



Northern States Power Company

414 Nicollet Mall  
Minneapolis, Minnesota 55401  
Telephone (612) 330-5500

July 7, 1988

NRC Bulletin 88-04

Director of Nuclear Reactor Regulation  
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

Initial Response to NRC Bulletin 88-04

---

In response to NRC Bulletin No. 88-04, "Potential Safety-Related Pump Loss", the following information is provided:

1. Bulletin Action

Promptly determine whether or not its facility has any safety-related system with a pump and piping system configuration that does not preclude pump-to-pump interaction during miniflow operation and could therefore result in dead-heading of one or more of the pumps.

Response

It has been determined that this facility has no safety-related system with a pump and piping system configuration that does not preclude pump-to-pump interaction.

2. Bulletin Action

If the situation described in item 1 exists, evaluate the system for flow division taking into consideration:

(a) the actual line and component resistances for the as-built configuration of the identified system;

8807180260 880707  
PDR ADDOCK 05000282  
G PNU

IEI  
10

- (b) the head versus flow characteristics of the installed pumps, including actual test data for "strong" and "weak" pump flows;
- (c) the effect of test instrument error and reading error; and
- (d) the worst case allowances for deviation of pump test parameters as allowed by the American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Section XI Paragraph IWP-3100.

Response

As stated in the response above, no pump-to-pump interaction exists.

3. Bulletin Action

Evaluate the adequacy of the minimum flow bypass lines for safety-related centrifugal pumps with respect to damage resulting from operation and testing in the minimum flow mode. This evaluation should include consideration of the cumulative operating hours in the minimum flow mode over the lifetime of the plant and during the postulated accident scenario involving the largest time spent in this mode. The evaluation should be based on best current estimates of potential pump damage from operation of the specific pump models involved, derived from pertinent test data and field experience on pump damage. The evaluation should also include verification from the pump suppliers that current miniflow rates (or any proposed modifications to miniflow systems) are sufficient to ensure that there will be no pump damage from low flow operation. If the test data do not justify the existing capacity of the bypass lines (e.g., if the data do not come from flows comparable to the current capacity) or if the pump supplier does not verify the adequacy of the current miniflow capacity, the licensee should provide a plan to obtain additional test data and/or modify the miniflow capacity as needed.

Response

Evaluation of the adequacy of the minimum flow bypass lines for safety-related centrifugal pumps is in progress.

Verification of miniflow adequacy from pump suppliers has been requested and is expected shortly. We expect to be able to fully respond to this item by September 1, 1988.

4(a). Bulletin Action

Within 60 days of receipt of this bulletin, provide a written response that summarizes the problems and the systems affected.

Response

See above.

4(b). Bulletin Action

Identify the short-term and long-term modifications to plant operating procedures or hardware that have been or are being implemented to ensure safe plant operations.

Response

Operating procedures will be revised as necessary to place limits on pump flow conditions in accordance with any new recommendations received from the pump vendors.

The need for hardware modifications will be evaluated after information from the pump vendors is received.

4(c). Bulletin Action

Identify an appropriate schedule for long-term resolution of any significant problems that are identified as a result of this bulletin.

Response

An evaluation and supplemental response will be made following receipt of information from pump suppliers.

4(d). Bulletin Action

Provide justification for continued operation particularly with regard to General Design Criterion 35 of Appendix A to Title 10 of the Code of Federal Regulations (10 CFR 50), "Emergency Core Cooling" and 10 CFR 50.46, "Acceptance Criteria for Emergency Core Cooling System for Light Water Nuclear Power Reactors."

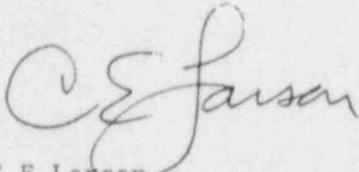
Director of NRR  
July 8, 1988  
Page 4

Northern States Power Company

Response

Evaluation of this issue is continuing as described above.  
No significant problems have been identified as a result of  
this Bulletin at this time.

Please contact us if you have any questions related to the ac-  
tions we have taken in response to NRC Bulletin No. 88-04.



C E Larson  
Vice President Nuclear Generation

c: Regional Administrator, Region III, NRC  
Sr Resident Inspector, NRC  
NRR Project Manager, NRC  
G Charloff

UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

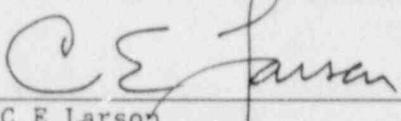
PRAIRIE ISLAND NUCLEAR GENERATING PLANT      DOCKET NOS. 50-282  
50-306

RESPONSE TO NRC BULLETIN 88-04

Northern States Power Company, a Minnesota corporation, with this letter is submitting information requested by NRC Bulletin 80-04.

This letter contains no restricted or other defense information.

NORTHERN STATES POWER COMPANY

By   
C E Larson  
Vice President Nuclear Generation

On this 8th day of July, 1988 before me a notary public in and for said County, personally appeared C E Larson, Vice President Nuclear Generation, and being first duly sworn acknowledged that he is authorized to execute this document on behalf of Northern States Power Company, that he knows the contents thereof, and that to the best of his knowledge, information, and belief the statements made in it are true and that is is not interposed for delay.

