



Northern States Power Company

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July 6, 1992

10 CFR Part 50  
Section 50.73

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT  
Docket Nos. 50-282 License Nos. DPR-42  
50-306 DPR-60

Failure to Perform a Full Flow Test of Turbine-Driven  
Auxiliary Feedwater Pumps Due to Personnel Error

A supplemental Licensee Event Report for this occurrence is attached.

Please contact us if you require additional information related to this event.

Thomas M Parker  
Manager  
Nuclear Support Services

c: Regional Administrator - Region III, NRC  
NRR Project Manager, NRC  
Senior Resident Inspector, NRC  
State of Minnesota  
Attn: Kris Sanda

Attachment

9207130236 920706  
PDR ADDCK 05000282  
S PDR

*Handwritten initials/signature*

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-830), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|   |  |  |  |  |  |                                      |  |                      |  |
|---|--|--|--|--|--|--------------------------------------|--|----------------------|--|
| FACILITY NAME (1)<br>Prairie Island Nuclear Generating Plant Unit 1 |  |  |  |  |  | DOCKET NUMBER (2)<br>0 5 0 0 0 2 8 2 |  | PAGE (3)<br>1 OF 0 4 |  |
|---|--|--|--|--|--|--------------------------------------|--|----------------------|--|

TITLE (4) Failure to Perform a Full Flow Test of Turbine-Driven Auxiliary Feedwater Pumps Due to Personnel Error

| 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) |
| 03             | 06  | 92   | 92             | 004               | 01              | 07              | 06  | 92   | Prairie Island Unit 2         |  | 0 5 0 0 0 3 0 6  |
|                |     |      |                |                   |                 |                 |     |      |                               |  | 0 5 0 0 0 1 1 1  |

OPERATING MODE (9) N

POWER LEVEL (10) 1 0 0

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5 (Check one or more of the following) (11)

|                   |                    |                     |  |
|-------------------|--------------------|---------------------|--|
| 20.402(b)         | 20.405(e)          | 50.73(a)(2)(iv)     | 73.71(b)   |
| 20.405(a)(1)(i)   | 50.36(c)(1)        | 50.73(a)(2)(v)      | 73.71(c)   |
| 20.405(a)(1)(ii)  | 50.36(c)(2)        | 50.73(a)(2)(vi)     | OTHER (Specify in Abstract Delay and in Text, NRC Form 305A) |
| 20.405(a)(1)(iii) | XX 50.73(a)(2)(ii) | 50.73(a)(2)(vii)(A) |  |
| 20.405(a)(1)(iv)  | 50.73(a)(2)(iii)   | 50.73(a)(2)(vii)(B) |  |
| 20.405(a)(1)(v)   | 50.73(a)(2)(iv)    | 50.73(a)(2)(vii)(C) |  |

LICENSEE CONTACT FOR THIS LER (12)

|                        |   |
|------------------------|---|
| NAME<br>Arne A Hunstad | TELEPHONE NUMBER<br>AREA CODE: 6 1 2<br>3 8 8 - 1 1 2 1 |
|------------------------|---|

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

| CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRRDS | CAUSE | SYSTEM | COMPONENT | MANUFACTURER | REPORTABLE TO NRRDS |
|-------|--------|-----------|--------------|---------------------|-------|--------|-----------|--------------|---------------------|
|       |        |           |              |                     |       |        |           |              |                     |
|       |        |           |              |                     |       |        |           |              |                     |

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)

During routine reviews of Technical Specifications by system engineers, it was realized that the annual full flow test for the turbine-driven auxiliary feedwater pumps might no longer be met due to increasing fuel cycle lengths. A License Amendment Request was submitted in January 1992 to change the full flow testing requirement for the turbine-driven auxiliary feedwater pumps to a refueling interval to make the requirements consistent with those for the motor-driven auxiliary feedwater pumps.

A comprehensive review of the testing and operating procedure records was done to determine if the discrepancy had caused any violation of Technical Specifications 4.8.A.2. It was found that the annual requirement had been exceeded on four occasions.

As part of the corrective actions for the original event, further review of the testing program was made to determine compliance with the testing requirements of Technical Specifications 4.8. Two other instances of inadequate testing were found.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|  |  |                |                   |                 |          |    |       |
|--|--|----------------|-------------------|-----------------|----------|----|-------|
| FACILITY NAME (1)<br><br>Prairie Island Unit 1 | DOCKET NUMBER (2)<br><br>0   5   0   0   0   2   8   2 | LER NUMBER (6) |                   |                 | PAGE (3) |    |       |
|  |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |    |       |
|  |  | 9   2          | -   0   0   4     | -   0   1       | 0   2    | OF | 0   4 |

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

EVENT DESCRIPTION

During routine reviews of Technical Specifications by system engineers, it was realized that the annual full flow test for the turbine-driven auxiliary feedwater pumps might no longer be met due to increasing fuel cycle lengths. A License Amendment Request was submitted in January 1992 to change the full flow testing requirement for the turbine-driven auxiliary feedwater pumps to a refueling interval to make the requirements consistent with those for the motor-driven auxiliary feedwater pumps.

