

Northern States Power Company

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July 24, 1989

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

Response to Generic Letter 89-08 Erosion/Corrosion-Induced Pipe Wall Thinning

Attached is our response to Generic Letter 89-08, "Erosion/Corrosion-Induced Pipe Wall Thinning," for the Prairie Island Nuclear Generating Plant.

Please contact us if you have any questions related to our response.

manual Thomas M Parker

Manager Nuclear Support Services

cc: Regional Administrator, NRC NRR Project Manager, NRC Resident Inspector, NRC G Charnoff

Attachments: Affidavit Response to Generic Letter 89-08

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UNITED STATES NUCLEAR REGULATORY COMMISSION

NORTHERN STATES POWER COMPANY

PRAIRIE ISLAND NUCLEAR GENERATING PLANT

DOCKET NOS. 50-282 50-306

RESPONSE TO GENERIC LETTER 89-08

Northern States Power Company, a Minnesota corporation, with this letter is submitting confirmation that a erosion/corrosion monitoring program exists as described in our response to Generic Letter 89-08 dated July 24, 1989.

This letter and attachment contain no restricted or other defense information.

NORTHERN STATES POWER COMPANY

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Thomas M Parker Manager Nuclear Support Services

on this 24 day of 40, 1989 before me a notary public in and for said County, personally appeared Thomas M Parker, Manager Nuclear Support Services, 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 bowledge, information, and belief the statements made in it are true and that it is not interposed for delay.

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PRAIRIE ISLAND NUCLEAR GENERATING PLANT

Attachment

Response to Generic Letter 89-08 Erosion/Corrision-Induced Pipe Wall Thinning

REQUIRED ACTION

Provide assurances that a program, consisting of systematic measures to ensure erosion/corrosion does not lead to degradation of single phase and two phase high-energy carbon steel systems has been implemented. Your response should include information on whether or not you have implemented or intend to implement a long term erosion/corrosion monitoring program that provides assurances that procedures or administrative controls are in place to assure that the NUMARC program or another equally effective program is implemented and the structural integrity of all high-energy (two phase as well as single phase) carbon steel systems is maintained.

RESPONSE

A program for monitoring wall thinning on single phase and two phase high energy carbon steel piping is in place at the Prairie Island Nuclear Generating Plant. There are a number of activities associated with this monitoring program. These activities are described below:

Administrative Controls

Corporate Administrative Control Directives, NIACDs, define requirements for the Inservice Inspection (ISI) Program. Revision 2 of NIACD 9.4 was issued July 15, 1988. This revision describes requirements and responsibilities for Erosion/Corrosion Inspection. On-site activities for the erosion/corrosion work ate performed in accordance with Section D73 of the Plant Operations Manual.

Erosion/Corrosion inspections were performed prior to the adoption of the formal administrative controls. These inspections were governed by communications between the plant staff and the Materials and Special Processes (M&SP) section of the Production Plant Maintenance Department, and use of the Plant Operations Manual, D-Section.

An administrative procedure defining Erosion/Corrosion monitoring activities was issued February 20, 1989 by the Materials and Special Processes.

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Procedures

Procedures are being developed to:

- 1. Determine the scope of inspection.
- 2. Select inspection location from the scope of 1 above.
- 3. Perform inspections.
- 4. Report inspection results.
- 5. Analyze inspection results.

These procedures describe activities already being performed. The procedures are scheduled to be issued by September 1, 1989.

NUMARC Program

The NUMARC program contains three recommendations:

- 1. Analysis and baseline inspection.
- 2. Determine extent of any thinning, repair and replace as needed.
- 3. Perform repeat inspections and other corrective actions.

Our program has and will continue to conform to the these recommendations.

Both the NUMARC recommendations and NUREG-1344 make reference to the EPRI CHEC program without offering specific recommendations to use the CHEC computer program. NSPs experience with the CHEC program has not been favorable. NSP has discontinued use of CHEC.

Engineering Activities

A number of engineering activities are underway to mitigate the effects of Erosion/Corrosion.

- When appropriate, materials less susceptible to Erosion/Corrosion are used in place of carbon steel. Carbon steel extraction piping at Prairie Island is being replaced with stainless steel.
- Backing rings are deleted from joints which are replaced due to Erosion/Corrosion.
- Accuracy and repeatability of various UT techniques are being investigated.
- Methods of selecting susceptible locations are being investigated.