



Illinois Power Company  
Clinton Power Station  
P.O. Box 678  
Clinton, IL 61727  
Tel 217 935-5623  
Fax 217 935-4632

Wilfred Connell  
Vice President

U-602658  
2C.220  
WC-343-96  
November 6, 1996

Docket No. 50-461

10CFR50.73

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

Subject: Clinton Power Station - Unit 1  
Licensee Event Report No. 96-013-00

Dear Madam or Sir:

Enclosed is Licensee Event Report No. 96-013-00: Local Leak Rate Test Failures of Feedwater Containment Isolation Valves Results in Total Leakage Rates Greater than Technical Specification and 10CFR50, Appendix J Limits. This report is being submitted in accordance with the requirements of 10CFR50.73.

Sincerely yours,

Wilfred Connell  
Vice President

RSF/csm

Enclosure

cc: NRC Clinton Licensing Project Manager  
NRC Resident Office, V-690  
Regional Administrator, Region III, USNRC  
Illinois Department of Nuclear Safety  
INPO Records Center

9611130117 961106  
PDR ADOCK 05000461  
S PDR

120057

IE22/1

## LICENSEE EVENT REPORT (LER)

(See reverse for required number of  
digits/characters for each block)ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY  
INFORMATION COLLECTION REQUEST: 50.0 HRS. REPORTED LESSONS  
LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK  
TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE  
INFORMATION AND RECORDS MANAGEMENT BRANCH (7-6 F33), 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)

Clinton Power Station

DOCKET NUMBER (2)

05000461

PAGE (3)

1 OF 3

TITLE (4)

Local Leak Rate Test Failures of Feedwater Containment Isolation Valves Results in Total Leakage Rates Greater  
than Technical Specification and 10CFR50, Appendix J Limits

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
10	15	96	96	013	00	11	06	96	None	05000
									FACILITY NAME	DOCKET NUMBER
									None	05000
OPERATING MODE (9)			THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)							
4			20.2201(b)		20.2203(a)(2)(v)		50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10)			20.2203(a)(1)		20.2203(a)(3)(i)		X 50.73(a)(2)(ii)		50.73(a)(2)(x)	
0			20.2203(a)(2)(i)		20.2203(a)(3)(ii)		50.73(a)(2)(iii)		73.71	
			20.2203(a)(2)(ii)		20.2203(a)(4)		50.73(a)(2)(iv)		OTHER	
			20.2203(a)(2)(iii)		50.36(c)(1)		50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
			20.2203(a)(2)(iv)		50.36(c)(2)		50.73(a)(2)(vii)			

## LICENSEE CONTACT FOR THIS LER (12)

NAME

J. F. Kaczmarek, Licensing Engineer

TELEPHONE NUMBER (Include Area Code)

(217) 935-8881, Extension 3726

## 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	SJ	ISV	A391	Y					

## SUPPLEMENTAL REPORT EXPECTED (14)

X YES (If yes, complete EXPECTED SUBMISSION DATE).		NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
				04	30	97

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

With the plant shut down for refueling, local leak rate testing identified leakage rates not quantifiable for reactor feedwater line inboard containment isolation valves 1B21-F010A and 1B21-F010B, and outboard containment isolation valves 1B21-F032A and 1B21-F032B. These leakage rates are greater than those assumed in the plant safety analysis and limited by Technical Specification Surveillance Requirement 3.6.1.1.1 as well as 10CFR50, Appendix J - Option B. The cause of the unacceptable leakage rate is under investigation. Illinois Power (IP) will determine and implement corrective actions necessary to achieve acceptable leakage rates prior to the completion of the current refueling outage. IP will provide a supplemental report identifying the cause of event, corrective action, safety significance and similar event information for this issue.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Clinton Power Station	05000461	96	013	00	2 OF 3

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

## DESCRIPTION OF EVENT

On October 15, 1996, the plant was in Mode 4 (COLD SHUTDOWN) with reactor [RCT] coolant temperature about 90 degrees Fahrenheit (F) and pressure at zero pounds per square inch. The sixth refueling outage (RF-6) was in progress, and plant personnel were performing a local leak rate test (LLRT) on containment penetration [PEN] 1MC-010. At about 0020 hours, the test engineer identified that the air leakage rates through reactor feedwater (FW) [SJ] "B" loop header check valve [ISV] 1B21-F010B, an inboard containment isolation valve and FW "B" loop testable check valve 1B21-F032B, an outboard containment isolation valve, were not quantifiable, and the test boundary could not be pressurized to the required 9 pounds per square inch gage (psig) air. Because the test boundary could not be pressurized, a leakage rate could not be determined; thus, the leakage rate must be assumed to be infinite.

