



**Commonwealth Edison**

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

September 8, 1992

CWS LTR #92-555

U.S. Nuclear Regulatory Commission  
Document Control Desk  
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Licensee Event Report 92-28, Docket 050-237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(v)(D).

*L. J. Germer for 9/10/92*

Charles W. Schroeder  
Station Manager  
Dresden Nuclear Power Station

CWS/

Enclosure

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

(ZDVR/752)

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LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1) Dresden Nuclear Power Station, Unit 2 Docket Number (2) 0 5 10 0 0 2 13 17 Page (3) 1 of 0 4

Title (4) Initiated Unit Shutdown Due to Inoperable 2/3 Diesel Generator and Auto Closure of LPCI Minimum Flow Valve

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)		
08	16	92	92	028	00	09	09	92					

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)																					
		20.402(b)	20.405(a)(1)(i)	20.405(a)(1)(ii)	20.405(a)(1)(iii)	20.405(a)(1)(iv)	20.405(a)(1)(v)	20.405(c)	50.36(c)(1)	50.36(c)(2)	50.73(a)(2)(i)	50.73(a)(2)(ii)	50.73(a)(2)(iii)	50.73(a)(2)(iv)	50.73(a)(2)(v)	50.73(a)(2)(vii)	50.73(a)(2)(viii)(A)	50.73(a)(2)(viii)(B)	50.73(a)(2)(x)	73.71(b)	73.71(c)	Other (Specify in Abstract below and in Text)	
POWER LEVEL (10)	075																						

LICENSEE CONTACT FOR THIS LER (12)

Name: Sang J. Rhee, Technical Staff System Engineer Ext. 2371

TELEPHONE NUMBER: AREA CODE 815 942-1292

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	B M	D P T	R 3 6 9	Y					

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 August 16, 1992, at 2050 hours, with Unit 2 at 75% rated core thermal power, during a 7-day Limiting Condition for Operation (LCO) due to failure of the 2/3 Diesel Generator (DG) monthly surveillance test, the Unit 2 Nuclear Station Operator (NSO) discovered the Low Pressure Coolant Injection (LPCI) minimum flow valve, M02-1501-13B, in the closed position. Two attempts were made by the Unit NSO to re-open the minimum flow valve but both attempts resulted in the valve auto closing. Approximately 20 minutes later, at 2110 hours, the analog trip panel trouble alarm annunciated in the Control Room. The Shift Supervisor was immediately dispatched and found flow transmitter FT-2-1501-58B for the LPCI minimum flow valve, M02-1501-13B, failed high. With the minimum flow valve closure, the LPCI (Division II) subsystem was declared inoperable and placed in the Degraded Equipment Log (DEL). In accordance with the Technical Specification 3.0.B, with the Unit 2/3 DG and LPCI inoperable, the reactor is required to be in hot shutdown within 12 hours and cold shutdown within 24 hours. A load reduction was initiated at 2355 hours and an Unusual Event was declared. FT-2-1501-58B was replaced and tested satisfactorily. The LPCI subsystem was declared operable and the Unusual Event was terminated at 0505 hours on August 17, 1992. This event had minimal safety significance since the LPCI Division I subsystem was available (2 pumps) as were both Unit 2 Core Spray subsystems. The 2/3 DG was also able to perform its intended function throughout the LPCI degraded condition. A similar event was reported by LER 92-19/050237.

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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:

Initiated Unit Shutdown Due to Inoperable 2/3 Diesel Generator and Auto Closure of Low Pressure Coolant Injection (LPCI) Minimum Flow Valve

A. CONDITIONS PRIOR TO EVENT:

Unit: 2                                      Event Date: August 16, 1992                                      Event Time: 2050 Hours

Reactor Mode: N                                      Mode Name: Run                                      Power Level: 75%

Reactor Coolant System (RCS) Pressure: 975 psig

B. DESCRIPTION OF EVENT:

On August 16, 1992, at 2050 hours, with Unit 2 at 75% rated core thermal power, during a 7-day Limiting Condition for Operation (LCO) due to failure of the 2/3 Diesel Generator (DG) monthly surveillance test, the Unit 2 Nuclear Station Operator (NSO) discovered LPCI [B0] minimum flow valve M02-1501-13B, in the closed position. Two attempts were made by the Unit NSO to re-open the minimum flow valve but both attempts resulted in the valve auto-closing. Approximately 20 minutes later, at 2110 hours, the analog trip panel trouble alarm annunciated in the control room. The Shift Supervisor was immediately dispatched and found flow transmitter FT-2-1501-58B for LPCI [B0] minimum flow valve, M02-1501-13B, failed high. With the minimum flow valve closed, the LPCI [B0] (Div II) subsystem was declared inoperable and placed in the Degraded Equipment Log (DEL). In accordance with the Technical Specification 3.5.A.8, with the Unit 2/3 DG [EK] and a LPCI [B0] Loop inoperable, the reactor is required to be in cold shutdown within 24 hours. After additional review of Technical Specification section 3.0.B and the Diesel Generator Inoperability Checklist Operating Order, it was determined that Technical Specification Section 3.0.B applied, and that a 12 hour shutdown to hot shutdown was required. A load reduction was initiated at 2355 hours and an Unusual Event was declared. Work Request (WR) 11747 was initiated to troubleshoot and correct the suspected flow transmitter failure.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 10CFR50.73(a)(2)(v)(D), which requires the reporting of any event or condition that alone could have prevented the fulfillment of the safety function of systems needed to mitigate the consequences of an accident.

