



Commonwealth Edison

Dresden Nuclear Power Station

R.R. #1

Morris, Illinois 60450

Telephone 815/942-2920

September 22, 1989

EDE LTR #89-729

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

Licensee Event Report #89-022-0, Docket #050237 is being submitted as required by Technical Specification 6.6, NUREG 1022 and 10 CFR 50.73(a)(2)(v)(D).

*E.D. Eenigenburg*

E.D. Eenigenburg  
Station Manager  
Dresden Nuclear Power Station

EDE/jt

Enclosure

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

(0669k)

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PDR ADOCK 05000237  
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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 10 10 10 12 13 17 | 1 of 0 4

Title (4)

High Pressure Coolant Injection System Inoperable Due to Room Cooler Broken Drive Belts

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	8	27	8	9	0	2	2	0	9	2	2	8	9	None	0	5	10	10	10		
														None	0	5	10	10	10		

OPERATING MODE (9)

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10CFR (Check one or more of the following) (11)

POWER LEVEL (10)		0	9	3	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
					20.405(a)(1)(i)	50.36(c)(1)	X 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
Jerry F. Lizalek, Technical Staff System Engineer Ext. 2421	AREA CODE: 8 1 5 9 4 2   -2 19 12 10

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	B	J	C   L   R	X   X   X   X					N

SUPPLEMENTAL REPORT EXPECTED (14)

Yes (If yes, complete EXPECTED SUBMISSION DATE)	X   NO	Expected Submission Date (15)	Month	Day	Year
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ABSTRACT (Limit to 1400 spaces, i.e, approximately fifteen single-space typewritten lines) (16)

At 0015 hours on August 27, 1989 during normal Unit 2 operation at 93% rated core thermal power, increasing High Pressure Coolant Injection (HPCI) system room ambient temperatures were observed. Upon visual inspection, it was discovered that the HPCI room cooler drive belts had broken. The HPCI system was then declared inoperable. The immediate corrective actions were to replace the drive belts. In addition, long term corrective actions have been initiated to prevent recurrence. The safety significance of this event was determined to be minimal since the HPCI system remained capable of automatically initiating and fulfilling its design basis operational requirements before a postulated automatic HPCI system isolation on high area temperature. A similar previous occurrence was reported by LER 87-18 on Docket 050237.



FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
		Year	///	Sequential Number	///	Revision Number				
Dresden Nuclear Power Station	0   5   0   0   0   2   3   7	8   9	-	0   2   2	-	0   0	3	OF	0   4	

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

D. SAFETY ANALYSIS OF EVENT:

Although the HPCI system was conservatively declared inoperable in accordance with Station policy as a result of the room cooler inoperability, automatic function of HPCI was not hindered. Upon automatic initiation to mitigate the consequences of a postulated small high energy line break (HELB), the HPCI pump would take suction from the condensate storage tank [KA] or the suppression pool [BT]. The water from either of these sources would displace the feedwater leakage within the HPCI injection piping, thus reducing the piping temperature and overall room temperature to approximately 125 degrees F. At this room temperature, it was determined by engineering analysis that the HPCI system could operate for approximately 80 hours at full capacity prior to the room reaching the 200 degrees F HPCI room temperature HPCI system isolation setpoint even with the room cooler inoperable. This analysis is documented in Nuclear Fuel Services Department report RSA-D:89-01.

Updated Final Safety Analysis Report (FSAR) Figure 6.2.5:5 indicates that following a small HELB, the HPCI system will reduce reactor pressure to 350 psig in approximately 300 seconds. At this pressure, the LPCI or Core Spray [BM] system is capable of mitigating the consequences of a small HELB. Although the LPCI system was inoperable at the time of this event, the Core Spray system was operable at all times. In addition, the Isolation Condenser system [BL] and the Automatic Depressurization system (ADS) [SB] were operable throughout this entire event to provide additional redundant means for reactor pressure control.

For the above reasons, the safety significance of this event was considered to be minimal.

E. CORRECTIVE ACTIONS:

Immediate corrective actions included replacement of the HPCI room cooler drive belts under the direction of Work Request 86942. The HPCI system was then declared operable at 0525 hours on August 27, 1989 and the 24 hour LCO was terminated. A maintenance and system history review indicated that the drive belts were last replaced on February 15, 1989. The frequency of drive belt replacement as determined by the Maintenance Improvement Program is presently established as annual until the root cause of the high HPCI room temperatures is resolved. The Operations Department will continue routine rounds of the HPCI rooms to ensure continued cooler operability. Since the source of the elevated HPCI room ambient temperatures is believed to be feedwater backflow past valve M02-2301-8 and check valve 2-2301-7, Work Requests 86116 and 86117, respectively, were initiated to investigate and/or repair the valves. These work requests are scheduled to be completed by the Mechanical Maintenance Department during the upcoming refuel outage, which is currently scheduled to begin in December, 1989 (200-237-89-11901).

F. PREVIOUS EVENTS:

Two previous events involving the HPCI room cooler are listed below.

LER/Docket Numbers	Title
85-006/050249	HPCI Room Cooler Inoperability

The HPCI system was declared inoperable as a result of the service water leading to the room cooler being isolated due to a personnel error. The service water supply was restored and HPCI returned to operable status. The room cooler service water supply valves were also locked open and added to a locked valve checklist.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)						Page (3)		
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TEXT Energy Industry Identification System (EIS) codes are identified in the text as [XX]

87-18/050237 Inoperable HPCI Room Cooler Due to Broken Drive Belts Caused by Normal Wear

The cooler drive belts were replaced. Also, a preventative maintenance drive belt replacement surveillance was instituted with a refuel outage frequency.

G. COMPONENT FAILURE DATA:

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
OPTIBELT	V-Belt	B-51	N/A

The drive belt is not a reportable component to NPRDS: