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## NOTE TO ALL "RIDS" RECIPIENTS:

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NRC PDR

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Northern States Power Company

414 Nicollet Mall Minneapolis, Minnesota 55401-1927 Telephone (612) 330-5500

May 28, 1991

Report Required by 10 CFR Part 50. Section 50.73

Director of Nuclear Reactor Regulation U.S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, DC 20555

> MONTICELLO NUCLEAR GENERATING PLANT Docket No. 50-263 License No. DPR-22

Inadequate Control of Construction Activities Causes Failure to Meet Cable Separation Requirements

The Licensee Event Report for this occurrence is attached.

This event was reported via the Emergency Notification System in accordance with 10 CFR Part 50, Section 50.72 on April 27, 1991.

mas Maila

Thomas M Parker Manager Nuclear Support Services

c: Regional Administrator - III NRC Sr Resident Inspector, NRC NRR Project Manager, NRC MPCA Attn: Dr J W Ferman

Attachment

*ΨE*22 '11

	AC FORM 366					U.S. NUCLEAR	REGULATO	RY COMM	ISSION							
	LICENSEE EVENT REPORT (LER) LICENSEE EVENT REPORT (LER) APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92 ESTIMATED BURGEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURGEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (PSIOL, U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, OC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUGGET, WASHINGTON, OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OFFICE OFFICE (3150-0104), OC 20503, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0															
**	MONTICELLO NUCLEAR GENERATING PLANT															
TI	TITLE (4) Inadequate Control of Construction Activities Causes															
	Failure to Meet Cable Separation Requirements															
EVENT DATE (5) LER NUMBER (5) REVER DATE (7) OTHER FACILITIES (NOLVED (8)																
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	On 4/27/91, with the plant in cold shutdown for refueling, it was determined that cables for Secondary Containment isolation damper solenoids and Standby Gas Treatment system components did not meet separation requirements in several locations. This violated separation requirements stated in the Updated Safety Analysis Report and on controlled drawings and was therefore reportable as a condition outside of the design basis of the plant. The root cause of this condition was that original construction installation and verification activities were inadequate. Each circuit was evaluated for safety significance. Two circuits, which posed a direct threat to the operability of their Safety Related system, were initially isolated and then finally modified to eliminate the system weaknesses. Two other locations on the same circuits were evaluated as not affecting the operability of the system, but were modified to comply with the plant design basis. The remaining circuit was evaluated as having sufficient redundancies and verification to justify continued operation. This circuit will be modified during or prior to the next refueling outage															

NRC FORM 366A (6-89)	APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92					
LICENSEE EVENT RI TEXT CONTINU	ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P.530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (J150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.					
FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (5)	PAGE (3)			
		YEAR SEQUENTIAL REVISION				
Monticello Nuclear Generating P.	lant 0 5 0 0 0 2 6 3	91-009-00	020405			
TEXT III more spece is required, use additional NRC Form 385A's) (17)						
DESCRIPTION	ς.					
On $4/27/91$ with the plan	nt in cold shutdown duri	ng cable (FITS Compone	ont			

On 4/27/91, with the plant in cold shutdown, during cable (EIIS Component Code: CBL3) replacement for Environmental Qualification maintenance, engineering personnel determined that the cables for one pair of solenoids (EIIS Component Code: SOL) for Secondary Containment (EIIS System Code: NG) Isolation Dampers (EIIS Component Code: DMP), V-D-25 & V-D-26, were routed in a common cable tray (EIIS Component Code: TY) for approximately 10 feet. This violated the separation requirements stated on controlled drawings and was therefore reportable as a condition being outside the design basis of the plant.

The remaining Secondary Containment isolation damper solenoid cable routings were reviewed. This revealed an additional problem of lack of divisional separation for the solenoid valves for Secondary Containment Isolation Dampers V-D-9 & V-D-10, which were routed through a common junction box near the solenoid valves.

As a result of these findings, all cable routings for the Secondary Containment System (EIIS System Code: BH) including the Standby Gas Treatment System were reviewed and inspected. Three more instances of lack of separation were found in the Standby Gas Treatment System.

