

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 9102120011      DOC. DATE: 91/02/08      NOTARIZED: NO      DOCKET #  
 FACIL: 50-263 Monticello Nuclear Generating Plant, Northern States      05000263  
 AUTH. NAME      AUTHOR AFFILIATION  
 WARD, A.      Northern States Power Co.  
 PARKER, T.M.      Northern States Power Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: LER 91-002-00: on 910109, personnel discovered 120-volt ac control power circuit breaker for emergency filtration sys A filter heater in off position. Caused by personnel error. Breaker returned to on position. W/910208 ltr.

DISTRIBUTION CODE: IE22T      COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 6  
 TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES: NRR/LONG, W.

05000263

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	AEOD/DSP/TPAB	1				1	AEOD/ROAB/DSP	2				2
	NRR/DET/ECMB 9H	1				1	NRR/DET/EMEB 7E	1				1
	NRR/DLPQ/LHFB11	1				1	NRR/DLPQ/LPEB10	1				1
	NRR/DOEA/OEAB	1				1	NRR/DREP/PRPB11	2				2
	NRR/DST/SELB 8D	1				1	NRR/DST/SICB 7E	1				1
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	REG FILE 02	1				1	RES/DSIR/EIB	1				1
	RGN3 FILE 01	1				1						
EXTERNAL:	EG&G BRYCE, J.H	3				3	L ST LOBBY WARD	1				1
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Northern States Power Company

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

February 8, 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

Control Power Circuit Breaker  
for Filtration Unit Heater Found Open Resulting in  
Inoperability of Control Room Emergency Filtration System

The Licensee Event Report for this occurrence is attached.

If you require any further information concerning this matter, please let us know.

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

9102120011 910208  
PDR ADOCK 05000263  
S PDR

*IF22*  
*11*

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 MRS. 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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  
Monticello Nuclear Generating Plant

DOCKET NUMBER (2)  
0 5 | 0 | 0 | 0 | 2 | 6 | 3 | 1 | OF | 0 | 5

PAGE (3)  
1 OF 0 5

TITLE (4)  
Control Power Circuit Breaker for Filtration Unit Heater Found Open  
Resulting in Inoperability of Control Room Emergency Filtration System

EVENT DATE (5)			LER NUMBER (6)		REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES
0	1	9	1	0	0	0	2	0	0
0	1	9	1	0	0	0	2	0	0

OPERATING MODE (9)  
N

POWER LEVEL (10)  
0 9 | 7

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 3: (Check one or more of the following) (11)

20.402(b)	20.405(e)	50.73(a)(2)(iv)	73.71(b)
20.405(a)(1)(ii)	50.73(e)(1)	50.73(a)(2)(v)	73.71(a)
20.405(a)(1)(iii)	50.73(e)(2)	50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 355A)
20.405(a)(1)(iii)	XX 50.73(a)(2)(ii)	50.73(a)(2)(viii)(A)	
20.405(a)(1)(iv)	50.73(a)(2)(iv)	50.73(a)(2)(viii)(B)	
20.405(a)(1)(v)	50.73(a)(2)(iv)	50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME  
Anne Ward, Superintendent Reactor Systems Engineering

TELEPHONE NUMBER  
AREA CODE: 6 1 | 2 | 2 9 | 5 | - 5 | 1 | 5 | 1

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPROS

SUPPLEMENTAL REPORT EXPECTED (14)

EXPECTED SUBMISSION DATE (15)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

MONTH: 0 | 4 | DAY: 3 | 0 | YEAR: 9 | 1

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

**ABSTRACT**

On January 9, 1991 with the plant operating at 97% power, engineering personnel discovered the 120Vac control power circuit breaker for the "A" Emergency Filtration Treatment System filter heater in the "OFF" position. This event was reportable since it resulted in operation in a condition prohibited by the Technical Specifications, which require the Emergency Filtration System be operable whenever reactor water temperature is greater than 212 degrees Fahrenheit. The control power circuit breaker was returned to the "ON" position and the Control Room Emergency Filtration Treatment system returned to normal operation following successful completion of the monthly surveillance test. The plant work control process will be revised to require that following work in a safety-related power panel or lighting panel a verification of all breaker positions in that panel be completed.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH 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 (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)  Monticello Nuclear Generating Plant	DOCKET NUMBER (2)  0 5 0 0 0 2 6 3 9 1	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		9 1	0 0 2	0 0	0 2	OF	0 5

TEXT (If more space is required, use additional NRC Form 366A's) (17)

DESCRIPTION

On January 9, 1991 with the plant operating at 97% power, engineering personnel discovered the 120Vac control power circuit breaker (EIIS Component Identifier: 52) for the "A" Emergency Filtration Treatment System (EIIS System Identifier: VI) filter heater (EIIS Component Identifier: EHTR) in the "OFF" position. This condition was discovered by inspection during an investigation into the loss of power to the "A" Radiation Monitor (EIIS Component Identifier: MON) (reference LER 91-001). This event was reportable since it resulted in operation in a condition prohibited by Technical Specification 3.17.B., which requires that the Control Room Emergency Filtration Treatment System be operable whenever reactor water temperature is greater than 212 degrees Fahrenheit. The filter heater is required to be operable to ensure that the charcoal filter (EIIS Component Identifier: FLT) functions as designed. The control power circuit breaker was returned to the "ON" position and the Control Room Emergency Filtration Treatment System returned to normal operation following successful completion of the monthly surveillance test.

