



Nebraska Public Power District

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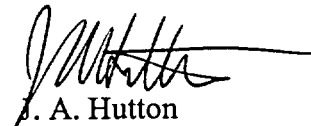
NLS2003045
April 28, 2003

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

Subject: Licensee Event Report No. 2003-001
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

The subject Licensee Event Report is forwarded as an enclosure to this letter.

Sincerely,



J. A. Hutton
Plant Manager

/rer
Enclosure

cc: Regional Administrator
USNRC - Region IV

Senior Project Manager
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector
USNRC

NPG Distribution

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Records

IE22

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LICENSEE EVENT REPORT (LER)

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

1. FACILITY NAME
Cooper Nuclear Station

2. DOCKET NUMBER
05000 298

3. PAGE
1 OF 5

4. TITLE
Inadequate Communication Results in Both Diesel Generators Inoperable Simultaneously

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MO	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO	MO	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	28	2003	2003	001	00	04	28	2003		05000
									FACILITY NAME	DOCKET NUMBER
										05000
9. OPERATING MODE		4		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check all that apply)						
10. POWER LEVEL		000		20.2201(b)		20.2203(a)(3)(ii)		50.73(a)(2)(ii)(B)		50.73(a)(2)(ix)(A)
				20.2201(d)		20.2203(a)(4)		50.73(a)(2)(iii)		50.73(a)(2)(x)
				20.2203(a)(1)		50.36(c)(1)(i)(A)		50.73(a)(2)(iv)(A)		73.71(a)(4)
				20.2203(a)(2)(i)		50.36(c)(1)(ii)(A)		50.73(a)(2)(v)(A)		73.71(a)(5)
				20.2203(a)(2)(ii)		50.36(c)(2)	X	50.73(a)(2)(v)(B)		OTHER Specify in Abstract below or in NRC Form 366A
				20.2203(a)(2)(iii)		50.46(a)(3)(ii)		50.73(a)(2)(v)(C)		
				20.2203(a)(2)(iv)		50.73(a)(2)(i)(A)	X	50.73(a)(2)(v)(D)		
				20.2203(a)(2)(v)		50.73(a)(2)(i)(B)		50.73(a)(2)(vii)		
				20.2203(a)(2)(vi)		50.73(a)(2)(i)(C)		50.73(a)(2)(viii)(A)		
				20.2203(a)(3)(i)		50.73(a)(2)(ii)(A)		50.73(a)(2)(viii)(B)		

12. LICENSEE CONTACT FOR THIS LER

NAME: Paul Fleming, Licensing Manager
TELEPHONE NUMBER (Include Area Code): 402-825-2774

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

14. SUPPLEMENTAL REPORT EXPECTED

YES (If yes, complete EXPECTED SUBMISSION DATE) X NO
15. EXPECTED SUBMISSION DATE: MONTH, DAY, YEAR

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

On February 28, 2003, at 0857 Central Standard Time (CST), with Cooper Nuclear Station (CNS) in cold shutdown, diesel generator (DG) 1 and DG2 were inoperable at the same time. The DGs are the standby source of emergency Alternating Current (AC) power. DG1 was inoperable at the time due to failure of the fuel oil transfer system to deliver required flow during a routine inservice test. DG2 was declared inoperable as a result of discovering that a time delay relay in the diesel room ventilation system had been in service in excess of its qualified life as stated by the manufacturer. Declaring the relay inoperable resulted in the diesel room ventilation system being inoperable. The diesel room ventilation is a required support system for the diesel generator.

Immediate corrective action was to replace the relay with one that was within its service life. DG2 was returned to operable status on February 28, 2003, at 1937 CST.

The relay qualified life issue has been entered into the CNS Corrective Action Program.

The root cause of this event is inadequate communication between the Operations and Engineering departments in that the possibility that analyses could be performed that would extend the qualified life of the relay was not communicated. Corrective actions to preclude recurrence are to establish, implement, and reinforce standards for formal communication between Operations and Engineering when preparing Operability Determinations.

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		2003	-- 001	-- 00	

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

PLANT STATUS

Cooper Nuclear Station (CNS) was in Mode 4 (Cold Shutdown) on February 28, 2003, at the time of this event. Reactor pressure was approximately 0 psig and reactor temperature was approximately 115 degrees Fahrenheit.

BACKGROUND

The purpose of the standby (emergency) Alternating Current (AC) power system [EIS: EK] is to provide a single failure proof source of on-site AC electrical power to plant components adequate for maintaining the safe shutdown of the reactor following abnormal operational transients and postulated accidents concurrent with loss-of-offsite power (LOOP). This system consists of two diesel generators (DG) [EIS: DG].

Each DG unit is housed in a reinforced concrete Class I Seismic structure, completely enclosed to provide independence from the other unit. Each DG has its own separate system for storing and transferring fuel oil [EIS: DE], consisting of a 2,500 gallon capacity day tank and a 30,000 gallon main storage tank, and a system for transferring fuel oil from the main storage tank to the day tank. Either DG is capable of starting and continuously operating under postulated accident conditions for a period of seven days using the fuel oil stored in these underground storage tanks.

During normal plant operation both DGs are in standby. A DG starts automatically on a loss of coolant accident (LOCA) signal (i.e. low reactor water level signal or high drywell pressure) or on loss of voltage on a critical bus. The DG automatically connects to its respective bus after off-site power is tripped as a consequence of critical bus loss of voltage or degraded voltage.

CNS Technical Specifications (TS) require that two DGs be operable when the plant is in Modes 1, 2, or 3, and that one DG be operable when the plant is in Modes 4 or 5.

EVENT DESCRIPTION

On February 28, 2003, at 0857 Central Standard Time (CST), with CNS in Mode 4 (Cold Shutdown), DG2 was declared inoperable due to loss of reasonable assurance of operability of the required supporting room ventilation system. DG1 had previously been declared inoperable because the flow rate in the fuel oil transfer system was below required capacity. With both DGs inoperable, CNS did not satisfy TS Limiting Condition for Operation 3.8.2, "AC Sources-Shutdown", and entered Condition B.

CNS had recently identified 35 Agastat relays that had been in service longer than the qualified life recommended by the manufacturer. CNS demonstrated by analysis that 34 of the identified relays remained capable of performing their safety function. The one exception was a relay in the DG2 room ventilation exhaust fan control circuit. Additional efforts to demonstrate that this relay could perform its safety function did not provide the operators with reasonable assurance of the relay's operability. This condition was corrected by replacing the relay. After the relay was replaced DG2 was declared operable at 1937 CST on February 28, 2003.

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BASIS FOR REPORT

The condition of having both DGs inoperable at the same time is reportable per 10 CFR 50.73(a)(2)(v)(B) and (D) as: Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat (B), or mitigate the consequences of an accident (D).

CAUSE

Root Cause: Inadequate communication between the Operations and Engineering departments regarding Operability Determination (OD) requirements. Basis: The inadequate communications involved failure by Engineering to inform Operations that analyses could have been performed that would demonstrate the qualified life of the relay in the DG2 ventilation system could be extended and was therefore operable.

DG1 was inoperable due to flow rate in the fuel oil transfer system being less than required. The cause of this low flow was determined to be a flow restriction at a strainer in the DG fuel oil transfer system. The strainer flow restriction was caused by the migration of particulate debris from the bottom of 'A' Fuel Oil Storage Tank. Review of the engine fuel filter differential pressure trend data identified an upward trend that began in September 2002. This suggests that the fuel transfer system fouling had been occurring for several months and was not the result of a sudden or instantaneous change.

DG2 was declared inoperable as a result of an Agastat time delay relay in the diesel room ventilation system being in service in excess of its qualified life as stated by the manufacturer. The apparent cause was direction from the former Engineering Environmental Qualification (EQ) Coordinator that the vendor recommended service life requirements could be removed from the Preventive Maintenance (PM) program. This problem with the Agastat relay involved a nonconformance of its service life with the qualified life as recommended by Agastat and not an actual inoperability. After the relay was replaced the relay that had been removed was successfully bench-tested and was sent to an independent testing facility which determined that the relay was capable of performing its safety function. Thus the relay was actually operable at the time of this event. The extent of condition for the Agastat relays is being addressed through the CNS Corrective Action Program (CAP).

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SAFETY SIGNIFICANCE

Although DG1 and DG2 were declared inoperable simultaneously, at no time were both of them unavailable at the same time to start and load. DG1 was unavailable for 8 hours 8 minutes during the time the clearances to replace the fuel oil filter elements were in place. DG2 was available to start and load at all times.

This condition was not risk significant because the minimum number of AC sources (offsite power circuits) required by technical specifications remained available to support the shutdown safety functions for the duration of the condition. Both the emergency transformer and the startup transformer remained available, along with at least one DG to provide emergency AC power. The fuel boundary, reactor coolant pressure boundary, and primary and secondary containment boundaries were not challenged by the plant configuration during the time this condition existed.

This condition is reportable per 10 CFR 50.73(a)(2)(v)(B) and (D) as: Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to remove residual heat, or mitigate the consequences of an accident. In accordance with guidance contained in NEI 99-02, Revision 2, Regulatory Assessment Performance Indicator Guideline, this condition is classified as a Safety System Functional Failure.

CORRECTIVE ACTIONS

Immediate Actions

1. The relay in DG-2 room ventilation system exhaust fan was replaced and DG-2 returned to operable status on February 28 at 1937.
2. Maintenance on the DG1 fuel oil transfer system was completed and DG1 was returned to operable status on March 2 at 0200.
3. The DG1 fuel oil transfer system problem and the plant relay qualified life issue were entered into the CNS CAP.

Long Term Actions

The following action addresses the failure of the OD process to correctly conclude that DG2 was operable which directly resulted in both DG1 and DG2 being declared inoperable. This action will be complete by June 30, 2003.

1. Establish, implement, and reinforce standards for formal communication between the Operations and Engineering departments when determining operability and developing associated OD documentation.

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The cause of DG1 being inoperable has been addressed by revising the frequency of inspection and cleaning of the strainers in the fuel oil transfer system such that blockage of the strainers due to debris will be detected before the strainers are blocked to a significant degree. Action to remove sediment from the fuel oil storage tanks is being tracked in the CNS CAP.

The cause of DG2 relay being declared inoperable will be addressed by establishing a service life for safety-related Agastat relays and revising the PMs for maintaining these relays within that service life. This action is being tracked in the CNS CAP.

PREVIOUS SIMILAR EVENTS

LER 93-035-02, "Both Diesel Generators declared inoperable due to incorrect relay setpoints resulting from inadequate procedure and implementation of vendor recommended checks", is related from a perspective of both DGs being inoperable at the same time. This event involved failure of a relay to operate at the correct voltage setpoint during performance of the monthly DG surveillance. This same failure was common to both diesel generators. The cause was attributed to inadequate management attention to programmatic processes and controls in not providing sufficient direction for proper maintenance.

LER 2000-012-00, "Human Error Results in automatic Engineered Safety Features Actuation", is related from the perspective of being a result of management failure to reinforce standards and expectations. This event involved load shedding of the Division I 4160Volt Critical Bus 1F. This load shedding caused various plant pumps and fans to trip, and resulted in CNS being in single-loop operation at 65% power. Load shedding of a 4160-volt critical bus was caused by a human error while performing undervoltage logic surveillance procedure relay calibration. The human error was attributed to inadequate supervision caused by management failure to reinforce standard and expectations.

CNS has previously encountered problems involving various aspects of ODs, such as failure to recognize when an OD was needed and inadequate OD. This has resulted in a recognition by CNS that there are programmatic problems in the area of OD. As a result this program is being addressed in The Strategic Improvement Plan (TIP) developed by CNS.

ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS

Correspondence Number: NLS2003045

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 NL&S Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
Establish, implement, and reinforce standards for formal communication between the Operations and Engineering departments when determining operability and developing associated Operability Determination documentation.	June 30, 2003