The wiring for two sets of position indications for AO-2982, Primary Containment Exhaust to Main Exhaust Plenum Room Secondary Containment Isolation Valve (EIIS Component Code: ISV), were routed through a common flexible conduit between divisional junction boxes (EIIS Component Code: JBX). Control power circuits for the Standby Gas Treatment Room Heaters (EIIS Component Code: EHTR), E-34A-2 and E-34B-2, were routed through a common conduit between panels (EIIS Component Code: PL) C87A and C87B and routed between the panels and the wall mounted thermostat (EIIS Component Code: TH) for the Room Heater, E-34A-2. Cables for the Off-Gas Dilution Fan (EIIS Component Code: FAN) Low Flow switches (EIIS Component Code: FS), FS-8000-J11 and FS-8000-J12, were routed through a common conduit from the Off-Gas Stack to the Cable Spreading Room.

This review of cable separation was extended to include other Safety Related systems: Reactor Protection System (EIIS System Code: JC), Emergency Core Cooling System (EIIS System Code: JE), and Primary Containment Isolation System (EIIS System Code: JM).

NRC FORM 366A (6-89)	LICENSEE EVENT REPORT TEXT CONTINUATION	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 315 EXPIRES: 4/30/92 ESTIMATED BURDEN PER RESPONSE I INFORMATION COLLECTION REQUEST COMMENTS REGARDING BURDEN ESTIM AND REPORTS MANAGEMENT BRANCH REGULATORY COMMISSION, WASHINGT THE PAPERWORK REDUCTION PROJEC OF MANAGEMENT AND BUDGET, WASHING	00-0104 10 COMPLY WTH THIS : 50.0 HRS. FORWARD IATE TO THE RECORDS (P-530), U.S. NUCLEAR ON, DC 20555, AND TO T (3150-0104), OFFICE NGTON, DC 20503.
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
			YEAR SEQUENTIAL REVISION NUMBER	
Monticello	Nuclear Generating Plant	0 5 0 0 0 2 6 3	9 1 - 0 0 9 - 0 0	0   3 <b>0</b> F 0   5
TEXT (If more spece is requi	rd, um additional NRC Form 3054's!(17)	ubmitted when these	rouious hous hous	
comp actio	leted. The NRC will be informations taken prior to restarti	formed verbally of t ing the Reactor.	he results and correc	tive
CAUSI	2			
The mand we sched actua	coot cause of this condition verification activities wer dules indicated the proper al cable installations did	on was that original e inadequate. Draw routing with proper not conform to thes	construction install ings and cable routin separation. However e documents in all ca	ation g , ses.
ANALY	<u>(SIS</u>			
1.	Lack of Secondary Contair	ment isolation cable	e separation:	
	The "as-built" configurat inoperability of both set since the damper controls schemes are deenergized b	ion could not have s of Secondary Cont were "fail safe" in y separated relays w	resulted in the ainment Isolation Dam n that configuration. within Control Room p	pers Both anels.
	The only conceivable acci dampers to be inoperable Monticello's licensing ba considered. The probabil cable tray is very low. were separated prior to h	dent scenario that o would be for a "hot sis does not requiro ity of a "hot short' To comply with the o andling fuel or rest	could cause both sets short" to develop. e that "hot shorts" be ' between cables in t design basis, the cab carting the Reactor.	of e he les
2.	Lack of Standby Gas Treat	ment Room Heater cab	ole separation:	
-	This configuration was ev either Standby Gas Treatm fuses and breakers which Filter Heater power for e Room Heater is deenergize operating due to an autom deenergized heater contro the thermostat could not inoperable when one Stand	aluated as not affec ent Train, since the were independent fro ach Standby Gas Trea d when its respectiv atic initiation sigr l circuit in the com cause both Standby G by Gas Treatment Tra	ting the operability Room Heater circuits the control power a thent Train. Also, o re Standby Gas Treatme hal. Failure of the mon section of conduct Gas Treatment Trains to in is operating.	of s had and each ent is it or to be

