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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,

Plant Manager

/rer Enclosure

cc: Regional Administrator USNRC - Region IV

> Senior Project Manager USNRC - NRR Project Directorate IV-1

Senior Resident Inspector USNRC

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COOPER NUCLEAR STATION P O Box 98 / Brownville, NE 68321-0098 Telephone: (402) 825-3811 / Fax: (402) 825-5211 www.nppd.com

NRC FORM 366 (7-2001)			U.S.	NUCLEAR RE	GULA	TORY	APPR Estimation hours.	ted burden por Reported le y, Send com	ON er res sson	B NO. 3150-0 sponse to comply s learned are inco s regarding burde	104 with this ma proprated i in estimate	andaton nto the to the F	y inforr licensi Record	EXPIRE nation collect ng process a s Manageme	S 7-31-2004 ton request: 50 and fed back to ent Branch (T-6
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16. ABSTRACT	(Limit t	o 1400 sp	oaces,	i.e , approxima	ately 15	5 single	-spaced	d typewritte	n lu	nes)		01-1			
On F	ebruar	y 28, 2	003, a	at 0857 Cen	tral S	tanda	rd Tim	ie (CST),	, Wi at I	th Cooper N the same tin	luciear	Static P DG	on (C s are	e the	010
shut	down, (dby sou	liesel g	enera	itor (DG) 1 a nency Alterr	anu D nating		ent (A	C) power	ан . С	G1 was ino	perable	e at th	ie tin	ne due te	D
failu	re of th	e fuel o	il tran	sfer system	to de	eliver r	equire	ed flow d	urir	ng a routine	inservio	ce tes	t. D	G2 was	
decl	ared in	operabl	e as a	a result of d	iscov	ering t	hat a t	time dela	iy r	elay in the d	iesel ro	om v	entil	ation	
syst	em had	l been i	n serv	vice in exces	ss of i	its qua	alified	life as st	ate	d by the ma	nufactu	rer. I		aring the)
relay vent	/ inoper ilation i	rable re s a req	sulted	d in the dies support sys	el roc tem f	or the	diesel	n system I generat	or.	ang nopera	Die. Ti		5011	John	
lmm retu	ediate	correct operab	ive ac le sta	tion was to tus on Febr	repla uary 2	ce the 28, 20	relay 03, at	with one 1937 CS	tha ST.	at was withir	n its ser	vice I	ife.	DG2 wa	S
The	relay q	ualified	life is	sue has be	en en	tered	into th	ne CNS C	Cor	rective Actio	n Prog	ram.			
The dep of th impl whe	root ca artmen e relay ement, n prepa	ause of ts in tha was no and re aring O	this e at the ot con inforc perab	vent is inade possibility the nmunicated e standards ility Determi	equat nat ar . Cor i for fo inatio	e com nalyse: rective ormal ns.	imunio s coul e actio comm	cation be d be perf ons to pre nunication	twe form solu n b	een the Ope ned that wo ide recurren etween Ope	rations uld exte ce are rations	and I end th to est and I	Engi le qu tablis Engi	neering Ialified lit sh, neering	fe
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NRC FORM 366A (1-2001) U.S. NUCLEAR REGULATORY COMMISSION

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET		3. PAG	PAGE			
	0500000	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	0	05	E
Cooper Nuclear Station	05000298	2003	001	00	2	OP	5

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 [EIIS: 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) [EIIS: 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 [EIIS: 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.