CAUSE

The root cause of this event is personnel error. This circuit breaker was checked and verified to be in the "ON" position in November 1989 following the last refueling outage. Personnel who had access to this power panel (EIIS Component Identifier: PL) in the recent past were interviewed; however, none remembered any activities which would have isolated power to the filter heater. All applicable modification isolations and work request authorizations performed in the intervening time were reviewed to determine if work was done which could have resulted in isolation of this circuit breaker. None of these documents required isolation of this breaker. A modification on the Toxic Chemical Detector Logic performed in June 1990, isolated several other nearby circuit breakers in this panel. This is the most likely time during which the filter heater circuit breaker could have been isolated. The type of personnel involved in this event is unknown. This was a cognitive error. There were no unusual characteristics of the work location that directly contributed to the error.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

An intermediate cause contributing to this event was an inadequate surveillance test procedure. Technical Specification 4.17.B.2.b(2) requires that heater operability be verified once per cycle. Technical Specification 4.17.B.1 requires that the filter trains be operated for at least 10 hours per month with the heaters operable. Rather than assuming heater operability during the monthly surveillance test, performance criteria were provided in the procedure. However, the performance measurement was not accurate since there was no inlet temperature instrumentation (EIIIS Component Identifier: TI) provided on the filter train and the inlet temperature recorded on the surveillance test was taken to be outside air temperature. In addition, the performance criterion provided was not adequate in that only a minimum performance level was specified. No maximum performance criterion was provided. Therefore, a non-operating heater would not have been detected with this procedure.

ANALYSIS

The purpose of the filter heater is to reduce the relative humidity of the incoming air to less than 70%. The charcoal adsorbers (EIIIS Component Identifier: ADS) are designed for 99.5% methyl iodide removal efficiency at 70% relative humidity. An increase in the relative humidity of the incoming air as a result of an inoperable filter heater will result in a decrease in filter efficiency. A preliminary estimate of the Control Room operator dose, assuming a reduced charcoal filter efficiency, indicates that 10CFR50 GDC 19 limits would not be exceeded during a design basis accident. A more detailed evaluation considering the source terms identified in Regulatory Guide 1.3 will be performed to verify these results. A supplemental report will be submitted by April 30, 1991. The charcoal adsorber methyl iodide removal efficiency was tested in December 1990 per Technical Specification 4.17.B.2.a.(3) and shown to still have an efficiency of 99.3%.

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TEXT (If more space is required, use additional NRC Form 366A's) (17)

Division II of the Control Room Emergency Filtration System was operable during this event. It was approximately 1 hour from the time the open circuit breaker was discovered until it was placed in the "ON" position. The length of time the train was inoperable prior to discovery is unknown. It is known that the circuit breaker was in the correct position in November 1989. Technical Specification 4.17.B.2.b(2), issued in July 1990, requires heater operability be verified once per cycle. This verification was scheduled to be completed in March 1991.

CORRECTIVE ACTIONS

1. Upon discovery, the control power circuit breaker was returned to the "ON" position and the heater verified to be energized.
2. The circuit breakers in similar applications on Division II of the Control Room Emergency Filtration System were immediately inspected and found to be in their proper positions.
3. An investigation was initiated to determine cause of the circuit breaker being in the "OFF" position. Personnel were interviewed and applicable modification and work authorization records were reviewed.
4. All safety related power panels and lighting panels were checked for proper circuit breaker position using the plant pre-start checklists. No additional mispositioned breakers were identified.
5. The monthly surveillance test procedure was revised to ensure that the heater control power circuit breaker is closed.
6. This event will be reviewed by the plant's Human Performance Task Force. Recommendations to prevent future similar events will be implemented as necessary.
7. The plant work control process will be revised to require that following work in a safety-related power panel or lighting panel a verification of all breaker positions in that panel be completed.

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Monticello Nuclear Generating Plant	0   5   0   0   0   2   6   3	9	1	0	0	2	0	0	0	5	OF	0	5

TEXT (If more space is required, use additional NRC Form 366A's) (17)

8. Guidance will be added to the plant document controlling procedure content to ensure adequate direction exists for personnel when determining operability acceptance criteria. This will include a requirement to evaluate the need for including both minimum and maximum acceptance criteria.
9. A review of other surveillance test procedures for adequate acceptance criteria will be conducted during the next biennial review cycle.
10. This event will be reviewed in Engineering and Technical Staff continuing training and in the operator training program.
11. A modification to add a light indicating filter heater operation will be evaluated for feasibility.
12. A more detailed evaluation of the Control Room operator dose will be performed and the results will be reported by submitting a supplement to this LER. This action will be completed by April 30, 1991.

FAILED COMPONENT IDENTIFICATION

None.

PREVIOUS SIMILAR EVENTS

LER 89-002 Inadequate Work Controls Causes Undetected Loss of Power to Remote Alarm Panel. A recommendation for prevention of similar events stated that a plant policy controlling work activities in areas containing sensitive equipment will be established and communicated to appropriate personnel. This policy did not prevent this event since it did not implement physical controls over work areas. The corrective action listed above to inspect panels following work will ensure correct positioning of breakers and prevent future events.