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The apparent cause of this event was attributed to the inoperable Unit 2/3 DG and LPCI minimum flow valve M02-1501-13B, auto closure. The root causes of these events are as listed below:

1. The Unit 2/3 DG was entered into the DEL on August 14, 1992, at 1914 hours. During monthly operability surveillance, the 2/3 DG failed its low idle speed warm-up test. This was the first time this DG was tested by using a low speed warm-up procedure. The recently changed procedure required a start of the DG and subsequent run at low speed for a warm-up period. During the initial engine warm-up period, the DG tripped on low cooling water pressure. At low engine speed, the cooling water pressure was below the trip setpoint of 35 psig. This individual event was reported under Deviation Report (DVR) 12-2/3-92-133.
2. LPCI [B0] minimum flow valve M02-1501-13B auto closure was due to failure of the LPCI [B0] minimum flow valve flow transmitter, FT-2-1501-58B. The transmitter was failed high due to water intrusion into the transmitter which caused corrosion around the terminal blocks. It is believed that the water intrusion occurred during 2B LPCI heat exchanger tube leak maintenance conducted the week of July 7, 1992.

A maintenance history review was performed to determine if any adverse trends are developing for the LPCI [B0] minimum flow differential transmitter. The Total Job Management (TJM) system revealed that no maintenance, other than routine surveillance, has been required for the Unit 2 and Unit 3 minimum flow transmitters.

D. SAFETY ANALYSIS OF EVENT:

Throughout this entire event, the Unit 2/3 DG was capable of performing its safety function because the low cooling water pressure trip is bypassed during an auto-start condition. However, it was conservatively declared inoperable to allow for troubleshooting and repair.

The function of the LPCI minimum flow valve M02-1501-13B is to provide a minimum flow path for the 2C and 2D LPCI pumps in order to prevent pump damage. The minimum flow valve is repositioned based on system flow. At the time the valve went closed, the pumps were not operating and redundant low pressure emergency cooling systems were unaffected. In addition, all incoming transmission lines (normal power) were available and in-service during the LPCI subsystem inoperable condition. Therefore, the safety significance of this event was considered minimal.

E. CORRECTIVE ACTIONS:

WR 11747 was written to have the Instrument Maintenance Department (IMD) replace the failed flow transmitter. Subsequent testing by the IMD, utilizing Dresden Instrument Surveillance (DIS) 1500-14, Low Pressure Coolant Injection System Discharge Header Flow Transmitter Calibration and Maintenance, provided verifiable data supporting the failure of the flow transmitter as being directly related to the water intrusion. The IMD inspected three other non-environmental qualification (EQ) pieces of equipment (FT-2-1549B, FT-2-1461B, and PS-2-1467B) for water intrusion at instrument rack 2202-19B and found no water intrusion. Also, WRs 11974 and 11975 were initiated to inspect other transmitters for water intrusion on instrument racks 2202-19A and 2202-19B (237-200-92-16701). This inspection will be completed by September 30, 1992.

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F. PREVIOUS OCCURENCES:

LER/Docket Numbers    Title

12-2-92-019/050237    Containment Spray Interlock Momentarily Inoperable Due to Surveillance Testing with 2/3 Diesel Generator Inoperable

While the Unit 2/3 Diesel Generator was Out-of Service (OOS) for maintenance, the Unit 2 and 3 containment spray interlock Master Trip Units (MTU) were tested. This made the MTU momentarily inoperable while the Unit 2/3 Diesel Generator was OOS for scheduled maintenance. This exceeded the requirements of Technical Specification Table 3.2.2. and Specification 3.0.B.

12-2-90-008/050237    Failure of HPCI Steam Line High Flow Isolation Differential Pressure Transmitter Due to Unknown Cause

While performing DIS 2300-10, Instrument Maintenance determined that the HPCI High Steam Flow Isolation Differential Pressure Transmitter (dPT) 2352 was out of tolerance and unable to be calibrated. Technical Specification Table 3.2.1 requires that both dPTs be operable.

G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Rosemount, Inc	Differential Pressure Transmitter	1153DB3PA	N/A

An industry-wide NPRDS data base search revealed one failure of a Rosemount 1153DB3PA transmitter due to water intrusion.