

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Fermi 2										DOCKET NUMBER (2) 0 5 0 0 0 3 4 1										PAGE (3) 1 OF 0 4																													
TITLE (4) High Pressure Coolant Injection and Reactor Core Isolation Cooling Actuated Following a Reactor Scram																																																	
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)												
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0 1			1 0			8 8			8 8			0 0			4			0 0			0 2			0 9			8 8			N/A										0 5 0 0 0									
OPERATING MODE (9) 1										THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more of the following) (11)																																							
POWER LEVEL (10) 0 4 9										20.402(b)										20.405(c)										50.73(a)(2)(iv)										73.71(b)									
										20.405(a)(1)(i)										50.36(e)(1)										50.73(a)(2)(v)										73.71(c)									
										20.405(a)(1)(ii)										50.36(e)(2)										50.73(a)(2)(vi)										OTHER (Specify in Abstract below and in Text, NRC Form 366A)									
										20.405(a)(1)(iii)										50.73(a)(2)(i)										50.73(a)(2)(viii)(A)																			
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20.405(a)(1)(v)										50.73(a)(2)(iii)										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																													
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																																																	
CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPROS		CAUSE		SYSTEM		COMPONENT		MANUFACTURER		REPORTABLE TO NPROS																															
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SUPPLEMENTAL REPORT EXPECTED (14)																																																	
YES (If yes, complete EXPECTED SUBMISSION DATE)																				X NO										EXPECTED SUBMISSION DATE (15)																			
																														MONTH DAY YEAR																			

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

On January 10, 1988, the North Reactor Feed Pump speed control power supply failed. The pump responded to the loss of control signal. A low reactor vessel water level resulted which caused a reactor scram. High Pressure Coolant Injection and Reactor Core Isolation Cooling Systems actuated along with the appropriate isolations.

The cause for the Feedwater transient was that the overvoltage trip for the power supply had drifted into the normal operating range. The power supply was replaced and the overvoltage protection was set to the maximum value.

During restoration of the RWC System, a Technical Specification requirement was exceeded. The Technical Specification Action Statement for defeating the high temperature isolation function of the RWC isolation valves does not allow sufficient time to restart the RWC System during high operator activity periods. A Technical Specification change will be submitted to delete the requirement for RWC isolations on high non-regenerative heat exchanger outlet temperature indication.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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		YEAR 1	SEQUENTIAL NUMBER 0 0 4	REVISION NUMBER 0 0	0 2 OF 0 4	

TEXT (If more space is required, use additional NRC Form 365A's) (17)

Initial Plant Conditions:

Operational Condition: 1 (Power Operations)
Reactor Power: 54.0 Percent
Reactor Pressure: 934 psig
Reactor Temperature: 510 degrees Fahrenheit

Description of the Event:

On January 10, 1988, the power supply, N21-KA048 to the North Reactor Feed Pump (NRFP) speed control (JK) failed at 0958 hours and 56 seconds. The North Reactor Feed Pump's (SJ) speed decreased to zero as a result of the loss of control signal. The South Reactor Feed Pump (SRFP) (SJ) was not in service at the time. The operators began feeding the Reactor Pressure Vessel (RPV) with Standby Feedwater (SBFW) after the reactor vessel low water level scram, while attempting to place the SRFP in service.

At 0959 hours and 14 seconds, a low reactor vessel water level caused a reactor scram. Reactor water level continued to drop and when low-low level was reached High Pressure Coolant Injection (HPCI) (BJ) and Reactor Core Isolation automatically initiated. Reactor water level was restored.

At 1012 hours, the Nuclear Shift Supervisor declared an unusual event due to the the automatic actuation of HPCI. At 1013 hours, the reactor scram signal was reset. Notifications for the unusual event were made. At 1055 hours, the unusual event was terminated.

During the reactor scram, several systems isolated including the Reactor Water Cleanup System (RWCU) (CE) system. A secondary isolation occurred as the system reached thermal equilibrium. This resulted in a high non-regenerative heat exchanger effluent temperature trip. In order to reestablish forced core circulation with the reactor recirculation system, the RWCU system had to be placed in service so that an accurate bottom head temperature could be taken.

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APPROVED OMB NO. 3150-0104
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At 1115 hours, by procedure, the isolation logic was defeated by installing jumpers to open the isolation valves and return RWCU to service. This defeated the non-regenerative heat exchanger effluent temperature isolation and placed the plant in a one hour Limiting Condition of Operation (LCO) per Technical Specification 3.3.2.

As the one hour time limit was expiring only one Reactor Water Cleanup pump was operating. Only one of the 3 annunciators for the non-regenerative heat exchanger outlet temperature had been verified to be clear.

At 1225 hours, the prerequisites had been met and an Instrument Repairman removed the jumpers.

Cause of The Event:

The overvoltage trip setpoint for the power supply had drifted into the normal operating region. This caused the power supply to trip on overvoltage when an actual overvoltage condition did not exist.

The overvoltage trip had been set at ten percent of the operating value instead of fifteen percent plus one volt as recommended in the vendor's manual during installation. This had been set by an Instrument Repairman (contractor non-licensed). The original power supply did not have overvoltage protection. The repairman failed to see the instructions for setting the new power supply's overvoltage trip as described in the vendor's manual, when installing the new power supply on January 7, 1988.

The Technical Specification Action Statement for restoring the RWCU was not met since the procedure is difficult to perform. Extended delays were encountered while operators dressed out to enter the RWCU pump rooms for the fill and vent and system warm-up operations. The RWCU pump rooms are contaminated and are posted as high radiation areas. The one hour LCO used for opening the isolation valves by use of a jumper does not allow sufficient time to restart the RWCU system during high operator activity periods such as scram recovery.

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

Analysis of the Event:

The safety systems when challenged functioned as designed during the reactor scram. The Reactor Protection system logic (JC), when challenged, functioned as designed. This transient is bounded by the accident analysis for decreasing of reactor water coolant inventory. The safety systems functioned properly and core cooling was maintained. No other components, structures, systems or conditions of the work place contributed to this event. Therefore, the safety for the plant and public was maintained.

Corrective Action:

The failed power supply was replaced and the overvoltage setting for both of the feedwater pump governor power supplies was set to the maximum value. This was completed on January 10, 1988. The failed power supply is being sent to the vendor for evaluation to determine if the drift experienced is excessive.

The repairman was counseled in accordance with company policy.

A Technical Specification change will be submitted to delete the requirement for RWCU isolations on high non-regenerative heat exchanger outlet temperature indication. This is scheduled to be completed by the end of April, 1988.

Previous Similar Events:

There have been four previous reactor scrams associated with low RPV water level signals. This is the first time a low RPV water level signal has caused HPCI and RCIC actuations.

This is the first report of the RWCU isolation logic being jumpered out in excess of the Technical Specification Limit.

Detroit
Edison

William S. Orser
Vice President
Nuclear Operations

10CFR50.73

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February 9, 1988
NRC-88-0019



Nuclear
Operations

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

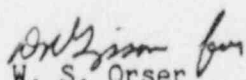
Reference: Fermi 2
NRC Docket No. 50-341
Facility Operating License No. NPF-43

Subject: Licensee Event Report (LER) No. 88-004-00

Please find enclosed LER No. 88-004-00, dated February 9, 1988, for a reportable event that occurred on January 10, 1988. 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
T. R. Quay
W. G. Rogers

Wayne County Emergency
Management Division

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