

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Fermi 2	DOCKET NUMBER (2) 0 5 0 0 0 3 4 1 1	PAGE (3) 1 OF 0 3
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TITLE (4) **Isolation of Reactor Core Isolation Cooling During Return to Service Due to Procedural Inadequacies**

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)
1	2	10	8	7	0	0	5	8	N/A		0 5 0 0 0 0
1	2	10	8	7	0	0	5	8	N/A		0 5 0 0 0 0

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

OPERATING MODE (9) 1	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)
POWER LEVEL (10) 0 6 6	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input checked="" type="checkbox"/> 50.73(a)(2)(vi)	OTHER (Specify in Abstract below and in Text, NRC Form 365A)
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(vii)(A)	
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(vii)(B)	
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)	

LICENSEE CONTACT FOR THIS LER (12)

NAME Patricia Anthony, Compliance Engineer	TELEPHONE NUMBER 3 1 3 5 8 6 - 1 6 1 7
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRRDS

SUPPLEMENTAL REPORT EXPECTED (14)

<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input checked="" type="checkbox"/> NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On December 10, 1987 at 1414 hours, an isolation of the Reactor Core Isolation Cooling (RCIC) System steam line occurred. The isolation valves closed on high differential steam line pressure. The RCIC steam line was being warmed at the time of this event.

Investigation determined that the isolation was due to an inadequacy in the system operating procedure. When an isolation valve was opened, a high differential pressure condition occurred in the steam line. The operators restored RCIC to standby condition.

A revision was made to the system operating procedure which directs the operator to throttle the inboard and outboard isolation valves together. This will provide greater control when warming the RCIC steam line.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 305A's) (17)

Initial Plant Conditions:

Operational Condition: 1 (Power Operation)
 Reactor Power: 66%
 Reactor Pressure: 955 psig
 Reactor Temperature: 528 degrees Fahrenheit

Description of Occurrence:

On December 10, 1987 at 1414 hours, an isolation of the Reactor Core Isolation Cooling (RCIC) System (BN) steam line occurred. The inboard (E51-F007) and outboard (E51-F008) steam line isolation valves (ISV) closed on high differential steam line pressure. While RCIC is not an engineered safety feature, this isolation did cause the inoperability of a system which is designed to ensure adequate core cooling in the event of a reactor vessel isolation accompanied by loss of feedwater flow.

RCIC had been declared inoperable on December 7, 1987 at 2158 hours because of indications of water intrusion in the exhaust line. At that time, E51-F007 was closed and E51-F008 was de-energized closed to facilitate working on the bypass valve (E51-F095) (V) around the RCIC stop valve (FCV). Leakage from E51-F095 was suspected as being the source for the water in the exhaust line. On December 8, 1987 at 1800 hours, the RCIC turbine exhaust to torus isolation valve, E51-F001 (ISV) and vacuum pump discharge to torus isolation valve, E51-F002 (ISV) were closed for work on the barometric condenser (COND).

On December 10, 1987, work on the barometric condenser was completed and E51-F095 was found to be in satisfactory condition. Throughout the day, preparations were ongoing to return RCIC to operable status. The valve E51-F007 was opened at 1414 hours.

When the valve was opened, the steam line pressure reached approximately 750 psig momentarily. The alarms for high differential steam line pressure and the RCIC isolation "A" and "B" trip signals were received along with the RCIC isolation. According to the sequence of events recorder printout, the high differential pressure signal cleared after 0.884 seconds. The isolation signals were reset approximately ten seconds later and the RCIC System was returned to standby mode.

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TEXT (If more space is required, use additional NRC Form 305A's) (17)

An inspection of the steam line did not identify any damage. The steam line was warmed and pressurized with no further problems.

At 1553 hours the Nuclear Regulatory Commission was notified of this event.

Cause of Event:

Review of the 1986 and 1987 Out-of-Specification Log and discussions with operations personnel have led to the conclusion that this is the first time the RCIC steam line has been pressurized and warmed while at rated reactor pressure. The system operating procedure, SOP 23.206 and General Electric Service Information Letter 31 revision 2, "Warm-Up of HPCI and/or RCIC Steam Supply Lines" were reviewed. It was determined that SOP 23.206 did not provide adequate instructions on the operation of E51-F007. When E51-F007 was opened in accordance with SOP 23.206 a high differential pressure condition occurred in the steam line. Since the operators had never warmed the RCIC steam line at rated reactor pressure before this attempt, the procedural deficiency had not been found.

Analysis of Event:

The equipment responded per its design to provide protection to reactor vessel inventory. Had there been an event requiring the protection of core integrity during the time RCIC was unavailable, the High Pressure Cooling Injection System, which is an emergency core cooling system, was available to fulfill this function. Therefore Fermi 2 was capable of achieving safe shut down at all times during this event. The significance of this event would not be greater under other plant operating conditions.

Corrective Action:

SOP 23.206 was revised to provide instructions on how to prevent this type of event from recurring. The operator will throttle open both E51-F007 and E51-F008 together so the pressure drop is shared across both valves instead of just E51-F007. This provides greater control of the RCIC steam line warming.

Previous Similar Events:

In Licensee Event Report 87-023, a isolation of the RCIC System was reported. That isolation was due to personnel error during the performance of a surveillance test.

Detroit
Edison

William S. Orser
Vice President
Nuclear Operations

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10CFR50.73



Nuclear
Operations

January 9, 1988
NRC-87-0233

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

Reference: Fermi 2
NRC Docket No. 50-341
Facility Operating License No. NPF-43

Subject: Licensee Event Report (LER) No. 87-055-00

Please find enclosed LER No. 87-055-00, dated January 9, 1988, for a reportable event that occurred on December 10, 1987. A copy of this LER is also being sent to the Regional Administrator, USNRC Region III.

If you have any questions, please contact Patricia Anthony at (313) 586-1617.

Sincerely,

W. S. Orser
Vice President
Nuclear Operations

Enclosure: NRC Forms 366, 366A

cc: A. B. Davis
J. R. Eckert
E. G. Greenman
W. G. Rogers
J. J. Stefano

Wayne County Emergency
Management Division

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