

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Fermi-2										DOCKET NUMBER (2) 05000341										PAGE 1 OF 3	
TITLE (4) Digital Load Sequencer Not Reset by Operator Causes Division I EECW/EESW to Auto-Start on Start of EDG												OTHER FACILITIES INVOLVED (8)									
EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			FACILITY NAMES						DOCKET NUMBER (8)						
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR													
10	23	85	85	075	00	11	22	85							05000341						
OPERATING MODE (9) 4												THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 50. (Check one or more of the following) (11)									
POWER LEVEL (10) 0.010		20.402(b)				20.405(a)				<input checked="" type="checkbox"/> 50.73(a)(2)(iv)				73.71(b)							
		20.405(a)(1)(i)				50.36(a)(1)				<input type="checkbox"/> 50.73(a)(2)(v)				73.71(a)							
		20.405(a)(1)(ii)				50.36(a)(2)				<input type="checkbox"/> 50.73(a)(2)(vi)				OTHER (Specify in Abstract below and in Text, NRC Form 308A)							
		20.405(a)(1)(iii)				50.73(a)(2)(i)				<input type="checkbox"/> 50.73(a)(2)(viii)(A)											
		20.405(a)(1)(iv)				50.73(a)(2)(ii)				<input type="checkbox"/> 50.73(a)(2)(viii)(B)											
		20.405(a)(1)(v)				50.73(a)(2)(iii)				<input type="checkbox"/> 50.73(a)(2)(ix)											
LICENSEE CONTACT FOR THIS LER (12)												TELEPHONE NUMBER									
NAME L.P. Bregni, Compliance Engineer												AREA CODE 313 586-5313									
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																					
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS					CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPDOS								
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)									
<input type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)												<input checked="" type="checkbox"/> NO									

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

On October 23, 1985, the plant was in Operational Condition 4 (Cold Shutdown) for a maintenance and modification outage. At 2154 hours that day, Emergency Diesel Generator (EDG) #12 was started for post modification testing. Approximately 20 seconds later, the Division I Emergency Equipment Cooling Water (EECW) and Emergency Equipment Service Water (EESW) pumps auto-started, and the Division I EECW isolated from the Reactor Building Closed Cooling Water system header. After the operating shift determined what caused the EECW and EESW to auto-start, the equipment was shut down without incident in accordance with the appropriate system operating procedures. The auto-start and subsequent isolation was determined to have resulted from actuation of the Digital Load Sequencer associated with EDG #12. Actuation of the Digital Load Sequencer was traced back to a failure to manually reset the sequencer after restoration of electrical buses the day before, October 22, 1985. The step to reset the sequencer is in the procedure, SOP 23.321, but it was overlooked by the operator. A memo has been issued to Operations personnel reminding them of the requirements they must follow whenever it is necessary to perform a procedure out of sequence.

IE 22  
1/18512050232 851122  
PDR ADOCK 05000341  
S PDR

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Fermi-2	DOCKET NUMBER (2)  0 5 0 0 0 3 4 1 8 5	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
		8 5	0 7 5	0 0	0 2	OF	0 3

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

On October 22, 1985, the plant was in Operational Condition 4 (Cold Shutdown) for a maintenance and modification outage. One of the modifications being installed during this outage is the 3L panel. The 3L panel is a modification that adds a third control panel with the capability to shut down the plant at a location remote from the control room in the event of a fire. Among its control features, the 3L panel has the capability to control the loads supplied by some of the Engineered Safety System (ESS) electrical buses. As a result, many busses were shut down during the outage to install the new 3L panel electrical control features.

At 2030 hours on October 22, the Control Room Nuclear Supervising Operator (NSO) was returning ESS Bus 64C (4160V) to service following modifications for installation of the 3L panel. The System Operating Procedure SOP 23.321 "Engineered Safety Features Auxiliary Electrical Distribution" was used as the controlling document for the evolution. Because of the unusual lineup of the electrical system that resulted from the outage work, the operator had to perform some steps in a sequence different from those identified in the procedure. The control room NSO evaluated each difference and restored bus power to the affected buses without incident.

The next day, October 23 at 2135 hours, Emergency Diesel Generator (EDG) #12 was started and its output breaker was closed for post modification testing. Approximately 20 seconds later, the Division I Emergency Equipment Cooling Water (EECW) and the associated division of Emergency Equipment Service Water (EESW) auto-started, and the Division I EECW isolated from the Reactor Building Closed Cooling Water system header. The operating shift evaluated the event and determined that the Digital Load Sequencer had activated when EDG #12 was started and loaded. Once activated, the sequencer automatically initiated the equipment starts. The equipment was shut down without incident in accordance with the appropriate system operating procedures.

Only the EECW and EESW systems were started because the Digital Load Sequencer start signal is sufficient to satisfy the start logic for these system. Other safety systems require additional signals such as high drywell pressure or low reactor water level in addition to the sequencer start signal to satisfy their start logic.

The actuation of the Digital Load Sequencer was traced back to a failure to manually reset the sequencer after restoration of the 64C and 12EB buses on October 22, 1985. The step to reset the sequencer is in the procedure, SOP 23.321, but it was overlooked by the NSO.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	PAGE (3)
		YEAR SEQUENTIAL NUMBER REVISION NUMBER	
Fermi-2	0 5 0 0 0 3 4 1 8 5	- 0 7 5 - 0 0 0 3	OF 0 3

TEXT (If more space is required, use additional NRC Form 368A's) (17)

The cause of this event was operator error; failure to follow written procedures. A factor that may have contributed to the operator's error was the exclusion of the step to reset the Digital Load Sequencer from the "Precaution and Limitations" section at the beginning of the SOP. The step was listed as a precaution in the body of the SOP, and therefore according to procedure, the precaution should have been listed in this section. An additional contributing factor was a lack of adequate planning for executing the procedure steps to restore power. This was particularly critical since the unusual lineup of the electrical system required the operator to perform some procedure steps out of sequence. If additional preparation time had been spent to establish a sequence of events before performing the procedure, the step for resetting the Digital Load Sequencer may not have been missed.

The operator involved has reviewed the procedures used and has made recommendations for improvement to SOP 23.321. SOP 23.321 has been modified to place the precaution on resetting the sequencer in the "Precautions and Limitations" section. The Operations Engineer has issued a memo to the Nuclear Shift Supervisors and the Nuclear Assistant Shift Supervisors instructing them to become more involved in the review and establishment of operating sequences. A memo has also been sent to all Operations personnel reminding them of the requirements of procedure 21.000.01 regarding variation from sequence of steps in written procedures. This LER will be placed in required reading for all licensed operators.

Actuation of the Engineered Safety Features systems EECW and EESW in this manner does not affect the safe operation of the plant and was not detrimental to the affected systems. Therefore, the safety consequences of this event are minimal.



**Detroit  
Edison**

Robert S. Lenart  
Plant Manager

Fermi-2  
6400 North Dixie Highway  
Newport, Michigan 48166  
(313) 586-5201

November 22, 1985  
NP850224



Nuclear  
Operations

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 85-075

Please find enclosed LER No. 85-075-00, dated November 22, 1985, for a reportable event which occurred on October 23, 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

Regional Administrator  
USNRC Region III  
799 Roosevelt Rd.  
Glen Ellyn, IL 60137

Director/Coordinator  
Monroe City-County Office of Civil Preparedness  
965 South Raisinville Road  
Monroe, MI 48161

LE22  
11