

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)
McGuire Nuclear Station, Unit 1DOCKET NUMBER (2)
0 5 0 0 0 3 6 9 1 OF 0 1

TITLE (4)

Improper Removal and Restoration of Centrifugal Charging pump 1A Breaker

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

| OPERATING MODE (9) | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|----------------------|--|--|--|--|--|--|--|--|-----------|-----------|-----------------|----------|-----------------|-------------|----------------|----------|------------------|-------------|------------------|--|-------------------|------------------|----------------------|------------------|-----------------|----------------------|-----------------|------------------|-----------------|
| 1 | <table border="1"><thead><tr><th>20.402(b)</th><th>20.406(e)</th><th>50.73(a)(2)(iv)</th><th>73.71(b)</th></tr></thead><tbody><tr><td>20.406(a)(1)(i)</td><td>50.36(a)(1)</td><td>50.73(a)(2)(v)</td><td>73.71(c)</td></tr><tr><td>20.406(a)(1)(ii)</td><td>50.36(a)(2)</td><td>50.73(a)(2)(vii)</td><td rowspan="4">OTHER (Specify in Abstract below and in Text, NRC Form 365A)</td></tr><tr><td>20.406(a)(1)(iii)</td><td>X 50.73(a)(2)(i)</td><td>50.73(a)(2)(viii)(A)</td></tr><tr><td>20.406(a)(1)(iv)</td><td>50.73(a)(2)(ii)</td><td>50.73(a)(2)(viii)(B)</td></tr><tr><td>20.406(a)(1)(v)</td><td>50.73(a)(2)(iii)</td><td>50.73(a)(2)(ix)</td></tr></tbody></table> | | | | | | | | | | 20.402(b) | 20.406(e) | 50.73(a)(2)(iv) | 73.71(b) | 20.406(a)(1)(i) | 50.36(a)(1) | 50.73(a)(2)(v) | 73.71(c) | 20.406(a)(1)(ii) | 50.36(a)(2) | 50.73(a)(2)(vii) | OTHER (Specify in Abstract below and in Text, NRC Form 365A) | 20.406(a)(1)(iii) | X 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A) | 20.406(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | 20.406(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(ix) |
| 20.402(b) | 20.406(e) | 50.73(a)(2)(iv) | 73.71(b) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.406(a)(1)(i) | 50.36(a)(1) | 50.73(a)(2)(v) | 73.71(c) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.406(a)(1)(ii) | 50.36(a)(2) | 50.73(a)(2)(vii) | OTHER (Specify in Abstract below and in Text, NRC Form 365A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.406(a)(1)(iii) | X 50.73(a)(2)(i) | 50.73(a)(2)(viii)(A) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.406(a)(1)(iv) | 50.73(a)(2)(ii) | 50.73(a)(2)(viii)(B) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20.406(a)(1)(v) | 50.73(a)(2)(iii) | 50.73(a)(2)(ix) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

LICENSEE CONTACT FOR THIS LER (12)
NAME
Phillip B. Nardoci, Licensing EngineerTELEPHONE NUMBER
AREA CODE
7 0 4 3 7 3 - 7 4 3 2

| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) | | | | | | | | | |
|--|--------|-----------|---------------|--------------------|-------|--------|-----------|---------------|--------------------|
| CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPDs | CAUSE | SYSTEM | COMPONENT | MANUFAC-TURER | REPORTABLE TO NPDs |
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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 February 20, 1984 during normal rotation of equipment, an unsuccessful attempt was made to start Centrifugal Charging Pump 1A. The pump's breaker was subsequently discovered not in the fully "connect" position. On February 13, 1984 the breaker had been moved to the "disconnect" position to obtain a routine oil sample for analysis. Following the sampling the circuit breaker was not successfully returned to the "connect" position (the breaker racking lead screw was approximately one half turn from the "connect" position).

This is attributed to personnel error because the breaker was improperly connected and independent verification of the breaker position was not properly performed. The pump remained inoperable during the period from February 13 to February 20, during which time Unit 1 was in Mode 1 at 95% power.

This breaker was moved to the "Connect" position and the pump was started on February 20, 1984. This event has been thoroughly covered with appropriate personnel, and the importance of independent verification and daily verification stressed. A procedure will be written to cover the connecting/disconnecting of breakers. Disciplinary actions have been taken against appropriate personnel.

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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) | | |
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| | | YEAR | SEQUENTIAL NUMBER | REVISION NUMBER | | | |
| McGuire Nuclear Station, Unit 1 | 0500036984 | — | 003 | — | 00 | 02 | OF 03 |

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

On February 13, 1984 at 1000, Centrifugal Charging Pump 1A (NV Pump 1A) [EIIS:P] breaker (1ETA-10) [EIIS:BRK] was moved to the 'DISCONNECT' position to obtain a routine oil sample for analysis. Removal of the oil sample was completed approximately two hours later. Following the sampling the circuit breaker was not successfully returned to the 'CONNECT' position. At approximately 1100, on February 20, 1984 during normal rotation of equipment, an unsuccessful attempt was made to start NV Pump 1A. The breaker (1ETA-10) was discovered not in the fully 'CONNECT' position (the breaker racking lead screw was approximately one half turn short of the 'CONNECT' position). The breaker was then successfully moved to the 'CONNECT' position, the racking release lever verified to be in the correct position, and the pump was started. NV pump 1A is required to be operable while in Mode 1 according to Technical Specifications 3.1.2.2, 3.1.2.4 and 3.5.2. Unit 1 was in Mode 1 at 95% power from February 13 to February 20, 1984.

