

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.6 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNRB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) PRAIRIE ISLAND NUCLEAR GENERATING PLANT - UNIT 1						DOCKET NUMBER (2) 05000 282			PAGE (3) 1 OF 3							
TITLE (4) Unit 1 Reactor Trip Due to Inadvertent Relay Operation Which Caused Loss of No. 12 Reactor Coolant Pump																
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						
02	18	93	93	005	00	03	22	93		05000						
									FACILITY NAME	DOCKET NUMBER						
										05000						
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more) (11)														
N		20.402(b)				20.405(c)				XX 50.73(a)(2)(iv)		73.71(b)				
POWER LEVEL (10)		20.405(a)(1)(i)				50.36(c)(1)				50.73(a)(2)(v)		73.71(c)				
100		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 below and in Text, NRC Form 366A)				
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				50.73(a)(2)(viii)(B)						
		20.405(a)(1)(v)				50.73(a)(2)(iii)				50.73(a)(2)(x)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME Arne Hunstad, Staff Engineer									TELEPHONE NUMBER (include Area Code) (612) 388-1121							
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS		
SUPPLEMENTAL REPORT EXPECTED (14)										EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR		
YES (If yes, complete EXPECTED SUBMISSION DATE)										X		NO				
ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)																
<p>On February 18, 1993, Unit 1 was at 100% power. Cleaning of floors in the Turbine Building was in progress. A plant services attendant was burnishing the floor in the area of Bus 12. Bus 12 supplies 4KV power to No. 12 RCP and No. 12 Feedwater Pump. While moving the machine along the end of Bus 12, a caster wheel of the machine caught in a joint in the floor. This forced the burnishing machine toward the bus and into the lower door hinge of Breaker 12-1, the offsite power supply to Bus 12. When the machine hit the door hinge of Breaker 12-1, the attendant heard the breaker operate. The attendant immediately called the control room to report the event. At 0814 the reactor had tripped; the first out annunciator received was "One Loop Lo Flow or RCP Bkr Open."</p> <p>The reactor protection system responded as designed to the loss of Bus 12 and the unit was stabilized in the hot shutdown condition in accordance with plant procedures following the reactor trip.</p> <p>Cause of the event was determined and restart accomplished in accordance with plant procedures. The unit was returned to service at 2333 hours.</p>																

REQUIRED NUMBER OF DIGITS/CHARACTERS
FOR EACH BLOCK

BLOCK NUMBER	NUMBER OF DIGITS/CHARACTERS	TITLE
1	UP TO 46	FACILITY NAME
2	8 TOTAL 3 IN ADDITION TO 05000	DOCKET NUMBER
3	VARIES	PAGE NUMBER
4	UP TO 76	TITLE
5	6 TOTAL 2 PER BLOCK	EVENT DATE
6	7 TOTAL 2 FOR YEAR 3 FOR SEQUENTIAL NUMBER 2 FOR REVISION NUMBER	LER NUMBER
7	6 TOTAL 2 PER BLOCK	REPORT DATE
8	UP TO 18 - FACILITY NAME 8 TOTAL - DOCKET NUMBER 3 IN ADDITION TO 05000	OTHER FACILITIES INVOLVED
9	1	OPERATING MODE
10	3	POWER LEVEL
11	1 CHECK BOX THAT APPLIES	REQUIREMENTS OF 10 CFR
12	UP TO 50 FOR NAME 14 FOR TELEPHONE	LICENSEE CONTACT
13	CAUSE VARIES 2 FOR SYSTEM 4 FOR COMPONENT 4 FOR MANUFACTURER NPRDS VARIES	EACH COMPONENT FAILURE
14	1 CHECK BOX THAT APPLIES	SUPPLEMENTAL REPORT EXPECTED
15	6 TOTAL 2 PER BLOCK	EXPECTED SUBMISSION DATE

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TEXT CONTINUATION

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FACILITY NAME (1)		DOCKET NUMBER (2)		LER NUMBER (6)			PAGE (3)
Prairie Island Nuclear Gen Plt - Unit 1		05000 282		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	OF 02 03
				93	005	00	

TEXT (If more space is required, use additional copies of NRC Form 305A). (17)

EVENT DESCRIPTION

On February 18, 1993, Unit 1 was at 100% power. Cleaning of floors in the Turbine Building was in progress. A plant services attendant was burnishing the floor in the area of Bus 12 (BU). Bus 12 supplies 4KV power to No. 12 Reactor Coolant Pump (P) and No. 12 Feedwater Pump (P). While moving the machine along the end of Bus 12, a caster wheel of the machine caught in a joint in the floor. This forced the burnishing machine toward the bus and into the lower door hinge of Breaker 12-1 (BKR), the offsite power supply to Bus 12. When the machine hit the door hinge Breaker 12-1, the attendant heard the breaker operate. The attendant immediately called the control room to report the event. At 0814 the reactor had tripped; the first out annunciator received was "One Loop Lo Flow or RCP Bkr Open."

When the burnishing machine bumped into the Breaker 12-1 cubicle door hinge, the door was jarred hard enough to cause the indicating contact switch in the 62/B12 relay (86) to actuate. This energized the 86 lockout relay, which opened the source breakers to Bus 12, creating an undervoltage and underfrequency condition on Bus 12. The loss of voltage caused decreasing flow in 12 Reactor Coolant System Loop. Unit 1 Reactor (RCT) tripped when 2 out of 3 Reactor Coolant System Flow channels reached their setpoints. The turbine trip that followed also tripped No. 11 Feedwater Pump as designed. The breakers for No. 12 Reactor Coolant Pump and No. 12 Feedwater Pump opened approximately 5 seconds after the Bus 12 undervoltage, as designed.

The reactor protection system responded as designed to the loss of Bus 12 and the unit was stabilized in the hot shutdown condition in accordance with plant procedures following the reactor trip.

Cause of the event was determined and restart accomplished in accordance with plant procedures. The unit was returned to service at 2333 hours.

CAUSE OF THE EVENT

Cause of the event was accidental bumping of a breaker cubicle by a floor burnishing machine.

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Prairie Island Nuc Gen Plant - Unit 1		05000 282		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	OF	
				93	005	00	03	03

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

ANALYSIS OF THE EVENT

This event is reportable pursuant to 10CFR50.7(a)(2)(iv) since it involved an unplanned actuation of the reactor protection system. The event had no effect on public health and safety. The reactor protection system responded as designed to the loss of Bus 12 and the unit was stabilized in the hot shutdown condition in accordance with plant procedures following the reactor trip.

CORRECTIVE ACTION

When the burnishing machine hit the door hinge of Breaker 12-1, the attendant heard a noise coming from the bus that was recognized as abnormal. The attendant immediately called the control room to report the event.

Operators stabilized the unit in the hot shutdown condition following the reactor trip in accordance with plant procedures.

The event was discussed with all plant services attendants.

Several corrective actions are being considered to prevent recurrence of this event. Among them are:

- Further use of physical barriers and exclusion areas around electrical equipment.
- Evaluation of the practice of using power buffers and burnishers in proximity of electrical equipment.
- Evaluation of the need for training to include working around sensitive equipment.

FAILED COMPONENT IDENTIFICATION

None.

PREVIOUS SIMILAR EVENTS

Accidental breaker operations have previously been reported as Unit 1 LER's 85-011 and 85-014. However, these events resulted from inadvertent actuation of 480 V breaker manual trip devices rather than relay actuation caused by an impact to a 4160 V breaker cubicle door.