switches are calibrated on a refueling frequency.

SAFETY SYSTEM FUNCTIONAL FAILURE

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

PREVIOUS EVENTS

No previous events of a similar nature have been identified.

LICENSING CORRESPONDENCE REVIEW FORM

LIC-12-0072

Date Issued: 5/23/12 **Requested Return Date: 5/25/12**

Review/Approval		Information	
Susan Baughn		Dave Bannister	
John Herman		Woody Goodell	
Steve Miller		Brad Blome	
Mike Smith		Mike Prospero	
Corey Cameron			
Scott Pallas			
Kevin Naser			

Subject LER 2012-005 Rev 1 "TS violation due to inadequate testing of DG fuel pumps"

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.

_____ Erick Matzke/Sue Simpson 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-12-0072

Date Issued: 5/23/12 Requested Return Date: 5/25/12

Name	Date Comments Received	No Comments[1]	Comments - How Resolved[2]
Susan Baughn	5/23/12		Corrected
John Herman	none		
Steve Miller	5/27/12	X	
Mike Smith	none		
Corey Cameron	5/31/12		Corrected
G. Papanic	5/24/12		Corrected
Kevin Naser	none		
Dave Bannister	none		
Woody Goodell	none		
Brad Blome	none		
Mike Prospero	none		
M. Cooper	5/31/12		Corrected
M. Edwards	5/31/12		Corrected

Subject: LER 2012-005 Rev 1 "Failure to Perform Monthly EDG Fuel Oil Transfer Auto Test"	
NOTE – This submittal does ____ does not __X__ include documents/files on CD-ROM.[3]	
NL Comment Coordinator Signature	Date
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)