



October 19, 2009

L-MT-09-086
10 CFR 50.73

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Monticello Nuclear Generating Plant
Docket No. 50-263
Renewed License No. DPR-22

LER 2009-005, "Failed Fusible Link on Door 18"

A Licensee Event Report (LER) for this occurrence is attached.

This letter contains no new commitments and no revisions to existing commitments.

A handwritten signature in black ink, appearing to read 'Timothy J. O'Connor', written over a rectangular box.

Timothy J. O'Connor
Site Vice President, Monticello Nuclear Generating Plant
Northern States Power - Minnesota

Enclosure

cc: Administrator, Region III, USNRC
Project Manager, Monticello, USNRC
Resident Inspector, Monticello, USNRC

| | | | | | | | | | | |
|---|--------|---|---|--------------------|--|--------------------------------------|--------------------|--|--------------------------------------|---------------|
| NRC FORM 366 (9-2007) | | U.S. NUCLEAR REGULATORY COMMISSION | | | APPROVED BY OMB NO. 3150-0104 <small>Estimated burden per response to comply with this mandatory information collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202 (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.</small> | | | EXPIRES 8-31-2010 | | |
| LICENSEE EVENT REPORT (LER) <small>(See reverse for required number of digits/characters for each block)</small> | | | | | | | | | | |
| FACILITY NAME (1) Monticello Nuclear Generating Plant | | | | | DOCKET NUMBER (2) 05000263 | | | PAGE (3) 1 of 4 | | |
| TITLE (4) Failed Fusible Link on Door 18 | | | | | | | | | | |
| EVENT DATE (5) | | | LER NUMBER (6) | | | REPORT DATE (7) | | | OTHER FACILITIES INVOLVED (8) | |
| MO | DAY | YEAR | YEAR | SEQUENTIAL NUMBER | REV NO | MO | DAY | YEAR | FACILITY NAME | DOCKET NUMBER |
| 08 | 20 | 2009 | 2009 | - 005 | - 00 | 10 | 19 | 2009 | FACILITY NAME | DOCKET NUMBER |
| OPERATING MODE (9) | | 1 | THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check all that apply) (11) | | | | | | | |
| POWER LEVEL (10) | | 100% | 20.2201(b) | 20.2203(a)(3)(ii) | <input checked="" type="checkbox"/> | 50.73(a)(2)(ii)(B) | 50.73(a)(2)(ix)(A) | | | |
| | | | 20.2201(d) | 20.2203(a)(4) | | 50.73(a)(2)(iii) | | 50.73(a)(2)(x) | | |
| | | | 20.2203(a)(1) | 50.36(c)(1)(i)(A) | | 50.73(a)(2)(iv)(A) | | 73.71(a)(4) | | |
| | | | 20.2203(a)(2)(i) | 50.36(c)(1)(ii)(A) | | 50.73(a)(2)(v)(A) | | 73.71(a)(5) | | |
| | | | 20.2203(a)(2)(ii) | 50.36(c)(2) | | 50.73(a)(2)(v)(B) | | OTHER Specify in Abstract below or in NRC Form 366A | | |
| | | | 20.2203(a)(2)(iii) | 50.46(a)(3)(ii) | | 50.73(a)(2)(v)(C) | | | | |
| | | | 20.2203(a)(2)(iv) | 50.73(a)(2)(i)(A) | | 50.73(a)(2)(v)(D) | | | | |
| | | | 20.2203(a)(2)(v) | 50.73(a)(2)(i)(B) | | 50.73(a)(2)(vii) | | | | |
| | | | 20.2203(a)(2)(vi) | 50.73(a)(2)(i)(C) | | 50.73(a)(2)(viii)(A) | | | | |
| | | | 20.2203(a)(3)(i) | 50.73(a)(2)(ii)(A) | | 50.73(a)(2)(viii)(B) | | | | |
| LICENSEE CONTACT FOR THIS LER (12) | | | | | | | | | | |
| NAME Ron Baumer | | | | | TELEPHONE NUMBER (Include Area Code) 763-295-1357 | | | | | |
| COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13) | | | | | | | | | | |
| CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX | CAUSE | SYSTEM | COMPONENT | MANU-FACTURER | REPORTABLE TO EPIX | |
| X | NM | DR | 1075 | N | | | | | | |
| SUPPLEMENTAL REPORT EXPECTED (14) | | | | | | EXPECTED SUBMISSION DATE (15) | | | | |
| YES (If yes, complete EXPECTED SUBMISSION DATE). | | | | | <input checked="" type="checkbox"/> | NO | | MONTH | DAY | YEAR |
| ABSTRACT During operator rounds, a HELB barrier door was found closed. This condition has the potential to result in the loss of both the upper and lower 4 kV rooms if a HELB event were to occur. Technical Specification Limiting Condition for Operation 3.0.3 was entered and the condition was corrected. An investigation determined that the root cause of the event was the door's fusible link had failed due to cyclic overload caused by repeated door over-travel. Corrective actions taken or planned include: the failed fusible link was replaced and the door restored for operation; an alternative HELB door will be modified to handle the worse case flooding loads and door 18 will be placed in a shut configuration; if this is found not to be practical, the door 18 closer will be replaced with a model less susceptible to link failure. | | | | | | | | | | |

