



Commonwealth Edison
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, Illinois 60450
Telephone 815/942-2920

June 28, 1993

GFS PMLTR 93-0001

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

Licensee Event report 92-15-03, Docket 050249. This revised report is being submitted to provide an updated apparent cause of event and actions taken regarding this event.

Gary F. Spedl 6-28-93
Gary F. Spedl
Station Manager
Dresden Station

GFS/slb

Enclosure

cc: J. Martin, Regional Administrator, Region III
NRC Resident Inspector's Office
File/NRC
File/Numerical

020031

9307020227 930628
PDR ADOCK 05000249
S PDR

TEPP
11

SUPPLEMENTAL REPORT TO DIR/LER

DVR NO.					SYSTEM AFFECTED
	STA	UNIT	YEAR	NO.	
D -	12	-	3	-	92 - 015
					1500
<u>PART 1</u>	TITLE OF EVENT				<u>OCCURRED</u>
	LPCI Minimum Flow Valve M03-1501-13A Auto Closure During Valve Operability Test Due to Unknown Cause				
				6/14/92	1915
				DATE	TIME
REASON FOR SUPPLEMENTAL REPORT					
A supplemental report will be issued to provide an updated apparent cause of event and actions taken regarding this event.					
<u>PART 2</u>					
ACCEPTANCE BY STATION REVIEW					<i>[Signature]</i>
DATE					6-24-93
SUPPLEMENTAL REPORT APPROVED AND AUTHORIZED FOR DISTRIBUTION					<i>[Signature]</i>
					6-28-93
					STATION MANAGER
					DATE

LICENSEE EVENT REPORT (LER)

Form Rev 2.0

Facility Name (1)				Docket Number (2)				Page (3)			
Dresden Nuclear Power Station, Unit 3				0 5 0 0 0 2 4 9				1 of 0 4			

Title (4)
LPCI Minimum Flow Valve MO3-1501-13A Auto Closure During Valve Operability Test Due to Unknown Cause

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	6	1 4 9 2	9 2	0 1 5	0 3	0 6	2 8	9 3	N/A				
										N/A			

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

POWER LEVEL (10)	0	0	0	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)
				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)		

LICENSE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER					
	AREA CODE					
Sang J. Rhee, Technical Staff System Engineer						8 1 5 9 4 2 - 2 9 2 0
Ext. 2371						

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRPDS

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 June 14, 1992 at 1915 hours with Unit 3 at 50% rated core thermal power, while performing Dresden Operating Surveillance (DOS) 1500-1, LPCI System Valve Operability Test, the LPCI minimum flow valve, MO3-1501-13A, spuriously auto closed when the outboard LPCI Injection valve, MO3-1501-21A, was being returned to the normally open position. The MO3-1501-21A valve had been closed first to cycle the MO3-1501-22A valve (inboard LPCI Injection) in accordance with DOS 1500-1. The LPCI minimum flow valve was repositioned back to the open position immediately. The LPCI valve operability test was continued, and the LPCI minimum flow valve closed a second time when the A LPCI Loop Outboard Torus Cooling/Test Valve, MO3-1501-38A was cycled. The investigation identified that the volume between the MO3-1501-38A(B) and the MO3-1501-20A(B) was depressurized during unit normal operation. Subsequently, when the MO3-1501-38A(B) was to cycle to open during monthly LPCI System Valve Operability test per DOS 1500-01, an instantaneous flow is sensed by the flow element as the volume repressurizes resulting in the closure of the MO3-1501-13A(B). Also, apparent root cause of the MO3-1501-13A valve auto closure while the MO3-1501-21A valve was returning to the normally open position was due to differential pressure bounded by the MO3-1501-21A. While the MO3-1501-21A valve was closed to cycle the MO3-1501-22A valve, an increase pressure in upstream piping volume bordered by the valves MO3-1501-21A(B), MO3-1501-27A(B), and MO3-1501-18A(B) through the jockey pump. Subsequently, when the MO3-1501-21A was opened, an instantaneous flow is apparently sensed by the flow element as the volume depressurizes resulting in the closure of the MO3-1501-13A.

This event had minimal safety significance because the LPCI minimum flow valve would have auto opened under LPCI initiation logic if necessary under accident conditions. A similar event was reported by LER 92-12/050249.

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 4 9	LER NUMBER (6)						Page (3)			
		Year		Sequential Number		Revision Number					
		9 2	--	0 1 5	--	0 3		0 2	OF	0 4	

TEXT Energy Industry Identification System (EIS) 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:

A. CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: June 14, 1992 Event Time: 1915 Hours
 Reactor Mode: N Mode Name: Run Power Level: 50%
 Reactor Coolant System (RCS) Pressure: 957 psig

B. DESCRIPTION OF EVENT:

On June 14, 1992 at approximately 1915 hours with Unit 3 in Run mode at 50% rated core thermal power, while performing Dresden Operating Surveillance (DOS) 1500-1, LPCI System Valve Operability Test, the Low Pressure Coolant Injection (LPCI) [BO] minimum flow valve, M03-1501-13A auto closed when the outboard LPCI Injection valve, M03-1501-21A, was being returned to the normally open position. The LPCI minimum flow valve was repositioned back to the open position immediately. The Nuclear Station Operator (NSO) then notified the Station Control Room Engineer (SCRE) who notified the Shift Engineer. Work Request (WR) 09840 and 09839 were initiated to investigate the LPCI minimum flow valve auto closure anomaly. The LPCI valve operability test continued, and the LPCI minimum flow valve closed a second time when the A LPCI Loop Outboard Torus Cooling/Test Valve, M03-1501-38A, was cycled. Similar spurious minimum flow valve movements were also observed while manipulating the B LPCI Loop Outboard Torus Cooling Test Valve, M03-1501-38B. It should be noted that minimum flow valve movement while manipulating the 38A(B) valves has been previously identified.