NRC FORM 366A (6-89)	U.S	APPROVED OMB NO. 3150-0104				
	LICENSEE EVENT REPORT TEXT CONTINUATION	(LER)	EXPIRES: 4/30/92 ESTIMATEO BURDEN PER RESPONSE INFORMATION COLLECTION REQUEST COMMENTS REGARDING BURDEN ESTIM AND REPORTS MANAGEMENT BRANCH REGULATORY COMMISSION, WASHINGT THE PAPERWORK REDUCTION PROJEC OF MANAGEMENT AND BUDGET, WASHI	TO COMPLY WTH THIS 50.0 HRS, FORWARD MATE TO THE RECORDS (P-530), U.S. NUCLEAR ON, DC 2055, AND TO TO, DC 2055, AND TO TO, DC 20503, MGTON, DC 20503.		
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)		
			VEAR NUMBER NUMBER			
Monticello	Nuclear Generating Plant	0 5 0 0 0 2 6 3	9 1 - 0 0 9 - 0 0	0   4 <b>0</b> F 0   5		
		<b>e</b> 1.				
3.	However, a failure within while both Standby Gas Tr mode could cause both Roo Heater, E-34B-3 provides B Train only. Also, norm provides heated forced dr Standby Gas Treatment Tra temperatures are monitore staff to verify that each equal to 72 degrees Fahre undetected failure of bot Lack of AO-2982 wire sepa The safety function of th initiation. The valve is only opened during operat Containment is being iner this valve during this pe When the lack of separati	the conduit or the eatment Trains are m Heaters to be inop supplementary heatin al Reactor Building aft air to the immed in. The Standby Gas d locally once per s Standby Gas Treatmen nheit. Therefore, th h Room Heaters is loc ration: is valve is to closed normally closed in ion for only short p ted or purged. The riod is extremely sn on was discovered t	thermostat junction I in the Automatic/Stand perable. A third Room ng of Standby Gas Treat Heating and Ventilat: diate area around each s Treatment Train shift by the Operation ent Train is greater of the probability of an ow. e upon Standby Gas Treat a deenergized state a periods while Primary likelihood of failure mall.	box dby m atment ion n ns or eatment and is e of		
	fail-safe position to ass refueling. Later, when S required, the cables were	ure Secondary Contai econdary Containment rerouted to comply	ine valve was blocked inment integrity durin integrity was not with design basis.	in its ng		
4.	Lack of Off-Gas Low Flow ,	Alarm cable separati	.on:			
-	These circuits are for all Related. If they were to Gas Dilution Fans could be recent testing has shown maintained by operating the Trains. Each circuit was powered wire of the circuit respective Off Gas Dilutio	arm only and are cla short together, the e lost through overl that substantial vac he remaining fans in modified to include its from the remaini on Fan control circu	essified as Non-Safety control power for bo oading fuses. Howeve cuum could still be both Standby Gas Tre a fuse to isolate th ng portions of the it.	oth Off er, eatment me		
A sup findi	plemental report will deta ngs discovered during the o	il the safety signif continuing review of	icance of any other cable separation.			

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NRC FORM 366A (6-89)	u.s	NUCLEAR REGULATORY COMMISSION	APPROVED OMB NO. 315	0-0104			
	LICENSEE EVENT REPORT TEXT CONTINUATION	(LER)	EXFINES: 4/30/92 EXFINES: 4/30/92 ESTIMATED BURGEN PER RESPONSE TO COMPLY WTH INFORMATION COLLECTION REQUEST: 50.0 HRS, FOR COMMENTS REGAROING BURDEN ESTIMATE TO THE REC AND REPORTS MANAGEMENT BRANCH (P5.30), U.S. NUC REGULATORY COMMISSION, WASHINGTON, OC 20555, A1 THE PAPERWORK REDUCTION PROJECT (3)50:0104), O QF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503				
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)			
			YEAR SEQUENTIAL REVISION NUMBER				
Monticell	lo Nuclear Generating Plant	0 5 0 0 0 2 6 3	9 1 - 0 0 9 - 0 0	0   5 OF 0   5			
TEXT (If more spece is r	required, use additional NRC Form 365A's) (17)						
CORI	RECTIVE ACTIONS	、					
Sum	mary of Corrective Actions T	aken:					
1.	Secondary Containment iso establish required separa	lation damper soleno tion,	oid cables were rerout	ed to			
2.	AO-2982 position indication separation.	on wiring was modifi	ed to establish requi	red			
3.	Off-Gas Low Flow Alarm ci Switches in the event of a	rcuits were modified a common fault.	to isolate the Low F	low			
4.	Remaining Secondary Conta separation requirements we problems were identified.	inment and Standby G ere field verified.	as Treatment cable No additional separa	tion			
5.	Investigations were initia Reactor Protection System Primary Containment Isola	ated to field verify , the Emergency Core tion System.	cable separation of Cooling System, and	the the			
Summ	mary of Corrective Actions to	o be Taken:					
1.	Complete field verification resulting discrepancies.	ons and corrective a	ctions, as needed, fo	r any			
2.	Submit a supplemental Licensee Event Report detailing the safety significance of any additional cable separation problems discovered.						
3.	Control power cables for the Standby Gas Treatment Room Heaters will be separated prior to or during the next refueling outage.						
ADDI	TIONAL INFORMATION						
1.	Failed Component Identific	cation: NONE					
2.	Previous Similar Events:	NONE					

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