NRC FORM 366A				U.S.	NUCL	EAR REGU	JLATORY COM	MISSION
LICENS	EE EVENT R	EPORT	(LEI	R)				
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Cooper Nuclear Station	05000298	2003		01		00	3 OF	5
17. NARRATIVE (If more space is required, use addit	ional copies of N	RC Form 36	56A)					
BASIS FOR REPORT								
The condition of having both DGs inoper 50.73(a)(2)(v)(B) and (D) as: Any event of safety function of structures or systems t consequences of an accident (D).	able at the sam or condition that hat are needed	e time is re could hav to remove	eporta e prev resid	able p vente lual h	er 10 d the eat (l) CFR fulfillmer B), or miti	nt of the igate the	
CAUSE								
Root Cause: Inadequate communication regarding Operability Determination (OD involved failure by Engineering to inform would demonstrate the qualified life of th was therefore operable.	between the O) requirements. Operations that e relay in the D	perations a Basis: Th analyses 32 ventilat	and E e inac could ion sy	ngine dequa l have ystem	ering ate co bee cou	departm ommunica n perform Id be exte	ents ations ned that ended and	
DG1 was inoperable due to flow rate in the of this low flow was determined to be a flow the strainer flow restriction was caused Oil Storage Tank. Review of the engine trend that began in September 2002. The occurring for several months and was not	he fuel oil transf low restriction a by the migratior fuel filter differe his suggests tha ot the result of a	er system t a strainer of particu ntial press t the fuel tr sudden or	being in the late d ure tr ransfe insta	g less e DG lebris rend c er sys antane	than fuel from data i tem eous	required oil transfe the botto dentified fouling ha change.	. The cause er system. om of 'A' Fuel an upward ad been	
DG2 was declared inoperable as a result system being in service in excess of its of was direction from the former Engineerin recommended service life requirements program. This problem with the Agastat qualified life as recommended by Agastat the relay that had been removed was su facility which determined that the relay w actually operable at the time of this even addressed through the CNS Corrective A	t of an Agastat (qualified life as s ng Environments could be remov relay involved a at and not an ac ccessfully bench vas capable of p it. The extent of Action Program	ime delay stated by the al Qualificated from the a nonconfoctual inoper h-tested are erforming f condition (CAP).	relay ne ma ation (e Pre orman rability nd wa its sa for th	in the anufac (EQ) (vention ce of y. Afte fety function fety function	e dies cture Coort ve Ma its st er the er the t to a unctio astat	sel room v r. The ap dinator th aintenance ervice life e relay wa an indepe on. Thus relays is	ventilation oparent cause at the vendor ce (PM) with the as replaced ndent testing the relay was being	3

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NRC FORM 366/ (1-2001)		EE EVENT R	EPORT	U.S.I	NUCLEAR RE	GULATORY COMMI	SSION
	1. FACILITY NAME	2. DOCKET		6. LER NUM	BER	3. PAGE	
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Cooper Nucle	ar Station	05000298	2003	001	00	- 4 OF	5
17. NARRATIVE	(If more space is required, use additional co	opies of NRC Form	366A)				
SAFE	TY SIGNIFICANCE						
Althou unava time t load a This o circuit for the availa coola the pl This o have residu NEI 9	ugh DG1 and DG2 were declared in ailable at the same time to start and he clearances to replace the fuel oil at all times. condition was not risk significant bec- ts) required by technical specification e duration of the condition. Both the ble, along with at least one DG to p int pressure boundary, and primary a ant configuration during the time thi condition is reportable per 10 CFR 5 prevented the fulfillment of the safe ual heat, or mitigate the consequence 9-02, Revision 2, Regulatory Asses	operable simuli load. DG1 was l filter elements cause the minim ons remained av e emergency tra rovide emerger and secondary of s condition exis 60.73(a)(2)(v)(B ty function of sti ces of an accide sment Performa	aneously, s unavailat were in pl num numb ailable to nsformer icy AC pow containme ted.) and (D) a ructures of nt. In acc ance Indic	at no time we ble for 8 hou ace. DG2 we er of AC so support the and the star wer. The fu nt boundari as: Any even r systems the ordance with ator Guideli	were both of urs 8 minute was available ources (offsit shutdown s rtup transfor iel boundary ies were not int or condition th guidance ine, this condition	them s during the e to start and e power afety functions mer remained , reactor challenged by on that could ed to remove contained in dition is	
Classi	CORRECTIVE ACTIONS	railure.					
1.	The relay in DG-2 room ventilation operable status on February 28 a	on system exhau at 1937.	ust fan wa	s replaced a	and DG-2 re	turned to	
2.	Maintenance on the DG1 fuel oil operable status on March 2 at 02	transfer system	was com	pleted and I	DG1 was rei	turned to	
3.	The DG1 fuel oil transfer system into the CNS CAP.	problem and th	e plant rel	ay qualified	life issue w	ere entered	
Long	Term Actions						
The fo opera comp	blowing action addresses the failure ble which directly resulted in both D lete by June 30, 2003.	e of the OD proc G1 and DG2 be	cess to con eing declar	rectly conc ed inoperal	lude that DG ble. This ac	2 was tion will be	
1.	Establish, implement, and reinfor Operations and Engineering depa associated OD documentation.	ce standards fo artments when	r formal c determinin	ommunicati g operabilit	ion between ly and develo	the oping	