C. APPARENT CAUSE OF EVENT:

This report is being submitted in accordance with 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).

Upon further investigation testing on July 2, 1992 and June 14, 1993 under WR 09840 and 09839 revealed that the volume between the M03-1501-38A(B) and the Inboard Torus Cooling/Test Valve M03-1501-20A(B) was depressurized during normal unit operation. Since the LPCI System Valve Operability test is performed on a monthly basis, at completion of the previous LPCI pump operability surveillance, the volume of piping between the M03-1501-38A(B) and M03-1501-20A(B) was left depressurized. Subsequently, when the M03-1501-38A(B) valve is opened for valve operability, an instantaneous flow is sensed by the flow element as the volume repressurizes, resulting in the closure of the LPCI minimum flow valve, M03-1501-13A(B).

Also, when M03-1501-21A(B) was closed to cycle M03-1501-22A(B) valve, an increased pressure in upstream piping volume bordered by the valves M03-1501-21A(B), M03-1501-27A(B), and M03-1501-18A(B) through the jockey pump (keep fill system). Subsequently, when the M03-1501-21A(B) was opened, an instantaneous flow is sensed by the flow element as the volume depressurizes resulting in the closure of the M03-1501-13A.

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 4 9	LER NUMBER (6)									Page (3)				
		Year			Sequential Number			Revision Number			0	3	OF	0	4
		9	2	--	0	1	5	--	0	3					

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

D. SAFETY ANALYSIS OF EVENT:

The function of valves MO3-1501-13A and -13B is to provide a minimum flow path for the LPCI pumps in order to prevent pump damage. The valves are repositioned based on system flow. At the time the valves went closed, the pumps were not operating and redundant low pressure emergency cooling systems were unaffected. The valves were repositioned back to open position immediately. Momentary closing of the LPCI minimum flow valves presented minimal potential for damaging the pumps as damage would occur only after prolonged operation with no minimum flow protection. Furthermore, the minimum flow valves would have automatically opened if necessary via LPCI initiation logic under accident conditions. Safety significance of this event is therefore considered minimal.

E. CORRECTIVE ACTIONS:

Investigation/testing was performed by the Operations Department, Instrument Maintenance Department, and Technical Staff to duplicate the event. Immediate corrective actions were: 1) Check the calibration of LPCI discharge header flow transmitter (FT 3-1501-58A) (found satisfactory), 2) Flush and vent the common high and low flow transmitter sensing lines to ensure free of air bubbles. Revised procedures against DOS 1500-1 and DOS 1600-1, (Quarterly Valve Timing). The changes consisted of a note to inform the operators of the potential LPCI minimum flow valve auto closure when cycling the MO2(3)-1501-38A(B) and MO2(3)-1501-21A(B).

F. PREVIOUS OCCURRENCES:

<u>LER/Docket Numbers</u>	<u>Title</u>
12-3-92-12/050249	LPCI Minimum Flow Valve MO3-1501-13A Auto Closure During Valve Operability Test Due to Unknown Cause.
	While performing DOS 1500-01, LPCI System Valve Operability Test, the LPCI minimum flow valve, MO3-1501-13A, auto closed when the LPCI Torus Cooling/Test valve, MO3-1501-38A, was cycled. Investigation suggested (see section C above) that the volume between the MO3-1501-38A and MO3-1501-20A was depressurized during the previous monthly LPCI System Valve Operability test. Subsequently, when MO3-1501-38A was cycled, an instantaneous flow was sensed by the flow element as the volume repressurized resulting in the closure of the MO3-1501-13A.

FACILITY NAME (1) Dresden Nuclear Power Station	DOCKET NUMBER (2) 0 5 0 0 0 2 4 9	LER NUMBER (6)						Page (3)					
		Year		Sequential Number		Revision Number							
		9	2	--	0	1	5	--	0	3	0	4	OF

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

12-2-92-08/050237

Unanticipated Valve LPCI Minimum Flow Valve MO2-1501-13B Closure Due to Spurious Master Trip Unit Spike During Calibration.

While performing Dresden Instrument Surveillance (DIS) 2300-3, High Pressure Coolant Injection Low Reactor Pressure Isolation Master Trip Unit (MTU) Calibration, the LPCI minimum flow valve, MO2-1501-13B inadvertently closed due to a spurious MTU spike.

12-2-91-26/050237

Unanticipated Valve Closures During 125 VDC Ground Checking Due to Procedure Deficiency.

While performing DOP 6900-06, 125 VDC Ground Detection, the LPCI minimum flow valve MO2-1501-13A inadvertently closed due to loss of power in the circuit. Although the circuit design causes this closure on de-energization of power, DOP 6900-06 did not state this would occur.

G. COMPONENT FAILURE DATA:

This event at this time is not classified as a component failure; therefore, this section is not applicable.