

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
JAMES A. FITZPATRICK NUCLEAR POWER PLANT

DOCKET NUMBER (2)

0 5 0 0 0 3 3 3 1 OF 0 2

PAGE (3)

TITLE (4)

Reactor Trip On Low Vessel Level

| 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) | | | | | | | | |
| 1 | 1 | 0 | 4 | 8 | 4 | 8 | 4 | 0 | 2 | 3 | 0 | 5 | 0 | 0 | 0 | | | | |

| OPERATING MODE (9) | | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5. (Check one or more of the following) (11) | | | | | | | | | | | | | | | |
|--------------------|-----------|--|--|--|--|------------------|--|--|--|---|--|--|--|--|--|--|--|
| POWER LEVEL (10) | 0 1 3 1 0 | 20.402(b) | | | | 20.405(c) | | | | <input checked="" type="checkbox"/> 50.73(a)(2)(iv) | | | | 73.71(b) | | | |
| | | 20.405(a)(1)(i) | | | | 50.36(c)(1) | | | | <input type="checkbox"/> 50.73(a)(2)(v) | | | | 73.71(c) | | | |
| | | 20.405(a)(1)(ii) | | | | 50.36(c)(2) | | | | <input type="checkbox"/> 50.73(a)(2)(vii) | | | | OTHER (Specify in Abstract below and in Text. NRC Form 366A) | | | |
| | | 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)(x) | | | | | | | |

LICENSEE CONTACT FOR THIS LER (12)
NAME
Douglas J. Lindsey
TELEPHONE NUMBER
AREA CODE
3 1 5 3 4 2 - 3 8 4 0

| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) | | | | | | | | | | | |
|--|--------|-----------|--------------|--------------------|--|-------|--------|-----------|--------------|--------------------|--|
| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPDs | | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NPDs | |
| X | SID | IFIC | G101812 | N | | | | | | | |
| X | BN | MIOL | 121010 | Y | | | | | | | |

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)

With the reactor at approximately 30% power following an outage, a reactor trip occurred due to reactor vessel low water level. Prior to the event the control room operator made a flow adjustment to the condensate bypass flow which supplies cooling flow to the air ejector condenser and the steam packing exhauster. The condensate bypass flow controller was malfunctioning which appears to have caused the bypass flow control valve to stroke fully closed. It is suspected that the large increase in bypass flow rate caused the operating Reactor Feed Pump to trip on low suction pressure resulting in a loss of feed water flow. Reactor vessel level was restored to normal with the High Pressure Coolant Injection system. The Reactor Core Isolation Cooling system failed to operate due to a shorted out steam supply valve motor.

The condensate bypass flow controller was replaced and the Reactor Core Isolation Cooling steam supply valve motor was replaced.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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|--|--|----------------|----------------------|--------------------|----------|----|-----|
| FACILITY NAME (1) JAMES A. FITZPATRICK NUCLEAR POWER PLANT | DOCKET NUMBER (2) 0 5 0 0 0 3 3 3 | LER NUMBER (6) | | | PAGE (3) | | |
| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | |
| | | 8 4 | — 0 2 3 | — 0 0 | 0 2 | OF | 0 2 |

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

The plant was operating at 30% reactor power with two condensate pumps (A and B) in service, two condensate booster pumps (A and B) in service, and the "B" reactor feed pump in service. Electrical loads had been transferred from reserve (off-site) power to house service (transformer T-4) approximately three minutes prior to the disturbance that resulted in the reactor trip. Immediately prior to (or coincident with) the scram, the control room operator adjusted the condensate bypass flow which provides cooling flow through the air ejector condenser and steam packing exhauster. This flow adjustment resulted in an automatic start of the third condensate pump probably from piping vibration due to the large bypass valve going closed. Coincident with the automatic start of the condensate pump the operators observed a decreasing reactor water level which resulted in a reactor trip on vessel low water level.

After further post trip evaluation, the controller for the condensate bypass flow control valve was found to be malfunctioning. It is suspected that the malfunctioning bypass flow controller resulted in the flow control valve rapidly stroking closed which caused the redirection of condensate flow through the bypass loop and a subsequent low suction pressure trip to the operating Reactor Feed Pump. The loss of the Reactor Feed Pump resulted in a loss of feedwater flow to the reactor vessel and a reactor trip on low level. Reactor vessel water level was restored to normal operating level with the High Pressure Coolant Injection system. The Reactor core isolation cooling system also received an automatic start signal but failed to operate due to the steam supply motor operated valve tripping its associated breaker. The motor on the Reactor Core Isolation Cooling steam supply valve was found shorted.

The malfunctioning bypass flow controller was replaced. In addition the following components or instruments were inspected, calibrated, stroked, and /or had flow passed through them to verify proper operation.

1. B feedwater pump discharge check valve
2. B feedwater pump discharge valve
3. A, B, and C condensate pump suction valves
4. Flow through the B feedwater pump
5. Condensate pump minimum flow valve
6. Condensate booster pump minimum flow valves
7. Feedwater pump B minimum flow valve
8. Various feedwater heater string valves which could isolate or divert feedwater flow from the reactor
9. Condensate demineralizer operation
10. Evaluation of condensate pump A and B (in parallel operation and individual operation)
11. Performance of the reactor feedwater pump coupling

The motor on the Reactor Core Isolation Cooling steam supply valve was replaced.

James A. FitzPatrick
Nuclear Power Plant
P.O. Box 41
Lycoming, New York 13093
315 342.3840

Harold A. Glovier
Resident Manager



November 21, 1984
JAAP 84-1079

United States Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

REFERENCE: DOCKET NO. 50-333 Licensee Event Report: 84-023-00

Dear Sir:

We have enclosed the referenced Licensee Event Report in accordance with
10CFR50.73

If there are any questions concerning this report, please contact Mr. Douglas J.
Lindsey at (315) 342-3840, Extension 302.

A handwritten signature in cursive script, appearing to read 'H. A. Glovier'.

H. A. GLOVIER

HAG:DJL:dmh

Enclosure

CC: USNRC, Region I (1)
INPO Records Center, Atlanta, Georgia (1)
Internal Power Authority Distribution
American Nuclear Insurers (1)
NRC Resident Inspector
Document Control Center
LER/OR File

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