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Dresden Nuclear Power Station
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June 28, 1993

GFS PMLTR 93-0001

U. S. Nuclear Regulatory Commission
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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
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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					<div style="display: flex; justify-content: space-between;"> 6/14/92 1915 </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> DATE TIME </div>	
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					<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; border-bottom: 1px solid black; margin-left: 10px;"></div> </div>	
DATE					<div style="display: flex; align-items: center;"> <div style="flex: 1;"> 6-24-93 </div> <div style="flex: 1; border-bottom: 1px solid black; margin-left: 10px;"></div> </div>	
SUPPLEMENTAL REPORT APPROVED AND AUTHORIZED FOR DISTRIBUTION					<div style="display: flex; align-items: center;"> <div style="flex: 1;"> </div> <div style="flex: 1; border-bottom: 1px solid black; margin-left: 10px;"></div> </div> <div style="display: flex; justify-content: flex-end; margin-top: 5px;"> 6-28-93 </div>	
					<div style="display: flex; justify-content: space-between;"> STATION MANAGER DATE </div>	

Form Rev 2.0

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

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.

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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.

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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:

LER/Docket Numbers

Title

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.

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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.