

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Fermi-2										DOCKET NUMBER (2) 0 5 0 0 0 3 4 1 1 OF 0 3										PAGE (3) 1 OF 0 3			
TITLE (4) Loss Of Secondary Containment																							
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	7	2	4	8	5	8	5	0	4	8	0	0	0	9	0	5	8	5	0 5 0 0 0				
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																					
3		20.402(b)				20.406(e)				80.73(a)(2)(iv)				73.71(b)									
POWER LEVEL (10)		20.406(a)(1)(i)				80.38(a)(1)				X 80.73(a)(2)(v)				73.71(a)									
0		20.406(a)(1)(ii)				80.38(a)(2)				80.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 306A)									
0		20.406(a)(1)(iii)				80.73(a)(2)(i)				80.73(a)(2)(vii)(A)													
		20.406(a)(1)(iv)				80.73(a)(2)(ii)				80.73(a)(2)(vii)(B)													
		20.406(a)(1)(v)				80.73(a)(2)(iii)				80.73(a)(2)(ix)													
LICENSEE CONTACT FOR THIS LER (12)																							
NAME L. P. Bregni, Compliance Engineer										TELEPHONE NUMBER AREA CODE 3 1 3 5 8 6 - 5 3 1 3													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																							
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC													
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 fifteen single-space typewritten lines) (16)

On July 24, 1985 with the plant at zero power in mode 3, secondary containment vacuum was less than required by Tech. Specs. for approximately 40 minutes. This resulted from a sequence of events previously unidentified.

Following a planned trip of Reactor Building HVAC at 1836 hours, the operator attempted to restore RBHVAC twice unsuccessfully. At 1838 hours the operator restarted an exhaust fan-supply fan pair. By that time, RB vacuum was less than 0.125 inch of water. At 1917 hours he started a second exhaust fan-supply fan set, restoring RB vacuum.

This event revealed that the RBHVAC exhaust isolation damper reopened when the isolation signal was reset, even though the exhaust fans had tripped. This prevented Standby Gas from maintaining RB vacuum. Engineering is evaluating the damper logic to determine if a change is needed. The response procedure has been revised and operators have been counseled to reset the fan switches after a trip. During an accident, the isolation dampers would not have reopened in the presence of low reactor water level or high drywell pressure signals, high radiation in the spent fuel pool exhaust or Reactor Building exhaust plenum, or manual isolation.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

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		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			

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

On July 24, 1985 with the plant at zero power in mode 3 and surveillance on electrical protection assemblies underway, secondary containment vacuum was less than 0.125 inch water gage required by Technical Specification 4.6.5.1.a for approximately forty minutes. There were no abnormal releases during this event and no potential for abnormal releases because plant operation has been limited to less than 5 percent power. This occurrence is considered reportable because the sequence of events could have compromised secondary containment function.

At the time of this event, surveillance 42.610.01 (Electrical Protection Assembly Functional Test) had been completed on Division I without incident and was underway on Division II. At 1836 hours, test personnel had reached the point at which Reactor Protection System (RPS) power is switched from the normal feed to the alternate feed. This causes a momentary interruption of RPS power and leads to a trip of the Reactor Building HVAC and initiation of the Standby Gas Treatment System. Personnel involved in the test anticipated this trip and initiation.

Following the RPS power transfer, the RB HVAC Center and West supply and exhaust fans tripped and SGTS Division II started, as expected. (Standby Gas Division I was in "Off"). To restore RB HVAC to operation, the operator reset the secondary containment isolation signal and started the Center and West RB HVAC exhaust fans. Both fans tripped about 14 seconds later because the control switches for the Center and West RB HVAC supply fans had not been placed in "Off/Reset". The operator immediately tried to start the Center and West RB HVAC exhaust fans and again both tripped. At 1838 hours, the operator succeeded in starting the Center RB HVAC exhaust fan and the Center supply fan. At 1840 hours, alarms 8D46 and 17D46 sounded, indicating high reactor building pressure (vacuum less than 0.125 inch water gage). Alarm 8D46 cleared momentarily at 1843 hours and 1903 hours. At 1917 hours, the operator started the West Reactor Building exhaust fan and supply fan. Within a minute alarms 8D46 and 17D46 cleared, indicating secondary containment vacuum was restored.

The operator expected SGTS would maintain secondary containment vacuum while the RBHVAC was tripped. After the July 24 event was terminated, SGTS was initiated manually at 2214 hours to verify that it operated properly. The system maintained secondary containment vacuum as designed.

On July 28 a special test was conducted to reconstruct the July 24 event. The test verified that the Reactor Building HVAC Division II exhaust isolation damper, T41-F008, reopened when the secondary containment isolation signal was reset. Although the exhaust fans had tripped in the July 24 event, their control switches were in the "Run"

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position at the time the secondary containment isolation signal was reset. The exhaust isolation damper opening logic, using contacts on the fan control switches, was satisfied that the fans were operating and reopened exhaust damper F008 (damper F009 was already open and not affected by the testing in Division II) when the isolation signal was reset. With SGTS Division II operating and dampers T41-F008 and F009 open, the SGTS was taking suction from the Auxiliary Building in addition to the normal suction from the Reactor Building. This prevented SGTS from maintaining secondary containment vacuum.

Engineering is evaluating whether the reactor building isolation damper logic should be modified. As currently wired, the damper logic responds to the position of the fan control switch. Unless the fan control switch is placed in "Off/Reset" following a fan trip, the damper opening logic is satisfied once the isolation signal is reset. The procedure for response to RB HVAC trip (Alarm Response Procedure 8D72) has been revised to direct operators to place the fan control switch in "Off/Reset" following a fan trip.

The control room operator did not follow procedures for restoring Reactor Building HVAC. Operating procedure 23.426 (Reactor Building HVAC) requires the operator to start one exhaust fan-supply fan pair. When flows have stabilized, he is to start a second set of exhaust and supply fans. In the July 24 event, the operator did not follow the operating procedure when he started two fan sets essentially simultaneously and when he did not start the second fan set after flow through the first set had stabilized. To correct this, the event has been discussed with all operating personnel and the event report has been included in the operator requalification program.

The secondary containment exhaust isolation damper closes on any of the following signals: (1) low reactor water level (Level 2) or high drywell pressure; (2) high radiation in the spent fuel pool exhaust or Reactor Building exhaust plenum; (3) manual isolation; or (4) exhaust fan not running. During an accident with potential for significant releases to the environment, one of these isolation signals would be expected to be present. The presence of one of these signals would have prevented the isolation damper from opening, eliminating the flow path that led to loss of secondary containment vacuum.

**Detroit
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September 5, 1985
NP850063

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

Gentlemen:

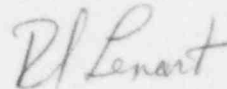
Reference: Fermi 2
NRC Docket No. 50-341
NRC Operating License No. NPF-43

Subject: Transmittal of Licensee
Event Report 85-048

Please find enclosed LER No. 85-048-00, dated September 5, 1985, for a reportable event which occurred on July 24, 1985. As indicated below, a copy of this LER is being sent to the Administrator Region III.

If you have any questions, please contact us.

Sincerely,



R. S. Lenart
Plant Manager

Enclosure: NRC Forms 366, 366A

cc: P.M. Byron
M.D. Lynch

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