

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report Nos: 50-282/79-27; 50-306/79-21

Docket No: 50-282; 50-306

License No. DPR-42: DPR-60

Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Facility Name: Prairie Island Nuclear Generating Plant, Units 1 and 2

Inspection At: Prairie Island Site, Red Wing, Minnesota

Inspection Conducted: October 1-31, 1979

RFW for
Inspector: C. D. Feierabend

11-13-77

RFWarnick
Approved By: R. F. Warnick, Chief,
Reactor Projects Section 2

11-13-77

Inspection Summary

Inspection on October 1-31, 1979 (Report No. 50-282/79-27; 50-306/79-21)

Areas Inspected: Routine resident inspection of plant operations, maintenance, security, and observations of plant staff response to steam generator tube rupture. The inspection involved 123 inspector-hours by the resident inspector.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Personnel Contacted

F. Tierney, Plant Manager
J. Brokaw, Plant Superintendent, Operations and Maintenance
E. Watzl, Plant Superintendent, Plant Engineering and
Radiation Protection
R. Lindsey, Superintendent, Operations
J. Nelson, Superintendent, Maintenance
J. Hoffman, