



**Nebraska Public Power District**

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NLS2017002  
February 2, 2017

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

Subject: Licensee Event Report No. 2016-009-00  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this correspondence is to forward Licensee Event Report 2016-009-00.

There are no new commitments contained in this letter.

Sincerely,

Kenneth Higginbotham  
Vice President Nuclear-  
Chief Nuclear Officer

/jo

Attachment: Licensee Event Report 2016-009-00

|  |  |
|--|--|
| cc: Regional Administrator w/attachment<br>USNRC - Region IV                 | NPG Distribution w/attachment                      |
| Cooper Project Manager w/attachment<br>USNRC - NRR Plant Licensing Branch IV | INPO Records Center w/attachment<br>via ICES entry |
| Senior Resident Inspector w/attachment<br>USNRC - CNS                        | SORC Chairman w/attachment                         |
| SRAB Administrator w/attachment  | CNS Records w/attachment                           |

IEZZ  
NRR



**LICENSEE EVENT REPORT (LER)**

(See Page 2 for required number of digits/characters for each block)

(See NUREG-1022, R 3 for instruction and guidance for completing this form  
<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1022/r3/>)

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 and Information Collections Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to [Infocollects.Resource@nrc.gov](mailto: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**

Cooper Nuclear Station

**2. DOCKET NUMBER**

05000298

**3. PAGE**

1 of 4

**4. TITLE**

Control Room Emergency Filter System Fan Removed from Service Due to Human Error Results in Loss of Safety Function

| 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 |
| 12            | 07  | 2016 | 2016          | 009               | 00      | 02             | 02  | 2017 | FACILITY NAME                | DOCKET |
|               |     |      |               |                   |         |                |     |      |                              | 05000  |
|               |     |      |               |                   |         |                |     |      | FACILITY NAME                | DOCKET |
|               |     |      |               |                   |         |                |     |      |                              | 05000  |

| 9. OPERATING MODE | 11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) |   |   |   |
|-------------------|---|---|---|---|
| 1                 | <input type="checkbox"/> 20.2201(b)   | <input type="checkbox"/> 20.2203(a)(3)(i)   | <input type="checkbox"/> 50.73(a)(2)(ii)(A)           | <input type="checkbox"/> 50.73(a)(2)(viii)(A) |
|                   | <input type="checkbox"/> 20.2201(d)   | <input type="checkbox"/> 20.2203(a)(3)(ii)  | <input type="checkbox"/> 50.73(a)(2)(ii)(B)           | <input type="checkbox"/> 50.73(a)(2)(viii)(B) |
|                   | <input type="checkbox"/> 20.2203(a)(1)  | <input type="checkbox"/> 20.2203(a)(4)      | <input type="checkbox"/> 50.73(a)(2)(ii)              | <input type="checkbox"/> 50.73(a)(2)(ix)(A)   |
|                   | <input type="checkbox"/> 20.2203(a)(2)(i)   | <input type="checkbox"/> 50.36(c)(1)(i)(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)(ii)  | <input type="checkbox"/> 50.36(c)(1)(ii)(A) | <input type="checkbox"/> 50.73(a)(2)(v)(A)            | <input type="checkbox"/> 73.71(a)(4)          |
| 10. POWER LEVEL   | <input type="checkbox"/> 20.2203(a)(2)(iii)   | <input type="checkbox"/> 50.36(c)(2)        | <input type="checkbox"/> 50.73(a)(2)(v)(B)            | <input type="checkbox"/> 73.71(a)(5)          |
|                   | <input type="checkbox"/> 20.2203(a)(2)(iv)  | <input type="checkbox"/> 50.46(a)(3)(ii)    | <input type="checkbox"/> 50.73(a)(2)(v)(C)            | <input type="checkbox"/> 73.77(a)(1)          |
|                   | <input type="checkbox"/> 20.2203(a)(2)(v)   | <input type="checkbox"/> 50.73(a)(2)(i)(A)  | <input checked="" type="checkbox"/> 50.73(a)(2)(v)(D) | <input type="checkbox"/> 73.77(a)(2)(i)       |
|                   | <input type="checkbox"/> 20.2203(a)(2)(vi)  | <input type="checkbox"/> 50.73(a)(2)(i)(B)  | <input type="checkbox"/> 50.73(a)(2)(vii)             | <input type="checkbox"/> 73.77(a)(2)(ii)      |
|                   | <input type="checkbox"/> 50.73(a)(2)(i)(C)  | <input type="checkbox"/> OTHER              | Specify in Abstract below or in NRC Form 366A         |   |

