



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

April 18, 1994

GFSLTR 94-0129

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

Licensee Event Report 3-94-005, Docket 50-249 is being voluntarily submitted in accordance with Technical Specification 6.6, NUREG 1022 and 10CFR50.73.

Sincerely,

Gary F. Spedl  
Station Manager  
Dresden Station

GFS/ND:maf

Enclosure

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

gfs94/0129.94

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**LICENSEE EVENT REPORT (LER)**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) Dresden Nuclear Power Station Unit 3		DOCKET NUMBER (2) 05000249	PAGE (3) 1 OF 3
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TITLE (4)  
Engineering Review Required For Lasalle RCIC Investigation

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 NAME	DOCKET NUMBER
03	07	94	94	-- 012 --	00	04	20	94	None	
									FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9) N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
POWER LEVEL (10) 000	20.402(b)		20.405(c)		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)		X OTHER			
	20.405(a)(1)(iii)		50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract below and in Text, NRC Form 366A)			
	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 Mark Churilla	TELEPHONE NUMBER (Include Area Code) (815) 942-2920
Ext.: 2788	

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

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 15 single-spaced typewritten lines) (16)

This is a voluntary LER. Following investigations of the RCIC[BN] Rupture Diaphragm Failure Event which occurred at LaSalle County Station on February 21, 1994, Dresden Station discovered that the vent path did not exist to Unit 3 PS 2355, HPCI[BJ] Rupture Diaphragm High Pressure Alarm. The discovery was made on March 7, 1994. This pressure switch is located between the inner and outer rupture diaphragms on the High Pressure Coolant Injection (HPCI) turbine discharge line to provide an alarm should the inner rupture diaphragm fail non-catastrophically. The purpose of the vent is to allow the inner rupture disk to flex with pressure fluctuations in the HPCI turbine discharge line without affecting the outer disk. Without the vent line, flexing of the inner diaphragm causes a pressure increase between the inner and outer diaphragms. This results in the flexing and potential work hardening of the outer diaphragm. The work hardening may result in a decrease in rupture diaphragm life. Work Request D24604 was initiated to re-establish a vent path to the pressure switch. Since the condition of the vent line only affects the outer rupture diaphragm performance, and does not affect the inner rupture diaphragm performance, the safety significance of this event is minimal.

NRC FORM 366A (5-92)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB NO. 3150-0104 EXPIRES 5/31/95	
<b>LICENSEE EVENT REPORT (LER)</b> TEXT CONTINUATION				ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.	
FACILITY NAME (1)		DOCKET NUMBER (2)	LER NUMBER (6)		PAGE (3)
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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

A. PLANT CONDITIONS PRIOR TO EVENT:

Unit: 3 Event Date: 03/07/94 Event Time: 0920  
 Reactor Mode: N Mode Name: RUN Power Level: 62%  
 Reactor Coolant System Pressure: 996 psig

B. DESCRIPTION OF EVENT:

This is a voluntary LER. Following investigations of the RCIC[BN] Rupture Diaphragm Failure Event which occurred at LaSalle County Station on February 21, 1994, one of the items the investigation team discovered was that the existing pipe routing to the RCIC Rupture Diaphragm pressure switch could affect the proper operation of the pressure switch and subsequently the RCIC turbine. Based on this information, Dresden Station discovered that the vent path did not exist to Unit 3 PS 2355, HPCI[BJ] Rupture Diaphragm High Pressure Alarm. The discovery was made on March 7, 1994. This pressure switch is located between the inner and outer rupture diaphragms on the High Pressure Coolant Injection (HPCI) turbine discharge line to provide an alarm should the inner rupture diaphragm fail non-catastrophically. The vent path was verified to exist on Unit 2.

The purpose of the vent is to allow the inner rupture disk to flex with pressure fluctuations in the HPCI turbine discharge line without affecting the outer disk. Without the vent line, flexing of the inner diaphragm causes a pressure increase between the inner and outer diaphragms. Over time, this results in the flexing and potential work hardening of the outer diaphragm. The work hardening may result in a decrease in rupture diaphragm life. Subsequent inspections at Dresden revealed that the vent path on Unit 3 did not exist. A Work Request was initiated to re-establish a vent path to the pressure switch (NWR# D24604).

An operability determination was conducted by Site Engineering and Construction (SEC) with inputs from General Electric (GE) and the HPCI System Engineer. GE indicated that the effect of not having a vent path was minimal and therefore concurred with a recommendation to re-establish the Unit 3 vent path during the present D3R13 refuel outage.

The inner rupture diaphragm is the primary system boundary as defined by the Dresden ASME Class 2 boundary definition. Since the condition of the vent line only affects the outer rupture diaphragm, and does not affect the inner rupture diaphragm performance, the safety significance of this event is minimal.

C. CAUSE OF EVENT:

The cause of the event is due to inadequate plant configuration control. A piping examination as well as a Total Job Management (TJM) Review provides no indication as to when the vents had been modified/eliminated since original installation.

D. SAFETY ANALYSIS:

The safety significance of this event is minimal for the following reasons:

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

1. Failure to provide a vent path between the inner and outer rupture diaphragms does not affect the performance of the inner diaphragm. The inner diaphragm is the primary system boundary as defined by the Dresden ASME Class 2 boundary definition,
2. If the inner rupture diaphragm would have failed non-catastrophically without the vent path established, PS 3255, HPCI Rupture Diaphragm High Pressure Alarm, would have functioned as intended,
3. A review by the manufacturer, General Electric, indicates that the effect of not establishing a vent path between the inner and outer rupture diaphragms is minimal,
4. The rupture diaphragms were replaced in 1993 on Unit 2 and in 1991 on Unit 3. Normal surveillances require the rupture diaphragms to be replaced every refuel outage per Dresden Maintenance Procedure (DMP) 2300-14.

E. CORRECTIVE ACTIONS:

Following involvement in the investigation of the LaSalle RCIC Rupture Diaphragm Failure Event, immediate corrective actions were to review the 'As Built' Rupture Diaphragm and vent design at Dresden Station. Upon determining the vent did not exist on Unit 3, GE and SEC were contacted to conduct operability evaluations on the HPCI system (ENC-QE-40.1). These evaluations determined that the HPCI System was operable without the rupture disk vent in place. A work request was also written to establish the vent into the system. (NTS# 2372309402301)

F. PREVIOUS OCCURRENCES:

None.

<u>LER/Docket Number</u>	<u>Title</u>
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G. COMPONENT FAILURE DATA:

Not Applicable.

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
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