

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Fermi-2  
DOCKET NUMBER (2): 050003411 OF 03  
PAGE (3): 1TITLE (4):  
RPS Actuation While Returning Instrument to Service

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)	
06	07	85	85	02	1	07	01	85		050003411	

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 8. (Check one or more of the following) (11)									
POWER LEVEL (10)		20.402(a)		20.406(a)	<input checked="" type="checkbox"/>	80.73(a)(2)(iv)		73.71(b)			
		20.406(a)(1)(i)		80.36(a)(1)		80.73(a)(2)(v)		73.71(a)			
		20.406(a)(1)(ii)		80.36(a)(2)		80.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)			
		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)(x)					

LICENSEE CONTACT FOR THIS LER (12):  
NAME: A. E. Wegele, Compliance Engineer  
TELEPHONE NUMBER: 313 586-5313  
AREA CODE: 313

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):  
YES (If yes, complete EXPECTED SUBMISSION DATE) ☐ NO ☒  
EXPECTED SUBMISSION DATE (15):  
MONTH: DAY: YEAR:

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

On June 7, 1985, at 1306 hours, with the plant at zero power and 700 psig in Operational Condition 4 and prior to initial criticality, an RPS actuation and ESF actuations occurred during surveillance testing of reactor vessel pressure instruments. The RPS trip and ESF actuations occurred when transmitter B21-N078A, at atmospheric pressure, was valved back into service at reactor pressure. This pressure differential caused a pressure transient in the common reference leg with which the pressure instrument communicated. This transient resulted in a false Level 2 indication, causing the RPS actuation and ESF actuations. Except for a failure of RPS Channel A1 to trip, all plant systems responded as designed. Channel A1 did not trip because the response time of the level instrument in that channel is longer than that of the instrument in Channel B1.

The root cause of the event was personnel error. The applicable procedure has been revised to clarify that the instructions for valving instruments back into service apply to all instruments on racks H21-P004 and -P005 and B21-N085A & B on racks H21-P009 & -P010. Similar events were reported in LERs 85-014, -015, and -016.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104  
EXPIRES 8/31/85

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			
		0 2 1	0 0 0	2	OF	0 3	

TEXT (If more space is required, use additional NRC Form 388A's) (17)

On June 7, 1985, at 1306 hours, with the plant at zero power and 700 psig in Operational Condition 4 and prior to initial criticality, an RPS actuation and ESF actuations occurred during surveillance testing of reactor vessel pressure instruments.

Following surveillance testing, vessel pressure transmitter B21-N078A, at atmospheric pressure, was returned to service at reactor pressure (700 psig). This difference in pressure caused a fluctuation in the adjacent reference leg pressure for vessel level instruments. This fluctuation reached the level 2 trip setpoint and led to: (a) Trip of Recirculation Pumps A & B; (b) actuation of Division I Alternate Rod Insertion (ARI); (c) Reactor Vessel Level 3 trip in Channel B1 (and RPS Channel B half-scam); (d) Level 2 trip of Nuclear Steam Supply Shutoff System (NSSSS); (e) auto-initiation of Standby Gas Treatment System (SGTS) Division I (Division II, in "Off-Reset" at the time, did not auto-start); and (f) trip of Reactor Building HVAC and shift of Control Center HVAC to its recirculation mode (an ESF actuation). The Control Room Nuclear Supervising Operator (NSO) recognized that ARI actuation accompanied the half-scam, so he initiated a manual scram, as required by Fermi-2 procedures and training, at approximately 1307 hours.

The root cause of this event was personnel error. Before removing the transmitter from service, personnel discussed the configuration of the transmitter and instrument rack. Personnel concluded, incorrectly, that this transmitter, connected to the process piping by a single instrument line, could be returned to service without first being repressurized. When personnel removed the transmitter from service and opened the drain valve on the instrument to connect the response time test set (RTTS), they expected to drain a much larger volume of water than was observed. When the RTTS was connected to the transmitter, a large volume of air was bled from the transmitter. Test personnel incorrectly interpreted these observations to be confirmation that the transmitter could be returned to service without prior repressurization.

The instrument was filled at atmospheric pressure and returned to service (i.e., valved back into communication with the reactor pressure of 700 psig) by slowly opening the isolation valve on the instrument line. The instrument line to the transmitter tied into a common manifold above the rack isolation valve. An adjacent level transmitter also tapped into this manifold. When the pressure transmitter was valved back into service, the difference in pressure across the pressure transmitter instrument line caused a pressure fluctuation in the manifold. This fluctuation caused a level 3 trip of RPS instrument channel B1 and was large enough to cause several level 2 trips and level 3 trips of the Wide Range Level instruments. A trip of RPS Channel A1 on level was anticipated but did not occur. A repair order (PN-21) was immediately issued to verify the function of the Level 3 Channel A1. The channel was functionally tested from the transmitter and the trip actuation occurred as expected. The trip did not occur during the actual event because of the difference in the response time of transmitters (B21-N081A being slower than B). All plant systems

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APPROVED OMB NO. 3150-0104

EXPIRES: 8/31/85

FACILITY NAME (1)  Fermi-2	DOCKET NUMBER (2)  0500034185	LER NUMBER (8)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
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TEXT (If more space is required, use additional NRC Form 388A's) (17)

responded as designed. All ESFs were reset and returned to their normal configuration by 1336 hours.

Similar events were reported in LERs 85-014, -015, and -016, in which RPS trips resulted from personnel valving level instruments back into service. Personnel involved in the June 7 event have been counseled about this event. In addition, procedure 41.000.09, "Process Instrumentation Removal from and Return to Service", has been revised to clarify that precautions on returning reactor vessel instruments to service apply to all instruments on racks H21-P004, -P005, and instrument B21-N086A & B on racks H21-P009 & -P010.

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July 1, 1985  
NP-85-732

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

Gentlemen:

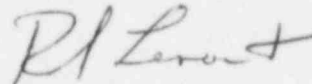
Reference: Fermi 2  
NRC Docket No. 50-341  
NRC Operating License No. NPF-33

Subject: Transmittal of Licensee  
Event Report 85-021

Please find enclosed LER No. 85-021-00, dated July 1, 1985, for a reportable event which occurred on June 7, 1985. As indicated below, a copy of this LER is being sent to the Region III office.

If you have any questions, please contact us.

Sincerely,



R. S. Lenart  
Superintendent  
Nuclear Production

Enclosure: NRC Forms 366, 366A

cc: Mr. P.M. Byron  
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