The Operations shift supervisor (SS) was immediately notified of the LLRT failure. The test engineer initiated condition report (CR) 1-96-10-168 to track a cause evaluation and corrective action determination for the unacceptable leakage rate through penetration 1MC-010. With the leakage rate through penetration 1MC-010 not quantifiable, the combined leakage rate for all containment penetrations and valves subject to Type B and C tests, including penetration 1MC-010, is greater than 1.0 La. La is the analytical limit assumed by the plant safety analysis, the maximum allowable containment leak rate at the calculated peak accident pressure for the design basis loss of coolant accident (LOCA) and the basis for the 0.60 La limit provided in 10CFR50, Appendix J - Option B and Technical Specification Surveillance Requirement 3.6.1.1.1 for primary containment leakage. Additionally, the leakage rate through penetration 1MC-010 was greater than 0.08 La (0.08 La is equivalent to 29,638.3 sccm) which is the total secondary containment bypass leakage rate allowed by Technical Specification Surveillance Requirement 3.6.1.3.8. The Inservice Inspection (ISI) test limit for leakage for each of these valves is 20,000 sccm. Maintenance Work Requests (MWRs) were initiated to repair valves 1B21-F010B and 1B21-F032B.

On October 16, 1996, the plant was in Mode 5 (REFUELING) with reactor coolant temperature about 95 degrees F and pressure at zero pound per square inch. Plant personnel were performing an LLRT on penetration 1MC-009. At about 2028 hours, the test engineer identified that the air leakage rate through FW "A" loop testable check valve 1B21-F032A, an outboard containment isolation valve, was not quantifiable, and the test boundary could not be pressurized to the required 9 psig air. The leakage rate was assumed to be infinite. The SS was notified of the LLRT failure at 2200 hours. CR 1-96-10-211 was initiated to track a cause evaluation and corrective action determination for the unacceptable leakage rate through 1B21-F032A.

At about 2245 hours, the test engineer identified that the air leakage rate through FW "A" loop header check valve 1B21-F010A, the inboard containment isolation valve for penetration 1MC-009, was not quantifiable, and the test boundary could not be pressurized to the required 9 psig air. The leakage rate was assumed to be infinite. The SS was immediately notified of the LLRT failure. CR 1-96-10-212 was initiated to track a cause evaluation and corrective action determination for the unacceptable leakage rate through 1B21-F010A.

**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

FACILITY NAME (1)	DOCKET	LER NUMBER (6)			PAGE (3)
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	
Clinton Power Station	05000461	96	013	00	3 OF 3

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

The leakage rate through penetration LMC-009 was not quantifiable, and therefore greater than the 1.0 La primary containment leakage limit and greater than the 0.08 La total secondary containment bypass leakage rate limit. The ISI test limit for each of these FW "A" loop valves is 20,000 sccm. MWRs were initiated to repair valves 1B21-F010A and 1B21-F032A.

No automatic or manually initiated safety system responses were necessary to place the plant in a safe and stable condition. No other equipment or components were inoperable at the start of this event to the extent that their inoperable condition contributed to this event.

**CAUSE OF EVENT/CORRECTIVE ACTION**

The cause of the unacceptable leakage rates through the valves is under investigation. Illinois Power will determine and implement corrective action necessary to achieve acceptable leakage rates for penetrations LMC-009 and LMC-010 prior to the completion of RF-6.

IP expects to provide a supplemental report to the NRC identifying the cause, corrective action, safety significance and similar event information for this issue by April 30, 1997.

**ANALYSIS OF EVENT**

This event is reportable under the provisions of 10CFR50.73(a)(2)(ii) because it resulted in one of the plants principle safety barriers being degraded.

An assessment of the safety consequences and implications of this event has not yet been completed. This information will be provided in a supplement to this report.

No release of radioactive material occurred as a result of this event.

The length of time the four valves had unacceptable leakage rates is indeterminate.

**ADDITIONAL INFORMATION**

Feedwater valves 1B21-F010A and 1B21-F010B are 18-inch, non-slam type tilting disc check valves, model number 15010, manufactured by the Anchor Darling Valve Company. Feedwater valves 1B21-F032A and 1B21-F032B are 20-inch, air assisted, non-slam type tilting disc check valves, model number 15204, manufactured by the Anchor Darling Valve Company.

Previous similar event information will be provided in a supplement to this report.

For further information regarding this event, contact J. F. Kaczmarek, Licensing Engineer, at (217) 935-8881, extension 3726.