A comprehensive review of the testing and operating procedure records was done to determine if the discrepancy had caused any violation of the testing requirements of Technical Specification 4.8.A.2. The requirements to test annually plus 25% translates to a maximum interval of 456 days. That interval was exceeded four times:

- on Unit 1 in 1990; the interval was 476 days.
- on Unit 2 in 1990; the interval was 499 days.
- on Unit 1 in 1991; the interval was 464 days.
- on Unit 2 in 1991; the interval was 499 days.

Following reactor trips from full power, turbine-driven auxiliary feedwater pumps typically operate at full flow for some period of time. During two of the periods above, auxiliary feedwater flow data exists that demonstrates full flow to the steam generators following reactor trips. During the other two periods, reactor trips from full power had occurred with sufficient frequency to satisfy the annual test requirement, but post-trip data is insufficient to document auxiliary feedwater flow rates.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 600 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20545, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0154), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|  |  |                |                   |                 |          |        |
|--|--|----------------|-------------------|-----------------|----------|--------|
| FACILITY NAME (1)<br><br>Prairie Island Unit 1 | DOCKET NUMBER (2)<br><br>0 5 0 0 0 2 8 2 | LER NUMBER (6) |                   |                 | PAGE (7) |        |
|  |  | YEAR           | SEQUENTIAL NUMBER | REVISION NUMBER |          |        |
|  |  | 9 2            | — 0 0 4           | — 0 1 0         | 3        | OF 0 4 |

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

CAUSE OF THE EVENT

Failure to perform full flow testing of the turbine-driven auxiliary feedwater pumps at the required interval was the result of personnel oversight in setting the requirements for meeting the testing frequency. Until 1984, this testing was done exclusively as part of the surveillance program. In 1984, several requirements were combined into one test to be done during unit startup after a cold shutdown. The test requirements were incorporated into the routine unit startup procedure and removed from the routine surveillance schedule. Since the test was now required only after a cold shutdown, the test would not be required during a reactor trip recovery, and typically was not done. This consolidation of flow tests was adequate to satisfy the annual test requirement while fuel cycles remained at approximately a year in length, but as fuel cycles were lengthened over the past few years, the annual requirement was no longer met by doing the test at restart after cold shutdowns.

ANALYSIS OF THE EVENT

The full flow test of the motor-driven auxiliary feedwater pumps is required on a refueling interval; this is adequate for the turbine-driven auxiliary feedwater pumps, also, and a License Amendment Request has been submitted to make the requirements consistent.

Recent full flow tests have been satisfactory. There is every reason to believe the systems were capable of full flow at all times. Therefore, the health and safety of the public were unaffected.

Failure to meet the annual test requirement is a violation of Technical Specification 4.8.A.2, and therefore is reportable pursuant to 10CFR50.73(a)(2)(1)(B).

CORRECTIVE ACTION

A comprehensive review of testing requirements is being conducted to ensure the Technical Specification surveillances are being met.

LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST 500 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (F-330), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555 AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

|  |  |                |                              |                          |          |  |
|--|--|----------------|------------------------------|--------------------------|----------|--|
| FACILITY NAME (1)<br><br>Prairie Island Unit 1 | DOCKET NUMBER (2)<br><br>0 5 0 0 0 2 8 2 | LER NUMBER (8) |                              |                          | PAGE (3) |  |
|  |  | YEAR<br>9 2    | SEQUENTIAL NUMBER<br>— 0 0 4 | REVISION NUMBER<br>— 0 1 | OF       |  |

TEXT IF more space is required, use additional NRC Form 306A's (17)

NOTE: During review of the Technical Specifications testing requirements for the auxiliary feedwater system, it has been determined that surveillance tests did not fulfill all the requirements of Technical Specification 4.8.A.8. This specification requires verification at 18-month intervals during shutdown that each pump starts as designed automatically by each of the automatic actuation parameters. It was determined that not all of the automatic actuation parameters had been tested; specifically, not all of the steam generator lo-lo level starts for each pump and none of the loss of both main feedwater pumps start for each pump had been adequately tested during the last 18 months. Therefore, on June 4, 1992, all 4 auxiliary feedwater pumps were declared inoperable at 1110 hours. Required testing was performed satisfactorily and the pumps declared operable before it was necessary to begin unit shutdowns.

Until the License Amendment Request is approved, the full flow test of the turbine-driven auxiliary feedwater pumps will be done annually.

FAILED COMPONENT IDENTIFICATION

None.

PREVIOUS SIMILAR EVENTS

There have been no previous similar events reported at Prairie Island.