



Northern States Power Company

Monticello Nuclear Generating Plant
2807 West Hwy 75
Monticello, Minnesota 55362-9637

November 9, 1994

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

LER 94-015

Failed Component in the Uninterruptible Power Supply Inverter
Causes a Partial Containment Isolation

The Licensee Event Report for this occurrence is attached. This report contains no new NRC commitments.

Please contact Tom Parker at (612) 295-1014 if you require further information.

William J. Hill for ROA

Roger O Anderson
Director
Licensing and Management Issues

- c: Regional Administrator - III NRC
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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NRC FORM 366 (5-92)						U.S. NUCLEAR REGULATORY COMMISSION						APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95																							
LICENSEE EVENT REPORT (LER)																		ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, 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) 05000 - 263						PAGE (3) 1 OF 5																	
TITLE (4) Failed Component in the Uninterruptible Power Supply Inverter Causes a Partial Containment Isolation																																			
EVENT DATE (5)			LER NUMBER (6)				REPORT NUMBER (7)			OTHER FACILITIES INVOLVED (8)																									
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME						DOCKET NUMBER																				
10	15	94	94	015	00	11	09	94	FACILITY NAME						DOCKET NUMBER																				
OPERATING MODE (9)		N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)																																
			20.402(b)				20.405(c)				X 50.73(a)(2)(iv)				73.71(b)																				
POWER LEVEL (10)		0%	20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)				73.71(c)																				
			20.405(a)(1)(ii)				50.36(c)(2)				50.73(a)(2)(vii)				OTHER																				
			20.405(a)(1)(iii)				50.73(a)(2)(i)				50.73(a)(2)(viii)(A)				(Specify in Abstract																				
			20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)				below and in Text, NRC																				
			20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)				Form 366A)																				
LICENSEE CONTACT FOR THIS LER (12)																																			
NAME Tom Parker										TELEPHONE NUMBER (Include Area Code) 612-295-1014																									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																			
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE													SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS														
x	EF	INVT	E209	YES																															
SUPPLEMENTAL REPORT EXPECTED (14)																																			
YES (IF YES, COMPLETE EXPECTED SUBMISSION DATE)										X NO								EXPECTED SUBMISSION DATE (15)				MONTH	DAY	YEAR											

ABSTRACT LIMIT TO 1400 SPACES, I.E., APPROXIMATELY 15 SINGLE-SPACED TYPEWRITTEN LINES) (16)
NRC FORM 366 (5-92)

While performing a functional test of the Division II Uninterruptible Power Supply, a partial containment isolation occurred during a refueling outage. A logic card in the Uninterruptible Power Supply had failed and was replaced. The test procedure was changed so that testing is done when the instrument busses are being supplied by the alternate power supply. With the revised procedure, a failure identified during testing will not cause the instrument busses to be de-energized.

NRC FORM 365A (5-92)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
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 INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, 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)	
MONTICELLO NUCLEAR GENERATING PLANT		05000 263		YEAR 94	SEQUENTIAL NUMBER 015
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Description

On October 15, 1994 during a refueling outage, a partial containment isolation (EIS System Code: JM) occurred during testing of the Division II Uninterruptible Power Supply Static Switch (EIS Component Code: ASU) per procedure 1292-1. The Division II Uninterruptible Power Supply (EIS System Code: EF) provides power to Instrument Busses (Y30 and Y80). A static switch will automatically switch the busses to the alternate power supply if the logic determines a problem exists with the inverter (EIS Component Code: INVT). Procedure 1292-1 tests this feature by opening the supply breaker (EIS Component Code: 72)(CB-1 on panel Y81, see attached Figure) to the Division II Uninterruptible Power Supply. When this breaker was opened, the static switch failed to transfer to the alternate power supply, leaving the Division II instrument busses without power. This caused a loss of power to the Division II Primary Containment Isolation Logic. A partial isolation occurred including isolation of: Shutdown Cooling (EIS System Code: KE) and Reactor Water Clean Up (EIS System Code: CE); and the startup of the Standby Gas Treatment System (EIS System Code: BH).

Cause

The cause of the failure of the Division II Uninterruptible Power Supply to switch to the alternate supply was determined to be the failure of a static switch logic card. This card has been in service since 1986 and there have been no other static switch logic card failures. This is believed to be a random component failure.

Analysis

This event is reportable per 10 CFR Part 50, Section 50.73(a)(2)(iv) since an automatic actuation of a Engineered Safety Feature occurred. The signal was invalid but valves changed position and some of these valves were not part of the exempted systems:

- Reactor water clean-up system;
- Control room emergency ventilation system;
- Reactor building ventilation system;

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Fuel building ventilation system;
 or
 Auxiliary building ventilation system.

The valves that closed were containment isolation valves (e.g., shutdown cooling valves, and primary containment atmospheric sample valves).

Since the plant was in the Refueling Mode, the only action of any consequence was the isolation of shutdown cooling. The reactor coolant increased in temperature from 94 to 95 degrees F in the 32 minutes that cooling was isolated. There were no consequences associated with these events. The temperature increase could have been slightly greater if this had occurred earlier in the outage (however, adequate time would have been available to return shutdown cooling to service prior to reaching any safety concern).

Corrective Actions

1. Containment Isolation signals were reset and isolated systems were returned to service as necessary.
2. A new static switch logic card was installed. The replacement card was tested by the completion of a revised test procedure (#1292-1)(See the next corrective action). Following successful testing, the Division II Uninterruptible Power Supply was placed in service.
3. The test procedure was temporarily changed to require the static switch logic to be tested when the instrument busses are being supplied by the alternate source. Thus, any future logic card failure found by this test would not cause the de-energization of the instrument busses. This change has been incorporated into the procedure.

The ability of the static switch to transfer the instrument bus loads between the inverter and the alternate power supply is tested outside of this procedure.

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

Failed Component Identification

Inverter, Model # INV 253-1-107
 Elgar Corporation

Previous Similar Events

The events reported in LER 94-013 are not related to this failure.

NRC FORM 365A (5-82)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
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FIGURE 1: DIVISION II UNINTERRUPTIBLE AC DISTRIBUTION SYSTEM