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

Event Description

Door-18 [DR], Turbine Building 911' East Door of Condenser Area (Inside), was discovered in the closed position by an operator on 8/20/09 during performance of the Turbine Building East 0800 operator rounds. The normally open position of the door is necessary to maintain the plant in the configuration required by the plant's High Energy Line Break (HELB) analysis. The closed door resulted in entering Technical Specification Limiting Condition of Operation (LCO) 3.0.3 for plant shutdown. The door was subsequently opened to restore the HELB energy release path. The TS LCO 3.0.3 was exited. A fire impairment was initiated for the non-functional fire door. At 15:00 on 8/20/09 a new fusible link (identical to the failed link) was installed and the fire protection impairment was exited.

Event Analysis

The event was reported to the NRC on August 20, 2009 under 10 CFR 50.72(b)(3)(ii)(B) – Degraded or Unanalyzed Condition and 10 CFR 50.72(b)(3)(v) – Event or Condition that could have prevented Fulfillment of a Safety Function. A Licensee Event Report is required for this event under 10 CFR 50.73(a)(2)(ii)(B) – Degraded or Unanalyzed Condition.

Although initially the event was reported as a Safety System Functional Failure, further review determined it was not reportable under 10 CFR 50.72(b)(3)(v), since a single failure does not need to be considered in addition to a HELB for reporting as a safety system functional failure.

Safety Significance

On August 20, 2009, fire/HELB Door-18 was found to be in the closed position due to a failed fusible link. This condition existed for a maximum of approximately one day, subjecting the lower (Division I) 4KV [EA] switchgear [SWGR] to failure due to flooding in the event of a feedwater [SJ] HELB in the east Turbine Building 911' elevation. Both divisions of 4KV switchgear were originally declared inoperable as a result of the failed fusible link. Division I 4KV switchgear was considered inoperable due to the potential HELB flooding vulnerability described above. Division II 4KV switchgear was initially considered inoperable since severe flooding of the lower 4KV switchgear room could potentially lead to a loss of offsite power to both divisions of 4KV, leaving only the Emergency Diesel Generator (EDG) [EK] as the sole source of power to the Division II essential safety systems. Under the HELB requirements the EDG cannot be counted upon due to the need to assume a concurrent single active failure.

Risk of core damage or large early release from this event at Monticello is a small fraction of a HELB event probability, considering there is significant and redundant capability to perform all critical safety functions given the loss of equipment resulting from the HELB event and

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coincident barrier failure. Unless the Division II EDG experiences a random failure, a full complement of Emergency Core Cooling System (ECCS) [BM] equipment is available to recover from the HELB event. Even with a random failure of this EDG, leading to a Station Blackout, Monticello has both high pressure and low pressure injection capability to safely accommodate a loss of all AC power.

In conclusion, the safety significance in terms of reactor safety and radiological release to the environment from door-18 being in the closed position for approximately one day is considered to be very low.

Cause

The root cause of the door-18 fusible link failure was due to cyclic overload caused by repeated door over travel. Causal Factors:

- Door closer design allows excessive force on the fusible link.
- Installation made the door closer more susceptible to over travel.
- The narrow vestibule precludes setting of the door hold open position such that the door is out of traffic (normal hold open position should be 100 -140°)

Corrective Action

The following corrective actions have been taken or are being tracked under AR01194446:

- The failed fusible link was replaced.
- An alternative HELB door will be modified to handle the potential worse case flooding loads and door number 18 will be restored to a normally closed configuration. If this solution is found not to be practical, the door number 18 closure will be replaced with a model less susceptible to link failure.

Failed Component Identification

Lewis C. Norton (LCN) series 4010, model 4011 Door Closer Catalog Id.: 6559286
Door Fusible Link Arm model 4010-3049FL

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Previous Similar Events

LER 2007-06 – Failed Fusible Link on Door 18. The investigation found that the installed fusible link was shorter than required and therefore resulted in the failure. A different link of the correct size was installed.