

LICENSEE EVENT REPORT (LER)

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|--|--------|---|----------------|-------------------|-----------------|------------------|-----------------|-----------|----------------|---|---|---|---|----------------------|----------------|---|---|--|-----------|----------------------|--|--|--|
| 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) RWCU Isolation | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 9 | 2 | 4 | 8 | 5 | 8 | 5 | 0 | 6 | 1 | 0 | 0 | 1 | 0 | 2 | 2 | 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) | | | | | | | | | | | | | | | | | | | | | |
| 2 | | 20.402(b) | | | | 20.406(e) | | | | XX | | | | 80.73(a)(2)(iv) | | | | 73.71(b) | | | | | |
| POWER LEVEL (10) | | 20.406(a)(1)(i) | | | | 80.38(e)(1) | | | | | | | | 80.73(a)(2)(v) | | | | 73.71(e) | | | | | |
| 0 1 0 2 | | 20.406(a)(1)(ii) | | | | 80.38(e)(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)(viii)(A) | | | | | | | | | |
| | | 20.406(a)(1)(iv) | | | | 80.73(a)(2)(ii) | | | | | | | | 80.73(a)(2)(viii)(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 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 | | | | | | | | | | | | | |
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| 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 September 24, 1985, with the reactor in Operational Condition 2 at 1.5% power, the Reactor Water Cleanup (RWCU) system isolated at 0124 hours when I&C personnel incorrectly selected and lifted the leads of module G33N602A, instead of module E51N602A during a surveillance test. Lifting these leads simulated a high temperature signal in the RWCU isolation logic which led to closure of RWCU inboard primary containment isolation valve G33F001 and shutdown of RWCU. While the system was being restored to operation, the RWCU isolated again at 1457 hours, on a high differential flow signal. This apparently resulted from perturbations in system flow and pressure that occurred when the "B" filter demineralizer was returned to service. At the time, the RWCU flow exceeded an administrative limit of 300 gpm imposed earlier to reduce the likelihood of RWCU isolations on high differential flow. To clarify this limit, Fermi-2 Standing Order 85-16 was implemented on October 1 limiting RWCU operation to one pump until the differential flow problems are resolved. Detroit Edison is reevaluating the RWCU differential flow calibration reference and design intent and has modified the alarm on RWCU isolation to sound when the 45-second time delay on the RWCU isolation logic is initiated to allow operator action before an isolation occurs.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

TEXT (If more space is required, use additional NRC Form 305A (11/77))

On September 24, 1985, the Reactor Water Cleanup (RWCU) system isolated at 0124 hours when I&C personnel erred while performing a surveillance on HPCI/RCIC room area temperature sensors. The RWCU isolated again at 1457 hours, on a high differential flow signal, while the system was being restored to operation.

Prior to the isolation at 0124 hours, the reactor was in operational condition 2, at 1.5% power and a pressure of 950 psig. Surveillance 44.020.227 (Nuclear Steam Supply Shutoff System HPCI and RCIC Room Area Temperature Channel A Functional Test E41N602A and E51N602A) was started at 0045 hours. This test requires lifting the leads to temperature sensing module E51N602A in panel H11P614. The test personnel incorrectly lifted the leads to module G33N602A in that panel. The lifted leads simulated a high temperature signal in the RWCU isolation logic. As designed, the RWCU inboard primary containment isolation valve (G33F001) closed, the RWCU system shut down, and the isolation logic performed as intended.

RWCU Filter/Demineralizer (F/D) "A" was backwashed at 0230 hours. Approximately 0600 hours, the RWCU system was started with "A" Filter/Demineralizer in service. The "B" F/D needed to be backwashed and precoated. At 1454 hours, the "B" F/D was restored to service. At 1457 hours, the RWCU system isolated upon closure of the inboard isolation valve (G33F001). Closure of this valve was initiated by a high differential flow signal. By 1827 hours, the system was filled and vented and restored to service.

System flows just before this isolation were estimated to be: F/D "A" 120 gpm; F/D "B" 115 gpm; RWCU pump discharge flow 340 gpm; return flow to feedwater 270 gpm; RWCU blowdown to Condenser 10 gpm. The actual blowdown flow to the condenser was zero because the blowdown valves were closed. The 10 gpm blowdown flow to the condenser was caused by instrument loop error at low or no flow conditions. The differential flow signal calculated from these estimated flows would be: 60 gpm (340gpm - 270 gpm - 10 gpm). The differential flow trip setpoint is 55 gpm. This limit was exceeded during the system perturbations accompanying restoring F/D "B" to service.

At the time of the isolation, the RWCU flow exceeded the 300 gpm limit imposed by an earlier Fermi-2 Operations Order. This limit was imposed after previous RWCU isolations, to reduce the likelihood of further unnecessary isolations on indicated high differential flow until corrective actions could be completed. The 300 gpm limit was inadvertently exceeded while the RWCU was being returned to service.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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

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| FACILITY NAME (1) Fermi-2 | DOCKET NUMBER (2) 0 5 0 0 0 3 4 1 8 5 - 0 6 1 - 0 0 | LER NUMBER (8) | | | PAGE (3) | | |
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

To clarify the flow restriction on RWCU, Standing Order 85-16 was implemented on October 1 to ensure that RWCU system flows would be limited to a maximum of 180 gpm. This order directed that RWCU operation be limited to one pump until the differential flow problems are resolved. The event report has been placed on the operators' required reading and will be reviewed with the operators under their requalification program.

Previous RWCU isolations on indicated high differential flow were reported in LER numbers 85-024, -034, and -046. The initiating event for the isolations on September 24 was the error of I&C personnel in selecting the G33N602A module during surveillance testing in panel H11P614. A previous event (LER 85-054) isolated HPCI when I&C personnel selected an incorrect module in panel H11P614. Corrective action for that event included putting a diagram of the module locations in the surveillance procedures. However, test personnel did not refer to that diagram when they performed the surveillance on September 24. The I&C personnel have been counseled about this event and the event report has been put on the required reading list for all I&C personnel.

Detroit Edison is reevaluating the RWCU differential flow calibration reference and design intent. This reevaluation was initiated before the September 24 isolations. A modification was installed on September 29 to provide a control room alarm as soon as the 45-second time delay on the RWCU isolation logic is initiated. Previously, the control room operator had no warning that the RWCU differential flow isolation setpoint had been exceeded until after an isolation had occurred. The alarm for RWCU isolation on high differential flow sounded after the differential flow delay had timed-out, providing no opportunity for the operator to take corrective action to prevent RWCU isolation.

Detroit
Edison

Robert S. Lenart
Plant Manager

Fermi-2
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October 22, 1985
NP850167



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 85-061

Please find enclosed LER No. 85-061-00, dated October 22, 1985, for a reportable event which occurred on September 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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