Ani										
NRC FORM 366A (1-2001)				U.S. N	UCLEA	R REG	ULATOF	RY COMM	NISSIO)N
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	PACIENT NAME 2. DOCKET 0. LER NUMBER						,	J. FAG	<u> </u>	
Cooper Nuclear Station	05000208	YEAR		NUMBER	NU	MBER		05	E	
	05000290	2003	-	001	-	00		Ur	5	
17. NARRATIVE (If more space is required, use additional c	ATIVE (If more space is required, use additional copies of NRC Form 366A)									
The cause of DG1 being inoperable has cleaning of the strainers in the fuel oil tra- will be detected before the strainers are b from the fuel oil storage tanks is being tra The cause of DG2 relay being declared in safety-related Agastat relays and revising	been addressed nsfer system su plocked to a sign acked in the CN noperable will b g the PMs for m	I by revisin ich that blo nificant deg S CAP. e addresse aintaining	ng ti ocka gre ed l the	he freque age of the e. Action by establi se relays	ency o e strain to ren shing withir	f inspe ners du move s a serv n that s	ction a ue to d sedime rice life service	and ebris ent for life.		
PREVIOUS SIMILAR EVENTS	;ap.									
LER 93-035-02, "Both Diesel Generators from inadequate procedure and impleme perspective of both DGs being inoperable operate at the correct voltage setpoint du failure was common to both diesel gener attention to programmatic processes and maintenance.	declared inope intation of vendo e at the same tir iring performand ators. The caus d controls in not	rable due t or recomm ne. This e ce of the m se was attr providing s	to in enc even non ribu suff	ncorrect r ded checl nt involve thly DG s ited to ina ficient dire	elay s <s", is<br="">d failu urveill idequa</s",>	etpoin related ire of a lance. ate ma for pro	ts resu d from a relay This s nagen oper	Ilting a to ame nent		
LER 2000-012-00, "Human Error Results from the perspective of being a result of r This event involved load shedding of the various plant pumps and fans to trip, and Load shedding of a 4160-volt critical bus logic surveillance procedure relay calibra caused by management failure to reinfor	in automatic Er management fa Division I 4160 resulted in CN was caused by tion. The humar ce standard and	ngineered ilure to reir /olt Critical 3 being in s a human e n error was 1 expectation	Sat nfor I Bu sing errc s at ons	fety Featu rce stand us 1F. Th gle-loop c or while p- stributed to s.	ures A ards a nis loa perat erform o inad	ctuation and exp of sheet ion at f ang un equate	on", is r pectatio dding c 65% po idervol e super	related ons. aused ower. tage rvision		
CNS has previously encountered problen recognize when an OD was needed and there are programmatic problems in the a Strategic Improvement Plan (TIP) develo	ns involving vari inadequate OD, area of OD. As ped by CNS.	ous aspec This has a result th	ts c res is p	of ODs, s sulted in a program is	uch as a reco s bein	s failur gnition g addr	e to by CN essed	IS that in The		

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ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS

Correspondence Number: <u>NLS2003045</u>

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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

PROCEDURE 0.42 REVISION 12 PAGE 14 OF 16
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