

Commonwealth Edison Company  
Dresden Generation Station  
6500 North Dresden Road  
Morris, IL 60450  
Tel 815-942-2920

**ComEd**

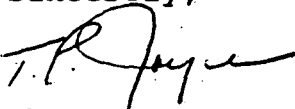
December 20, 1994

TPJLTR 94-0004

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

Licensee Event Report 94-031, Docket 50-237 is being  
submitted voluntarily due to an exceeded administrative  
limit on a schedular exemption.

Sincerely,



Thomas P. Joyce  
Site Vice President

TPJ/RES:cfq

Enclosure

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

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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 (MNB 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 2

**DOCKET NUMBER (2)**  
05000237

**PAGE (3)**  
1 OF 4

**TITLE (4)**  
10 CFR 50 Appendix J Type A Administrative Limit Exceeded Due to Leaking HPCI Primary Containment Isolation Check Valve 2-2301-34

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
11	22	94	94	-- 031 --	00	12	22	94	None	
									FACILITY NAME	DOCKET NUMBER

<b>OPERATING MODE (9)</b>	N	<b>THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)</b>			
<b>POWER LEVEL (10)</b>	000	20.2201(b)	20.2203(a)(3)(i)	50.73(a)(2)(iii)	73.71(b)
		20.2203(a)(1)	20.2203(a)(3)(ii)	50.73(a)(2)(iv)	73.71(c)
		20.2203(a)(2)(i)	20.2203(a)(4)	50.73(a)(2)(v)	<input checked="" type="checkbox"/> OTHER
		20.2203(a)(2)(ii)	50.36(c)(1)	50.73(a)(2)(vii)	(Specify in Abstract below and in Text, NRC Form 366A)
		20.2203(a)(2)(iii)	50.36(c)(2)	50.73(a)(2)(viii)(A)	
		20.2203(a)(2)(iv)	50.73(a)(2)(i)	50.73(a)(2)(viii)(B)	
		20.2203(a)(2)(v)	50.73(a)(2)(ii)	50.73(a)(2)(x)	

**LICENSEE CONTACT FOR THIS LER (12)**

<b>NAME</b>	<b>TELEPHONE NUMBER (Include Area Code)</b>
Reino E. Salmi, ILRT Coordinator	Ext. 2348 (815) 942-2920

**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	BJ	ISV	H037	Y					

**SUPPLEMENTAL REPORT EXPECTED (14)**

<b>YES</b> (If yes, complete EXPECTED SUBMISSION DATE).	<b>NO</b>	<b>EXPECTED SUBMISSION DATE (15)</b>	<b>MONTH</b>	<b>DAY</b>	<b>YEAR</b>
	X				

**ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)**

At approximately 1400, on November 22, 1994, a local leak rate test (LLRT) on the primary containment isolation valves, 2-2301-34 and 2-2301-71, was performed per Dresden Technical Surveillance (DTS) 1600-01. This minimum pathway leakage, when added to the 10 CFR 50 Appendix J Type A leakage, caused the administrative limit for the Type A leakage (85% of 0.75 L<sub>a</sub>) to be exceeded. This administrative limit of the Type A leakage was in effect on October 28, 1994, when Dresden Station requested an one-time scheduler exemption of the 18 month Type A test interval for Unit 2. The 2-2301-34 check valve was disassembled and inspected under work request (WR) D26912. The seats of the valve were lapped and the final leakage was 0.20 scfh. The cause for this event was a lack of aggressive valve corrective maintenance. The safety significance is considered minimal since the Type A leakage never exceeded the Unit 2 Technical Specification 4.7.A.2.b limit of 0.75 L<sub>a</sub>. In order to solve primary containment isolation valve problems, the station has developed a valve project team. Also, an inspection and repair interval of every two refuel outages has been developed for this check valve. This LER is being submitted voluntarily.

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> <b>TEXT CONTINUATION</b>				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 (MNB 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.			
<b>FACILITY NAME (1)</b>		<b>DOCKET NUMBER (2)</b>		<b>LER NUMBER (6)</b>		<b>PAGE (3)</b>	
Dresden Nuclear Power Station, Unit 2		05000237		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2 OF 4
				94	-- 031 --	00	

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

**EVENT IDENTIFICATION:**

10 CFR 50 Appendix J Type A Administrative Limit Exceeded Due to Leaking HPCI Primary Containment Isolation Check Valve 2-2301-34

**A. PLANT CONDITIONS PRIOR TO EVENT:**

Unit: 2                                      Event Date: 11/22/94                                      Event Time: 1400  
 Reactor Mode: N                                      Mode Name: Shutdown                                      Power Level: 0%  
 Reactor Coolant System Pressure: 0 psig

