



Commonwealth Edison
Dresden Nuclear Power Station
R.R. #1
Morris, Illinois 60450
Telephone 815/942-2920

July 29, 1992

CWS LTR #92-470

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

Licensee Event Report #92-21, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(iv).

L. F. Grewer for 7/30/92

Charles W. Schroeder
Station Manager
Dresden Nuclear Power Station

CWS/jmt

Enclosure

cc: A. Bert Davis, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

(ZDVR/695)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

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

Title (4) Automatic Isolation Of Reactor Building Ventilation Due to Radiation Monitor Trip Relay 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	7	0	6	9	2	9	2	0	2	1	0	5	0	0	0	2	4	9

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																				
POWER LEVEL (10)	0 6 6	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 50.73(a)(2)(vii)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)	<input type="checkbox"/> 50.73(a)(2)(x)	<input type="checkbox"/> 73.71(b)	<input type="checkbox"/> 73.71(c)	<input type="checkbox"/> Other (Specify in Abstract below and in Text)

LICENSEE CONTACT FOR THIS LER (12)

Name: Doug Wallace, Technical Staff System Engineer Ext. 2966 TELEPHONE NUMBER: AREA CODE 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	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS
X	J	E	6 2 #	G 0 8 0	N				

SUPPLEMENTAL REPORT EXPECTED (14)

Expected Submission Date (15) X | NO

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

On July 6, 1992, at 0003 hours with Unit 2 and Unit 3 at 66% and 64% power respectively, the Units 2 and 3 Reactor Building Ventilation (RBV) system isolated without an apparent cause. The Standby Gas Treatment System was being operated at this time and therefore did not autostart. Investigation began immediately and discovered the cause to be a burnt-out relay in the RBV Radiation Monitor trip signal circuit. There have been previous problems with this type of relay and a replacement program for these relays was previously initiated. This event had minimal safety significance because the RBV isolation occurred properly when challenged by the relay failure. Corrective action included immediate review of possible conditions that isolate RBV to ensure that this was a spurious signal. The relay was replaced and the RBV system was returned to normal operation. A similiar previous event occurred on July 23, 1991, involving a RBV Radiation Monitor power supply failure and is reported in LER 91-020/05000237.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT Energy Industry Identification System (EIIS) codes are identified in the text as [XX]

PLANT AND SYSTEM IDENTIFICATION:

General Electric - Boiling Water Reactor - 2527 Mwt rated core thermal power

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

EVENT IDENTIFICATION:

Automatic Isolation of Reactor Building Ventilation (RBV) [VA] Due to RBV Radiation Monitor [IL] Trip Relay Failure

A. CONDITIONS PRIOR TO EVENT:

Unit(s): 2(3) Event Date: July 6, 1992 Event Time: 0003 Hours
 Reactor Mode(s): N(N) Mode Name(s): Run(Run) Power Levels(s): 66(64)%
 Reactor Coolant System (RCS) Pressure: 955 (953) psig

B. DESCRIPTION OF EVENT:

On July 6, 1992, with Unit 2 at 66% and Unit 3 at 64% power, the Units 2 and 3 Reactor Building Ventilation (RBV) Supply and Exhaust Fans tripped and the RBV Isolation Dampers closed without any Control Room indications requiring a RBV isolation trip. The Unit 2/3 "B" Standby Gas Treatment System [BH] (SBGTS) train was already operating for its monthly surveillance, Dresden Operating Surveillance (DOS) 7500-2, Standby Gas Treatment Charcoal Adsorber Moisture Removal/Damper Timing, and therefore did not autostart. Secondary Containment integrity was not affected because proper Reactor Building differential pressure was maintained via SBGTS. Plant operation was not affected. The Shift Supervisor and the Electrical Maintenance Department immediately began an investigation into the cause of this event.

C. APPARENT CAUSE OF EVENT:

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

The cause of this event was attributed to a burnt-out coil in relay 2-1701-100B in the 902-41 panel of the Auxiliary Electrical Equipment Room. This normally-energized relay provides the trip function of the RBV Exhaust Duct Radiation Monitor. This radiation monitor detects radioactive effluents in the RBV system and initiates a RBV isolation and autostart of SBGTS. A review of maintenance records indicate infrequent failures of this type of relay and indicate that this CR120A relay was probably original plant equipment. It is believed that the cause of the relay failure was normal aging.

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D. SAFETY ANALYSIS OF EVENT:

The RBV Exhaust Duct Radiation Monitors are designed to monitor radiation levels in the RBV system and upon abnormal radiation levels, isolate the RBV system and initiate the SBGT system. The SBGT system will then maintain negative pressure in the Reactor Building, preventing the ground level release of airborne radioactivity, and treating the effluent from the Reactor Building prior to discharging it through the Main 2/3 Chimney so as to minimize the release of radioactive material to the environs. The initiation logic for the RBV radiation monitors is arranged such that a single upscale reading of greater than 4mR/hr on either the A or the B RBV radiation monitor will initiate a trip signal. Additionally, if both the A and B RBV monitors fail downscale, a trip signal is also initiated. Consequently, as a result of the relay failure, the trip caused the RBV system to isolate as designed. The SBGTS would have auto-started if it had not already been running. Since appropriate systems and safety features operated as designed, the safety significance of this event is considered minimal.

E. CORRECTIVE ACTIONS:

As an immediate corrective action, the RBV Radiation Monitors and their associated recorder were inspected and no evidence of a high radiation reading or spike was evident. Also, all other RBV and SBGTS trip signals were investigated and no condition was found which would indicate an actual trip condition. Upon investigation, a failed relay was determined to be the root cause. Work Request D10601 was written to replace the relay. Dresden has previously initiated a program (NTS 237-140-91-002) to replace all the normally energized CR120A relays in Safety Related applications during the next two refueling outages on Units 2 and 3. No other corrective action is required at this time.

F. PREVIOUS OCCURENCES:

LER/Docket Numbers Title

- 91-020/05000237 RBV Isolation and Automatic SBGT Initiation Due to Radiation Monitor Power Supply Failure.
The Unit 2 RBV and Fuel Pool Radiation Monitor power supply failed causing a high radiation trip signal to be generated. RBV and SBGT isolated as designed.
- 89-026/05000237 Start of SBGTS Due To Loose RBV System Radiation Monitor Connection
A loose sensor/convertor cable caused a signal spike and initiated RBV isolation and SBGTS initiation as designed.
- 89-018/05000237 Auto Start of SBGTS Due To Spurious RBV Radiation Monitor Trip
An exposed wire on the trip unit came in contact with the chassis ground during a Functional Test and caused the spike. RBV isolation and SBGTS initiation occurred as designed.
- 88-005/05000237 RBV Trip and SBGT Auto Start Due To Spurious Ventilation Monitor Spike
Spurious spike on 2A RBV Radiation Monitor tripped RBV and initiated SBGTS.

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G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>
General Electric	Relay	CR120A

An industry-wide NPRDS search revealed 81 failures of this type of relay.