**12. LICENSEE CONTACT FOR THIS LER**

LICENSEE CONTACT: Jim Shaw, Licensing Manager  
TELEPHONE NUMBER (Include Area Code): (402) 825-2788

**13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT**

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | TO EPIX |
|-------|--------|-----------|--------------|--------------------|-------|--------|-----------|--------------|---------|
| A     | JH     | FAN       |              | Y                  |       |        |           |              |         |

**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 December 7, 2016, the Control Room Emergency Filtration System (CREFS) was inadvertently removed from service during the conduct of a scheduled surveillance activity performed by a Control Room Operator. Consequently, Operations declared CREFS inoperable at 22:40 hours. Investigation revealed that the running CREFS supply fan had been turned off in error during the conduct of a surveillance procedure. Upon discovery of this, Operations returned the supply fan to service and declared CREFS operable at 22:47 hours. Event Notification 52416 was made to the Nuclear Regulatory Commission Operations Center.

The root cause was attributed to human error.

To prevent recurrence, applicable operations procedures will be revised to require peer checking during normal operations for all Control Room manipulations directed by these procedures.

This is a Safety System Functional Failure.

NRC FORM 366  
(11-2015)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104

EXPIRES: 10/31/2018

**LICENSEE EVENT REPORT (LER)**

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|------------------------|------------------|---------------|-------------------|---------|
|                        |                  | YEAR          | SEQUENTIAL NUMBER | REV NO. |
| Cooper Nuclear Station | 05000- 298       | 2016          | - 009             | - 00    |

**NARRATIVE****PLANT STATUS**

Cooper Nuclear Station was in Mode 1, Power Operations, at 100 percent power, at the time of the event.

**BACKGROUND**

The Control Room Emergency Filter System (CREFS) [EIS:JH] is designed to provide a radiologically controlled environment to ensure the habitability of the control room for the safety of control room operators under all plant conditions. The CREFS is a standby system. The instrumentation and controls for the CREFS automatically isolate the normal ventilation intake and initiate action to pressurize the main control room and filter incoming air to minimize the infiltration of radioactive material into the control room environment.

The safety related function of CREFS includes a single high efficiency air filtration system for emergency treatment of outside supply air and a Control Room Envelope boundary that limits the inleakage of unfiltered air. The system consists of a prefilter, a high efficiency particulate air filter [EIS:FLT], an activated charcoal adsorber [EIS:ADS] section, a supply fan [EIS:FAN], an emergency booster fan, an exhaust booster fan, and the associated ductwork [EIS:DUCT], valves [EIS:V] or dampers [EIS:DMP], doors [EIS:DR], barriers, and instrumentation.

Technical Specifications (TS) 3.7.4 requires one supply fan to be Operable to support CREFS Operability.

**EVENT DESCRIPTION**

On December 7, 2016, at 22:20 hours, a Control Room Operator (Operator) was performing the Division 1 Essential Control Building Ventilation functional test (surveillance procedure). The first step in the procedure directs the Operator to remove the non-essential control building Heating Ventilating Air Conditioning (HVAC) system from service per the operating procedure for the HVAC Control Building. This requires the Operator to place the standby control building supply fan to OFF (SF-C-1A-A or SF-C-1A-B), then place the running control building supply fan to OFF (SF-C-1A-A or SF-C-1A-B). The Operator completed these steps correctly. The next steps are to place the control building recirculation fans RF-C-1A and RF-C-1B to OFF, respectively. The Operator instead turned off the CREFS supply fan SF-C-1A rather than the control building recirculation fan RF-C-1A. Not aware of the error, the Operator proceeded to the next step to turn off RF-C-1B. The Operator determined this step was complete when he noted the CREFS supply fan SF-C-1B was already OFF; although this step directs that RF-C-1B, control building recirculation fan be placed to OFF.

