DCD(DCB)

Stanley G. Calola
Vice President
Nuclear Engineering and Services

Detroit Edison

Fermi 2
6400 North Dixie Highway
Newport, Michigan 48166
(313) 586-4000

Nuclear Organization

10CFR50.73

April 30, 1991
NRC-91-0052

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

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

Subject: Licensee Event Report (LER) No. 91-005

Please find enclosed LER No. 91-005, dated April 30, 1991, for a reportable event that occurred on March 31, 1991. A copy of this LER is also being sent to the Regional Administrator, USNRC Region III.

If you have any questions, please contact Barbara Siemasz, Compliance Engineer, at (313) 586-1683.

Sincerely,

S. Calola

Enclosure: NRC Forms 366, 366A

cc: A. B. Davis
J. R. Eckert
R. W. DeFayette
W. G. Rogers
J. F. Stang

Wayne County Emergency
Management Division

IE22

MAY 2 1991 1/1

NRC Form 366
(9-83)

U.S. NUCLEAR REGULATORY COMMISSION
APPROVED OMB NO. 3150-0104
EXPIRES: 8/31/88

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Fermi 2	0 5 0 0 0 3 4 1	1 OF 0 4

TITLE (4)

Exceeded Tech Spec Allowable Limits for Local Leak Rate Testing

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 5 0 0 0
0 3	3 1	9 1	9 1	—	0 0 5	— 0 0	0 4	3 0	9 1		0 5 0 0 0

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0	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)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	X 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
	AREA CODE
Barbara Siemasz, Compliance Engineer	3 1 3 5 8 6 - 1 6 8 3

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
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		0 7	1 2	9 1

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

Periodic leakage rate testing of primary containment isolation valves and penetrations is being performed in accordance with the requirements of Technical Specification 3.6.1.2 and 10 CFR 50, Appendix J. During the performance of this testing, several valves have exceeded their administrative allowable leakage rate and their combined leakage exceeds the limits as defined in the subject Technical Specification Limiting Condition for Operation.

As necessary, containment isolation valves that have exceeded their individual administrative allowable leakage rate have had work requests generated to repair or rework them as conditions dictate.

A full report will be provided in a supplement to this Licensee Event Report to be submitted 30 days after completion of the Type B and C testing/retesting.

Initial Conditions:

Operational Condition: 4 (Cold Shutdown)
Reactor Power: 0%
Reactor Pressure: 0 psig
Reactor Temperatures: 144 degrees Fahrenheit

Description of Event:

On March 31, 1991, Local Leak Rate Testing (LLRT) of the Primary Containment Isolation Valves [ISV] and penetrations was initiated in accordance with Technical Specification (TS) 3/4.6.1.2, "Primary Containment Leakage", and 10 CFR 50, Appendix J, "Primary Reactor Containment Leakage Testing for Water Cooled Power Reactors." As of April 24, 1991, approximately 67% of the penetrations (Type B tests) and 66% of the isolation valves (Type C tests) have been tested. Included in the above completed tests are the initial Type C LLRTs on the Main Steam Isolation Valves (MSIVs).

TS 3.6.1.2.b requires that the combined leakage rate of Type B and Type C tests, except for leakage tests on the MSIVs and valves which are hydrostatically tested, shall be less than or equal to 0.6 La. Not including MSIV leakage in the combined total (0.6 La) is an approved exemption from 10 CFR 50, Appendix J. As of April 24, 1991, three Type B penetration tests have failed to meet their LLRT criteria. The leakage rates through these penetrations were greater than their individual administrative limits. Administrative limits are established for Type B and C tests in accordance with the Inservice Test Program to provide individual valve and penetration acceptance criteria. As of April 24, 1991, 16 Type C tested valves have exceeded their individual administrative leakage rates. The combined Technical Specification leakage rate limit of 0.6 La has been exceeded.

TS 3.6.1.2.c requires that the leakage rates for all four main steam lines, when tested at 25.0 psig, be less than or equal to 100 standard cubic feet per hour (scfh). The LLRTs of these lines indicate that B, C, and D outboard MSIVs have exceeded their Technical Specification limit. The LLRT of MSIV Line "A" was successful.

Additionally, TS 3.6.1.2.d requires that a combined leakage rate for all containment isolation valves in hydrostatically tested lines be less than or equal to 5 gallons per minute (gpm) when tested at 1.10 Pa. Combined local leakage rates of the hydrostatically tested valves have exceeded the 5 gpm Technical Specification limit.

Cause of the Event:

Excessive containment isolation valve leakage is generally caused by normal degradation of valve components and/or contaminants on the valve seating surfaces. Since disassembly and analysis of each valve, as required, is ongoing, the specific cause(s) of the excessively leaking isolation valves will be included in a supplement to this LER.

Analysis of the Event:

Type B and C LLRT are performed to ensure the leak-tight integrity of penetrations and valves affecting the primary containment boundary. Excessive leakage discovered through testing is corrected to minimize potential degradation of the primary containment boundary between integrated leak rate testing periods.

A complete analysis of the consequences of exceeding these Technical Specification limits will be provided in a supplement to this LER following completion of the Type B and C testing/retesting.

Corrective Actions:

As necessary, containment isolation valves that have exceeded their individual administrative allowable leakage rate have had work requests generated to repair or rework them as conditions dictate. These valves will be retested to determine their leakage rates.

In addition to the above specified work, three outboard MSIVs that failed their LLRT have been successfully modified during the current refueling outage using the manufacturer's latest design modification kit. This MSIV modification has been endorsed by the BWR Owner's Group and the NRC, and consists of changes that include an elongated poppet and pilot poppet assembly ("nose cone"), addition of an anti-rotation

device and a 2 inch diameter stem with associated rework of the valve cover/bonnet. The installation of this modification is intended to improve valve reliability and LLRT performance. Experience since the installation of this same modification during the first refuel outage for the four inboard MSIVs (see LER 89-021-01) supports this conclusion.

A full report will be provided in a supplement to this LER to be submitted 30 days after completion of the Type B and C testing/retesting.

Previous Similar Occurrences:

LER 86-011-01: "Excessive Leakage from MSIV", LER 88-008-01: "Leakage In Excess of the Allowable Found During LLRT" and LER 89-021-01: "Local Leak Rate Testing Exceeds Tech. Spec. Limits".