



Northern States Power Company

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Minneapolis, Minnesota 55401  
Telephone (612) 330-5500

March 2, 1993

Report required by  
10 CFR Part 50, Section 50.73

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

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

Closure of Primary Containment Isolation Valves  
Caused by Reactor Protection System Breaker Failure

The Licensee Event Report for this occurrence is attached.

This report contains the following new commitments:

1. Prior to startup from this refueling outage, the associated breakers in the remaining division of the Reactor Protection System will be visually inspected, electrical terminations will be verified to be tight and a thermal scan for signs of overheating will be performed.
2. The non-safety related Reactor Protection System power supply breakers of similar type will be placed on a preventive maintenance schedule.

Please contact us if you require additional information related to this event.

Thomas M Parker  
Director  
Nuclear Licensing

c: Regional Administrator - ID 80135  
Sr Resident Inspector, NRC  
NRR Project Manager, NRC  
State of Minnesota,  
Attn: Kris Sanda

Attachment

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PDR ADDCK 05000263  
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## LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 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 1 OF 0 4										PAGE (3) 1 OF 0 4																														
TITLE (4) Closure of Primary Containment Isolation Valves Caused by Reactor Protection System Breaker Failure																																																		
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												DOCKET NUMBER(S)											
0 1			3 1			9 3			9 3			0 0 2			0 0 0			3 0			2 9 3															0 5 0 0 0														
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OPERATING MODE (9) N									THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																																									
POWER LEVEL (10) 1 1 0									20.402(b)									20.405(c)									X 50.73(a)(2)(iv)									73.71(b)														
									20.406(a)(1)(i)									50.36(a)(1)									50.73(a)(2)(v)									73.71(c)														
									20.405(a)(1)(ii)									50.36(a)(2)									50.73(a)(2)(vi)									OTHER (Specify in Abstract below and in Text, NRC Form 366A)														
									20.406(a)(1)(iii)									50.73(a)(2)(i)									50.73(a)(2)(vii)(A)																							
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20.406(a)(1)(v)									50.73(a)(2)(iii)									50.73(a)(2)(ix)																																
LICENSEE CONTACT FOR THIS LER (12)																																																		
NAME Steve Porter, System Engineer															TELEPHONE NUMBER 6 1 2 2 9 5 1 - 1 4 9 7																																			
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																																		
CAUSE			SYSTEM			COMPONENT			MANUFACTURER			REPORTABLE TO NRC			CAUSE			SYSTEM			COMPONENT			MANUFACTURER			REPORTABLE TO NRC																							
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SUPPLEMENTAL REPORT EXPECTED (14)																														EXPECTED SUBMISSION DATE (15)										MONTH DAY YEAR										
YES (If yes, complete EXPECTED SUBMISSION DATE)															NO																																			

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

With the plant in a refueling outage, a failure of a Reactor Protection System breaker resulted in the closure of several primary containment isolation valves. Additional actions which resulted were initiation of Standby Gas Treatment, isolation of Reactor Building Ventilation, and tripping of the Reactor Protection System. The cause of the breaker failure was high breaker contact resistance. The isolation was verified, the breaker was replaced, the isolation was reset, and Standby Gas Treatment and Reactor Building Ventilation were returned to normal. All similar breakers in the same division of the Reactor Protection System were visually inspected, electrical terminations were verified to be tight and a thermal scan for signs of over heating was performed. These same inspections will be performed for similar breakers in the other division of the Reactor Protection System prior to startup from this refueling outage. These Reactor Protection System breakers will be placed on the preventive maintenance schedule.

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)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL NUMBER REVISION NUMBER	
Monticello Nuclear Generating Plant	0 5 0 0 0 2 6 3 9 3	- 0 0 2 - 9 3 0 2	OF 0 4

TEXT (if more space is required, use additional NRC Form 356A's) (17)

DESCRIPTION

On January 31, 1993 at 1352 hours with the plant in a refueling outage, a Reactor Protection System (EIIIS System: EC) 120 VAC supply breaker (EIIIS Component: BKR) failed resulting in the closure of several primary containment isolation (EIIIS System: JM) valves (EIIIS component: ISV), Reactor Building (EIIIS System: NG) isolation, Standby Gas Treatment (EIIIS System: BH) initiation and a trip of both channels of the Reactor Protection System. All operable control rods were full in at the time of the event and no rod movement occurred. The torus and drywell purge and vent valves and the primary containment atmosphere sample valves closed. At the time of the event, the torus and drywell were being purged and the sample system was not required to be in service. The isolation was immediately verified by the operating crew and an investigation was initiated to determine the cause of the power failure.

It was determined that non-safety related breaker CB3B in power panel Y40 had tripped open resulting in a loss of power to Reactor Protection Channel "B", Primary Containment Isolation Channel "B" and all "B" scram solenoids. Investigation determined that the breaker failed due to high contact resistance. A full scram resulted due to the Reactor Protection System being in the non-coincidence mode for Intermediate (EIIIS System: IG) and Source Range Monitors (EIIIS System: IG) for fuel movements. The primary containment isolation valves closed, Standby Gas Treatment initiated and Reactor Building Ventilation isolated due to the loss of power to the reactor building radiation process monitors (EIIIS System: IL).

The breaker was replaced, the isolation and scram reset, and Reactor Building Ventilation and Standby Gas Treatment returned to normal at about 1900 hours on January 31, 1993.

The closure of the purge and vent and atmosphere sample isolation valves is reportable per 10CFR50.73(a)(2)(iv).

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 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 3	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		0 0	2	0 0 0	3	OF 0 4

TEXT (If more space is required, use additional NRC Form 356A's) (17)

CAUSE

The breaker failed due to high contact resistance which lead to overheating. The cause of the high contact resistance could not be determined. There were no unusual characteristics in the application of the breaker. The failed breaker was installed as original plant equipment. A contributing cause was a lack of preventive maintenance which may have discovered the condition prior to failure.

A search of NPRDS (the Nuclear Plant Reliability Data System) was completed to determine if breakers of this type have demonstrated a history of similar failure. Only one similar failure among all nuclear plants included in the search was identified.

ANALYSIS

This event had no direct affect on the public health and safety. All safety equipment operated properly in response to the spurious actuation. The event occurred within a system whose design is fail safe, therefore, the safety effect of the occurrence could not be any worse with other initial conditions. However, if the event had occurred during reactor operation with a half scram in existence for the other division, a full scram would have occurred resulting in rod motion and a more significant plant transient.

CORRECTIVE ACTIONS

The following actions have been completed:

1. The breaker was replaced, power was restored to the Reactor Protection System, the scram and isolations were reset and Reactor Building Ventilation and Standby Gas Treatment were returned to normal.
2. Electrical terminations of remaining breakers in the panel associated with the affected division were verified to be tight and a thermal scan was performed. No additional signs of overheating were found.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATIONESTIMATED BURDEN PER RESPONSE  
INFORMATION COLLECTION REQUEST: 366A  
COMMENTS REGARDING BURDEN ESTIMATE: N/A  
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)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
Monticello Nuclear Generating Plant	0500026393	—	002	—	00	04 OF 04

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

The following actions will be completed:

1. Prior to startup from this refueling outage the associated breakers in the other division of the Reactor Protection System will be visually inspected, electrical terminations will be verified to be tight and a thermal scan for signs of overheating will be performed.
2. The non-safety related Reactor Protection System power supply breakers of similar type will be placed on a preventive maintenance schedule.

ADDITIONAL INFORMATIONFailed Component Identification

Manufacturer: General Electric  
Model: TEL11100  
120/240 Single pole 100 Amp Breaker

Previous Similar Events

There have been no previous failures of this type of breaker.