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| Cooper Nuclear Station | 05000- 298       | 2016          | - 009             | - 00    |

**NARRATIVE**

During the conduct of surveillance procedure for Division 1 Essential Control Building Ventilation, actions are completed to validate that the non-essential control building ventilation fans will not run while the essential control building ventilation system is running. This is accomplished by attempting to start the control building non-essential ventilation system supply fans and recirculation fans while the essential control building ventilation system is running and verifying that the non-essential fans do not start.

The Operator is directed to place the switches for the control building recirculation fans in RUN to check that they do not start. However, during this event, the switches for the recirculation fans were already in RUN, as they were not correctly placed in OFF when the control building non-essential ventilation system was removed from service. The Operator noted these fans were in RUN and that the fans were not running, as displayed by the indicator lights. The Operator proceeded and completed the surveillance procedure and reported to the Control Room Supervisor (CRS) that the surveillance procedure was completed satisfactorily with no issues.

Shortly after completion of the surveillance procedure, the CRS noted that the Control Room was becoming warmer and directed the Work Control Operator (WCO) to perform an independent review of the back panel controls that were manipulated during the conduct of the surveillance procedure. The WCO reported to the CRS that both CREFS supply fans were in OFF. The CRS verified the position of the CREFS supply fans and declared CREFS inoperable at 22:40 hours and entered TS Limiting Condition for Operation (LCO) 3.7.4. The CREFS supply fan SF-C-1A was placed in RUN at 22:47 hours, CREFS was declared operable, and the LCO exited.

**BASIS FOR REPORT**

This event is reportable in accordance with 10 CFR 50.73(a)(2)(v)(D) as a condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to mitigate the consequences of an accident. Event Notification 52416 was made to the Nuclear Regulatory Commission Operations Center.

**SAFETY SIGNIFICANCE**

This is a Safety System Functional Failure.

The Safety Significance of this event is low. The CREFS was briefly out of service when the running supply fan was turned OFF in error during performance of a Surveillance Procedure. CREFS was restored to service when the supply fan was turned on about 20 minutes after it was inadvertently secured. Both CREFS supply fans were available throughout the event.

This event did not cause an impact to the safety of the general public, nuclear safety, industrial safety or radiological safety.

NRC FORM 366  
(11-2015)

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|--|------------------|------------------|-----------------------------------|------------------------|
| Cooper Nuclear Station   | 05000- 298       | YEAR<br><br>2016 | SEQUENTIAL<br>NUMBER<br><br>- 009 | REV<br>NO.<br><br>- 00 |
| <b>NARRATIVE</b>   |                  |                  |                                   |                        |
| <b>CAUSE</b>   |                  |                  |                                   |                        |
| The root cause was attributed to human error.  |                  |                  |                                   |                        |
| <b>CORRECTIVE ACTIONS</b>  |                  |                  |                                   |                        |
| To prevent recurrence, applicable operations procedures will be revised to require peer checking during normal operations for all Control Room manipulations directed by these procedures.   |                  |                  |                                   |                        |
| <b>PREVIOUS EVENTS</b>   |                  |                  |                                   |                        |
| LER 2016-006-00 – On October 23, 2016, a high vibration on CREFS supply fan 'A' resulted in inoperability and a loss of safety function.   |                  |                  |                                   |                        |
| LER 2011-007-00 – On November 22, 2011, a drywell vacuum breaker was inadvertently opened when a rolling podium being used by a Control Room Operator made contact with the Master Control Switch for the Torus to Drywell Vacuum Breakers, resulting in a loss of safety function.  |                  |                  |                                   |                        |
| A previous similar event involving the inadvertent contact of a switch in the Control Room occurred on August 27, 2011. A Gaitronics handset was dropped and contacted the "A" side Automatic Depressurization System (ADS) inhibit switch. This contact was sufficient to move the switch from the AUTO position to the INHIBIT position. The CRS was immediately informed and direction was given to place the switch back to AUTO. The "B" side of the ADS remained operable thus maintaining safety function of the ADS. |                  |                  |                                   |                        |