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Dresden Nuclear Power Station
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May 18, 1989

EDE LTR #89-408

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Licensee Event Report #89-015-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

E.D. Eenigenburg
Station Manager
Dresden Nuclear Power Station

EDE/ade

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
File/NRC
File/Numerical

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)	Docket Number (2)	Page (3)
Dresden Nuclear Power Station, Unit 2	0 5 0 0 0 2 3 7	1 of 0 4

Title (4)

Trip of the 2A Reactor Protection System (RPS) Motor Generator (MG) Set Due to High Ambient Temperatures

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)
									N/A	0 5 0 0 0
0 4	2 1	8 9	8 9	0 1 5	0 0	0 5	1 8	8 9	N/A	0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)			
N	___ 20.402(b)	___ 20.405(c)	X 50.73(a)(2)(iv)	___ 73.71(b)
POWER LEVEL (10) 0 9 6	___ 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 (Specify in Abstract below and in Text)
	___ 20.405(a)(1)(iii)	___ 50.73(a)(2)(i)	___ 50.73(a)(2)(viii)(A)	
	___ 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	TELEPHONE NUMBER
	AREA CODE
Scott Briley, Technical Staff Engineer Ext. 2526	8 1 5 9 4 2 - 2 9 2 0

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

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 fifteen single-space typewritten lines) (16)

On April 21, 1989 at 1537 hours with Unit 2 operating at 96% rated core thermal power, the main power supply breaker to the 2A Reactor Protection System (RPS) Motor Generator (MG) set drive motor tripped. This resulted in the loss of RPS Bus B, a Channel B half scram and the auto start of the B Standby Gas Treatment (SBGT) train due to the loss of power to the Channel B Reactor Building Ventilation radiation monitor. Investigation of the RPS MG set drive motor breaker revealed that one of the continuous run thermal overloads had tripped. The thermal overload was reset and an attempt was made to restart the RPS MG set; however, the attempt was unsuccessful. In order to reset the Channel B half scram, the power feed to RPS Bus B was transfered to the reserve power supply. The thermal overload contacts were subsequently cleaned and the 2A RPS MG set was successfully started. Subsequently, RPS Bus B was transferred back to its normal power supply. This event recurred April 25, 1989 at 0801 hours. The cause of the thermal overload trips has been attributed to high ambient temperature in the Motor Control Center (MCC) breaker cubicle. The short term corrective actions were to replace the thermal overloads with one having a slightly higher trip setpoint and increasing the trip setting from 100% to 115% of rated. As a long term corrective action, the thermal overloads will be replaced with ambient compensated thermal overloads during the next outage of sufficient length to complete this work. A review of past LERs has revealed one previous occurrence of a RPS MG set trip due to a trip of the thermal overload device, LER 88-013-0, Docket 050249.

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 MWt rated core thermal power.

Nuclear Tracking System (NTS) code numbers are identified in the text as (XXX-XXX-XX-XXXXX).

EVENT IDENTIFICATION:

Trip of the Main Power Supply Breaker for the 2A Reactor Protection System (RPS) Motor Generator (MG) Set Due to High Ambient Temperatures.

A. CONDITIONS PRIOR TO EVENT:

Unit: 2 Event Date: April 21, 1989 Event Time: 1537 hours

Reactor Mode: N Mode Name: Run Power Level: 96%

Reactor Coolant System (RCS) Pressure: 995 psig

B. EVENT DESCRIPTION:

On April 21, 1989 at 1537 hours with Unit 2 operating at 96% rated core thermal power, the main power feed breaker to the 2A RPS [JC] MG set drive motor tripped. This resulted in the loss of RPS Bus B, a Channel B half scram and the auto start of the B Standby Gas Treatment (SBGT) [BH] train due to the loss of power to the Reactor Building Ventilation radiation monitor. At the time of the event the A SBGT train was operating due to the Unit 2 Reactor Building Ventilation [VA] being out-of-service for maintenance. The A SBGT train was immediately secured following the event. The Operations Department Shift Foreman (SF) went to the RPS MG set drive motor breaker at Motor Control Center (MCC) 28-2 and discovered that one of the two continuous run thermal overload devices had tripped. The SF then depressed the reset button on the breaker and an attempt was made to restart the 2A RPS MG set. This attempt was unsuccessful. On April 21, 1989 at 1601 hours the RPS Bus B was placed on reserve power in order to reset the half scram. See Figure 1. Work Request 84244 was initiated to investigate the problem.