**B. DESCRIPTION OF EVENT:**

On November 22, 1994, a local leak rate test (LLRT) on primary containment isolation valves, 2-2301-34 and 2-2301-71, was performed per Dresden Technical Surveillance (DTS) 1600-01. These check valves are on the high pressure coolant injection (HPCI) [BJ] drain pot return line to the suppression chamber [BT]. The resulting leakage was 39.63 scfh. This leakage is the minimum pathway leakage for this primary containment penetration, which is added to the 10 CFR 50 Appendix J Type A leakage. After the test and adding this minimum pathway leakage (39.63 scfh) to the Type A leakage, the Type A leakage was approximately 532.4 scfh. The administrative limit for Type A leakage is 85% of 0.75 L<sub>s</sub> (519.0 scfh), and therefore, the administrative limit for the Type A leakage was exceeded. This administrative limit of the Type A leakage was in effect on October 28, 1994, when Dresden Station requested an one-time schedular exemption of the 18 month Type A test (integrated leak rate test) interval for Unit 2. The administrative limit was placed only to provide a greater level of confidence that the Type A leakage will be acceptable (less than 0.75 L<sub>s</sub> (610.56 scfh)) during the extended period granted by the Type A test schedular exemption.

An LLRT was performed on the 2-2301-34 and 2-2301-71 check valves because the system engineer was investigating an abnormal increase in the HPCI drain pot level and suspected that there was some leakage past these valves from the suppression chamber.

**C. CAUSE OF EVENT:**

This LER is being submitted voluntarily since a limit on a schedular exemption was exceeded.

A history of maintenance of the 2-2301-34 check valve was reviewed and the following results were found:

1. A review of LLRT history since 1981 has shown that no failures of this check valve occurred until the eleventh refuel outage on 11-30-88.
2. During D2R11 on 11-30-88, the as-found leakage for the 2-2301-34 check valve was 13.5 scfh. The check valve was disassembled and inspected per work request (WR) D81302. The inspection revealed a small amount of corrosion on the seats. The work request states that the seats were repaired by performing a small amount of

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lapping. The work request history did not further describe the lapping process. The leakage was reduced to 6.6 scfh.

3. During D2R12 on 9-26-90, the leakage for the 2-2301-34 was approximately 5.2 scfh. This leakage was lower than the administrative limit, and therefore, no repairs were performed to this check valve.
4. During D2R13 on 1-23-93, the as-found leakage for the 2-2301-34 check valve was 32.5 scfh. The check valve was disassembled and inspected per WR D14043. The inspection revealed a small amount of corrosion on the seats. The seats were repaired by cleaning the seats with an abrasive pad. The leakage was reduced to 14.17 scfh.
5. On 11-22-94, the leakage for the 2-2301-34 check valve was 39.63 scfh. The check valve was properly lapped using appropriate tools which reduced the leakage to 0.2 scfh. This leakage was the lowest ever following a repair.

The check valve does experience harsh service conditions, as indicated by the wear rate and the visible erosion in the valve body of the 2-2301-34 and in the internals of the other isolation check valve on this line, 2-2301-71. Although this is true, proper repairs to this check valve have not been performed until now. The small amount of lapping and cleaning with an abrasive pad only lowered the leakage temporarily. The root cause for this event is lack of aggressive valve corrective maintenance.

D. SAFETY ANALYSIS:

The safety significance of this event is considered minimal. The Type A leakage is still less than the Unit 2 Technical Specification 4.7.A.2.b limit of 0.75 L<sub>1</sub>. The administrative limit was placed only to provide a greater level of confidence that the Type A leakage will be acceptable during the extended period granted by the Type A scheduler exemption.

E. CORRECTIVE ACTIONS:

Most of the leakage of this primary containment penetration was past the 2-2301-34. Therefore, the 2-2301-34 check valve was disassembled and inspected under WR D26912. The inspection revealed that the seat contact was poor. Site Engineering called the manufacturer to obtain the proper seat angles, and the Mechanical Maintenance Department fabricated a lapping tool. This lapping tool aligned the plug perpendicular to the in-body seat during lapping. The seats were lapped until good seat contact was evident. The valve was reassembled and an LLRT was performed. The final LLRT result was 0.20 scfh.

Dresden Station has committed to solving its primary containment isolation valve problems by forming a project team that will concentrate on valve corrective and preventative maintenance. This team has been formed and assembled and is preparing for next refuel outage, D2R14. This project team is believed to improve valve corrective maintenance. However, until this improvement is insured, a preventative maintenance schedule on the 2-2301-34 will be implemented to increase the confidence of the check valve performance. Another purpose of the valve project team is to define proper preventative maintenance schedules. A surveillance interval of every other refuel outage to inspect the check valve and to lap the seats of this check

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valve, as necessary, will be initiated. The valve project team will re-evaluate this interval, based on future valve performance, including LLRT results. The interval will be tracked by the Station surveillance program. (2371809403101)

**F. PREVIOUS OCCURRENCES:**

No previous occurrences are recorded for this event.

**G. COMPONENT FAILURE DATA:**

<u>Manufacturer</u>	<u>Nomenclature</u>	<u>Model Number</u>	<u>Mfg. Part Number</u>
Hancock	check valve	5540w	N/A

A Nuclear Plant Reliability Data System (NPRDS) search was performed for Hancock Valves model 5540w check valves. Three failures were found, which were due to dirt and scale build-up on the seats. This condition caused these check valves to fail their LLRT.