

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Prairie Island Unit 1 DOCKET NUMBER (2) 0 5 0 0 0 2 8 2 PAGE (3) 1 OF 0 4

TITLE (4) One Voltage Resotoring Scheme Inadvertantly Made Inoperable During Relay Testing

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 4	2 6	8 8	8 8	0 0 3	0 0	0 5	2 6	8 8	Prairie Island Unit 2	0 5 0 0 0 3 0 6	
										0 5 0 0 0	

OPERATING MODE (9) N THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)

20.402(b)	20.406(c)	50.73(a)(2)(iv)	73.71(b)
20.406(a)(1)(i)	50.36(a)(1)	50.73(a)(2)(v)	73.71(e)
20.406(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)	X 50.73(a)(2)(i)	50.73(a)(2)(vii)(A)	
20.406(a)(1)(iv)	50.73(a)(2)(ii)	50.73(a)(2)(vii)(B)	
20.406(a)(1)(v)	50.73(a)(2)(iii)	50.73(a)(2)(ix)	

POWER LEVEL (10) 1 0 0

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER
A A Hunstad Prairie Island Nuclear Generating Plant	AREA CODE <u>6 1 2</u> <u>3 8 8</u> - <u>1 1 2 1</u>

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)

YES (If yes, complete EXPECTED SUBMISSION DATE)  NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On April 26, 1988, Unit 1 was at steady-state full power. D2 Diesel Generator was out of service for scheduled annual preventive maintenance. Bus 16 relay testing was being done in conjunction with the outage of D2 Diesel Generator. A wire had been lifted per procedure to allow relay testing. In attempting to reterminate the wire, the relay specialist inadvertently shorted two terminals, positive to negative, blowing the panel power supply fuse which deenergized the panel relays, and making the Bus 16 Voltage Restoring Scheme inoperable.

This event is reportable under 10CFR50.73(a)(2)(i)(b). During the event the redundant train of safeguards equipment remained operable. Bus 16 remained energized from its normal offsite source, and its alternate offsite source was always available manually. The blown fuse for Bus 16 Voltage Restoring Scheme was replaced and the bus was declared operable within 20 minutes. Therefore this event presented minimal increased risk to the health and safety of the public.

Modifications have been initiated to install isolation switches to allow this testing without lifting wires.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT: If more space is required, use additional NRC Form 366A 2/ (17)

EVENT DESCRIPTION

On April 25, 1988, both units were at 100% power and D2 Diesel Generator (EIIS Identifier DG) had been removed from service for scheduled annual preventive maintenance. On April 26, 1988, Bus 16 relay (EIIS Identifier BU, KLY) testing was being done in conjunction with the outage of D2 Diesel Generator. The following sequence of events occurred:

Hours      Event

- 1504      Received Bus 16 Undervoltage Alarm in the Control Room. Operators noticed Bus 16 normal voltage indicating lights were out for phases C and A, but Bus 16 voltage was normal. Operators contacted the Electrical Maintenance Supervisor and the Superintendent Technical Engineering.
- 1505      Unit 1 Shift Supervisor stationed the Unit 2 Reactor Operator at the G-1 Panel in case manual voltage restoration would be required for Bus 16.
- 1508      Control room operators started 11 Component Cooling pump and stopped 12 Component Cooling pump to remove load from Bus 16.
- 1509      Control Room Operators started 123 Air Compressor and stopped 122 Air Compressor to remove load from Bus 16.
- 1515      Duty electricians found fuse (EIIS Identifier FU) 12N1A blown in the Bus 16 Automatic Voltage Restoring scheme, in Bus 16 Logic Relay Cabinet 1.
- 1521      Control room operators started 12 Charging pump and stopped 13 Charging pump to remove load from Bus 16.
- 1522      Control room operators placed Bus 16 Automatic Voltage Restoration switch in manual per Electrical Maintenance Supervisor's request.
- 1524      Electricians replaced blown fuse 12N1A. Lights for C phase and A phase on Bus 16 status illuminated and bus 16 undervoltage alarm cleared.
- 1524      Bus 16 Automatic Voltage Restoration switch placed back in Automatic; Bus 16 back to normal.

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

CAUSE OF THE EVENT

Design. During the performance of a preventive maintenance procedure, the Relay Specialist was reterminating a lifted wire in the Bus 16 Logic Relay Cabinet 1 when his screwdriver slipped and shorted two terminals, positive to negative, blowing the panel power supply fuse which deenergized the panel relays.

ANALYSIS OF THE EVENT

This event is reportable pursuant to 10CFR50.73(a)(2)(i)(B). Technical Specifications 3.7.A requires both Diesel Generators to be operable and both 4KV Safeguards busses to be operable. Per Technical Specifications 3.7.b.3 one 4KV bus may be inoperable for up to 8 hours provided ... both Diesel Generators are operable. At the time that Bus 16 Automatic Voltage Restoration Scheme was inoperable, D2 Diesel Generator was also inoperable.

During this event the opposite train of safeguards equipment remained operable. Bus 16 remained energized from its normal offsite source and its alternate offsite source was always available manually. The Voltage Restoration Scheme for Bus 16 was inoperable for 20 minutes. Therefore this event presented minimal increased risk to the health and safety of the public.

GE style relays have ten terminals mounted at the bottom rear of the relay case. Each lead is secured with a pan head screw. The terminals are in two staggered rows of 5 terminals each. The center-to-center distance between sequentially numbered terminals is approximately one-half inch, at a 45 degree angle. The GE CCF underfrequency relay has 125VDC applied across adjacent terminals 3 and 4. This relay is mounted in the hinged door of the relay cabinet. The door must be held steady while reterminating wires.

The relay specialist was using a screwdriver insulated with electrical tape except for the blade tip. The screwdriver slipped, shorting terminals 3 and 4, or positive to negative. This resulted in blowing the the panel power supply fuse which deenergized the panel relays.

The undervoltage slave relays 27AX, 27BX, 27RX and 27SX all were deenergized which indicated a Loss of Voltage to Bus 16. However, the undervoltage scheme did not operate since the scheme relays also did not have DC Power. The scheme was placed in manual prior to replacing the fuse to prevent unintentional operation of the undervoltage scheme due to relay races as all the relays were reenergized together.

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TEXT (If more space is required, use additional NRC Form 366A 1) (17)

CORRECTIVE ACTION

The blown fuse for Bus 16 Voltage Restoration Scheme was replaced and the Bus was declared operable within 20 minutes. Involved personnel will review this report. Modifications have been initiated to install isolation switches to alleviate the need to lift wires for this testing. The switches will be installed at diesel generator preventive maintenance periods. The plant will be vulnerable to events similar to this one during switch installation.

PREVIOUS SIMILAR EVENTS

This event is similar to Unit 1 LER 87-018 on October 28, 1987, during the most recent D1 Emergency Diesel Generator Outage.



Northern States Power Company

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

May 26, 1988

10 CFR Part 50  
Section 50.73

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket Nos. 50-282 License Nos. DPR-42  
50-306 DPR-60

One Voltage Restoring Scheme Inadvertently Made  
Inoperable During Relay Testing (LER 1-88-03)

The Licensee Event Report for this occurrence is attached. This event was reported by telephone in accordance with 10 CFR Part 50, Section 50.72 on April 26, 1988.

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

David Musolf  
Manager Nuclear Support Services

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

Attachment

LE22  
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