This event is attributed to Personnel Error, because the breaker was improperly connected and independent verification of the breaker position was not properly performed. NV pump 1A remained inoperable during the period from February 13 to February 20. The breaker was improperly verified to be in the 'CONNECT' position once a day by different Nuclear Equipment Operators (NEO's) during rounds.

NV Pump 1A breaker is a drawout circuit breaker that can be disconnected from the bus by moving the breaker physically away from the bus. This is done by turning a worm gear (racking screw) which rotates levers attached to the breaker. These levers push against the cubicle to move the breaker toward or away from the bus. To prevent moving a circuit breaker that is closed, or closing a circuit breaker that is being moved; a mechanical interlock is used. This interlock consists of a shaft and levers which must be actuated to move the breaker. When the racking release lever is moved to the left, which releases the racking screw, the breaker is mechanically tripped and prevented from closing. As the breaker is moved to one of the three discrete positions (CONNECT, TEST, DISCONNECT), the racking release lever moves to the right; locking the racking screw and freeing the trip mechanism. The racking release lever must be in the lower or right position for breaker operation.

The NV Pump 1A breaker was required to be disconnected to obtain a routine oil sample. Only one Nuclear Equipment Operator (NEO) was dispatched to disconnect the breaker and act as Personnel/Equipment protection. This appears to be contrary to Operation Management Procedure (OMP) Section 1-6, 7.2, which states "When independent verification is required for equipment that is removed from service, the two persons performing the task shall work together".

After the oil sample was removed, the Shift Supervisor notified the NEO to return the breaker to the 'CONNECT' position. The NEO then engaged the racking crank and pushed the racking release lever to the left, and rotated the racking crank clockwise until the racking mechanism automatically stopped at the 'TEST' position. The racking release lever was again pushed to the left and the racking crank was rotated clockwise until resistance was felt. The control power fuse was then replaced providing a closed status light to the Control Room. An Assistant Shift Supervisor and a Nuclear Control Operator independently verified the breaker to be in the 'CONNECT' position by the indication of status lights on the control board. This was an invalid verification due to the fact that control power is supplied to the circuit breaker through the secondary disconnecting device. This device consists of a sliding contact strip with one part mounted on the circuit breaker and the other part mounted on the back of the cubicle at the floor. Contact

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

| FACILITY NAME (1) | DOCKET NUMBER (2) | LER NUMBER (6) | | | PAGE (3) | | |
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

between the two parts begins when the circuit breaker is moved to the 'TEST' position and continues as the breaker is moved to the 'CONNECT' position. When the operator in the Control Room verified that one of the status lights was lit, he could not say whether the breaker was in the 'TEST' or 'CONNECT' position, or somewhere in between. This appears to be a contrary to OMP Section 1-6, 8.2.B, which states "Verification of the availability of power to components powered from a 4160V, or 600V load center breaker will be done by checking the breaker and control power fuse position locally".

The NEO did not check the position of the racking release lever after the breaker was apparently placed in the 'CONNECT' position. If the racking release lever is not in its correct position, the breaker is in a tripped state and the contacts can not be closed.

The breaker was verified to be in the 'CONNECT' position once per day for seven days by NEOs performing the Nuclear Equipment Operator Turnover Checklist. This daily check failed to find that the breaker was not completely in the 'CONNECT' position.

A contributing factor was the lack of adequate training on the 4160V breaker racking mechanism for the NEOs. The NEO did not look at the racking release lever to ensure that it was in the correct position after racking the breaker to the 'CONNECT' position. The NEOs who completed rounds to verify the actual breaker to be in the 'CONNECT' position also did not look to ensure the position of the racking release lever. Another contributing factor may have been the lack of a procedure to cover the connecting/disconnecting of breakers.

This event has been thoroughly covered with appropriate personnel, and personnel will be reminded of the importance of independent verification and daily verification. Disciplinary actions have been taken against appropriate personnel.

Removal and Restoration Procedures shall be required for all safety related equipment to document independent verification even if the equipment is expected to be out of service for only a short period of time. A procedure will be written to cover the connecting/disconnecting of breakers and this item will be placed in the OMP.

Train B Emergency Core Cooling System (ECCS) remained operable during the period February 13-20 when NV Pump 1A was technically inoperable and unavailable for service, if needed. Each ECCS system is a 100% capacity system; therefore, the health and safety of the public was not affected by this incident.

DUKE POWER COMPANY

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HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

March 21, 1984

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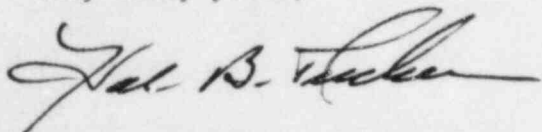
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U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: McGuire Nuclear Station, Unit 1
Docket No. 50-369
LER 369/84-03

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 369/84-03 concerning the improper removal and restoration of centrifugal charging pump 1A breaker which is submitted in accordance with §50.73 (a)(2)(i)(B). This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,



Hal B. Tucker

PBN:glb

Attachment

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