



**Nebraska Public Power District**

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NLS2008008  
January 25, 2008

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555-0001

Subject: Licensee Event Report No. 2007-007-00  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this correspondence is to forward Licensee Event Report 2007-007-00.

Sincerely,

Michael J. Colomb  
General Manager of Plant Operations

/bk

Attachment

cc: Regional Administrator w/attachment USNRC - Region IV	NPG Distribution w/attachment
Cooper Project Manager w/attachment USNRC - NRR Project Directorate IV-1	INPO Records Center w/attachment
Senior Resident Inspector w/attachment USNRC - CNS	SORC Administrator w/attachment
SRAB Administrator w/attachment	CNS Records w/attachment

ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS©

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Correspondence Number: NLS2008008

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None		

**LICENSEE EVENT REPORT (LER)**

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

Estimated burden per response to comply with this mandatory information collection request: 80 hrs. Reported lessons learned are incorporated into the licensing process and fed back to industry. Forward comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@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 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**

Cooper Nuclear Station

**2. DOCKET NUMBER**

05000298

**3. PAGE**

1 of 4

**4. TITLE**

Damaged Lead on Emergency Filter System Fan Motor Results in Loss of Safety Function

**5. EVENT DATE**

MONTH	DAY	YEAR
12	03	2007

**6. LER NUMBER**

YEAR	SEQUENTIAL NUMBER	REVISION NUMBER
2007	- 007 -	00

**7. REPORT DATE**

MONTH	DAY	YEAR
01	25	2008

**8. OTHER FACILITIES INVOLVED**

FACILITY NAME	DOCKET NUMBER
	05000
FACILITY NAME	DOCKET NUMBER
	05000

**9. OPERATING MODE**

1

**10. POWER LEVEL**

100

- 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 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 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 |

**12. LICENSEE CONTACT FOR THIS LER**

**FACILITY NAME**

David W. Van Der Kamp, Licensing Manager

**TELEPHONE NUMBER (include Area Code)**

(402) 825-2904

**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	JH	MO	Magnetek-Louis Allis Co.	NO					

**14. SUPPLEMENTAL REPORT EXPECTED**

YES (If yes, complete EXPECTED SUBMISSION DATE).  NO

**15. EXPECTED SUBMISSION DATE**

MONTH DAY YEAR

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

On December 3, 2007, the Control Room Emergency Filter (CREF) System was inoperable for preventive maintenance when motor leads for the control room exhaust booster fan, a required support feature for the CREF System, were found degraded. At 20:51 Central Standard Time, although the control room exhaust booster fan had been operating prior to being secured for preventive maintenance, it was determined the CREF System may not perform its safety function due to the degraded condition of the fan motor leads. Immediate action was taken to replace the control room exhaust booster fan motor. The CREF System was returned to operable status at 17:48 on December 4, 2007.

The condition was caused by inadequate preventive maintenance to ensure reliability of the control room exhaust booster fan motor. A corrective action to prevent recurrence is being tracked to implement a routine preventive maintenance plan for the control room exhaust booster fan.

This event was not risk significant.

## LICENSEE EVENT REPORT (LER) CONTINUATION SHEET

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Cooper Nuclear Station	05000298	YEAR	SEQUENTIAL NUMBER	REVISION	2 of 4
		2007	-	007	

17. NARRATIVE (If more space is required, use additional copies of Form 366A)

### PLANT STATUS

Cooper Nuclear Station (CNS) was in Mode 1 at 100 percent, steady state power at the time of this event.

### BACKGROUND

The Control Room Emergency Filter (CREF) System [EIIS:JH] provides a radiologically controlled environment from which control room personnel can safely operate the plant following a design basis accident. The CREF System is a single train, standby safety system consisting of a filter train [EIIS:FLT], a supply fan [EIIS:FAN], an emergency booster fan, and an exhaust booster fan.

Upon receipt of an initiation signal, the CREF System automatically switches to the emergency bypass mode of operation. A system of dampers [EIIS:DMP] isolates the control room. The emergency booster fan starts and draws air in from the outside where it is also routed through the filter system before entering the control room air conditioning ductwork [EIIS:DUCT]. The exhaust booster fan discharges the return air downstream of the control room envelope to the suction of the main control room air conditioning unit [EIIS:ACU]. This method maintains the control room at positive pressure to prevent infiltration of contaminated air from surrounding buildings and the outside atmosphere.

The control room exhaust booster fan is normally in operation at all times. It is driven by an electric motor [EIIS:MO] and is capable of exhausting the required air flow from the control room.

### EVENT DESCRIPTION

On December 3, 2007, the plant was in Mode 1, in day one of a seven-day shutdown action statement of Limiting Condition for Operation (LCO) 3.7.4. The CREF System was inoperable for scheduled maintenance. While performing maintenance on the control room exhaust booster fan, a required support feature for the CREF System, the motor terminal box was found loose on the fan motor. The cover was removed to tighten the terminal box and the leads for one phase of the fan motor were found degraded. Although the control room exhaust booster fan had been in service prior to being secured for preventive maintenance and had no previous failures, it was determined at 20:51 the physical condition of the fan motor leads may not support the required safety function of the CREF System.

The control room exhaust booster fan motor was replaced and post-work testing completed. As part of the extent of condition, the motor leads on the control room

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17. NARRATIVE (If more space is required, use additional copies of Form 366A)

emergency booster fan motor were also inspected. Those leads and motor were found in good condition. The CREF System was returned to operable status at 17:48 on December 4, 2007, and LCO 3.7.4, Condition A was exited.

Further analysis was performed and concluded the probable cause of this condition was the continuous operation of the control room exhaust booster fan motor with a motor lead conductor that had damaged wire strands. The strands were likely broken during original installation of the wire lugs by the vendor in 1974. The damaged strands created a localized high resistance spot in the conductor where heat was generated. In turn, the heat caused the failure of additional, adjacent strands during the 34-year service life of the fan motor.

#### BASIS FOR REPORT

This is reportable under 10 CFR 50.73(a)(2)(v)(D) as a condition which could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident.

#### SAFETY SIGNIFICANCE

This event is not considered to be risk significant. The CREF System is not credited in the CNS internal events probabilistic risk assessment model. Therefore, the impact on core damage probability as a result of the unavailability of the CREF System is determined to be below levels established for risk significance.

This event is considered a safety system functional failure as defined in Nuclear Energy Institute 99-02 Revision 5, Regulatory Assessment Performance Indicator Guideline.

#### CAUSE

The preventive maintenance plan for the control room exhaust booster fan motor was inadequate. The preventive maintenance plan required a visual inspection of the motor and lubrication of the motor bearings; however, there was no regular maintenance program established to ensure reliability of the motor.

#### CORRECTIVE ACTION

A corrective action to prevent recurrence of this condition is being tracked in the CNS corrective action program to implement a routine preventive maintenance plan to ensure reliability of the control room exhaust booster fan. Additionally, a corrective action has been initiated to implement a similar preventive maintenance plan for the control room emergency booster fan.

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PREVIOUS EVENTS

There have been no related reportable events.