The thermal overloads on the breaker for the 2A RPS MG set drive motor were then cleaned and verified to operate within specifications. The breaker auxiliary contacts were also cleaned. On April 21, 1989 at 2245 hours the 2A RPS MG set was restarted and the RPS Bus B was returned to normal power.

On April 25, 1989 at 0801 hours with Unit 2 operating at 99% rated core thermal power, the 2A RPS MG set again tripped. This resulted in a Channel B half scram, a Reactor Building Ventilation System isolation and the auto start of the A SBGT train. Investigation revealed that the power feed breaker to the 2A RPS MG set drive motor had once again tripped due to an actuation of a thermal overload device.

On April 25, 1989 at 0811 hours power was reestablished to RPS Bus B from the reserve power supply. The half scram was reset and all systems were returned to normal. The Electrical Maintenance Department then replaced both continuous run thermal overloads with overloads having a higher trip setpoint. The thermal overload setting was also increased from 100% to 115% of rated. On April 27, 1989 at 2339 hours the 2A RPS MG set was restarted and the RPS Bus B was energized from its normal power supply.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with the requirements of 10CFR50.73(a)(2)(iv) which requires the reporting of any event or condition that results in the manual or automatic actuation of any Engineered Safety Feature (ESF).

The cause of the continuous run thermal overload trips has been attributed to high temperatures in the MCC breaker cubicle. This event was investigated in accordance with the Problem Analysis Data Sheet (PADS) program, and it was determined that the combination of heat from the distribution transformers in the MCC near the cubicle, and high ambient temperatures in the vicinity of the MCC contributed to the high temperature in the cubicle. The elevated temperature at the MCC were contributed to a combination of warm weather and the Turbine Building Ventilation [VK] System configuration at the time of the events.

D. SAFETY ANALYSIS OF EVENT:

The purpose of the RPS is to monitor the critical parameters of reactor operation to protect against conditions that could degrade the fuel barriers and the reactor coolant pressure boundary. The RPS logic fails conservatively whenever it is de-energized. The de-energized bus was quickly put on reserve power and the affected systems were returned to normal. As all systems performed as intended, the safety significance of this event is considered minimal.

E. CORRECTIVE ACTIONS:

The immediate corrective action was to place the RPS Bus B on reserve power and reset the half scram. The thermal overloads were then cleaned and tested. The thermal overload heater had an amperage rating of 35.8 amps. The A and C phases of the breaker were found to operate at 31 amps and 34 amps respectively. Although these results were acceptable, it was decided to increase the thermal overload heater one size and increase the thermal overload setting from 100% to 115% in order to prevent future premature trips. This setpoint change was evaluated and approved in accordance with Dresden Administrative Procedure (DAP) 11-11, Control of Setpoint Changes. The new thermal overload heater has an amperage rating of approximately 40 amps. As a long term corrective action the thermal overloads will be changed out with ambient compensated thermal overloads during the next outage of sufficient length to complete this work (237-200-89-07201).

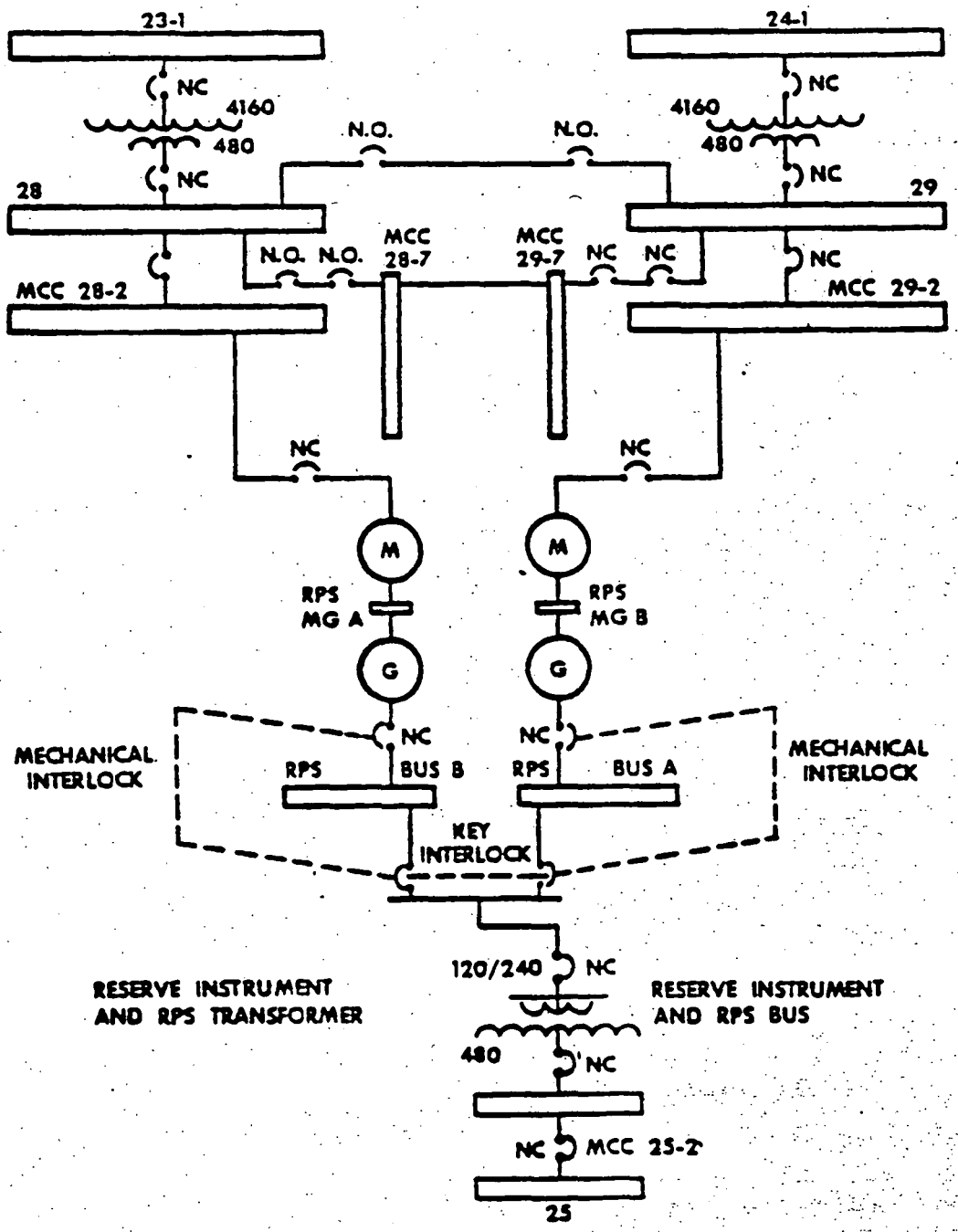
F. PREVIOUS OCCURRENCES:

LER/Docket Number	Title
88-013/050249	Loss of the 3A Reactor Protection System Bus and Subsequent ESF Actuations Due to a Loose Wire Connection.

This event was caused by a loose wire connection to a thermal overload. The loose connection heated the thermal overload to the point that it tripped the RPS MG set. The corrective actions were to secure the connection and revise maintenance procedures to ensure that thermal overload connections are secure following maintenance.

G. COMPONENT FAILURE DATA:

As no component failures occurred during this event, this section is not applicable and an NPRDS search was not performed.



REACTOR PROTECTIVE SYSTEM DISTRIBUTION

Figure 1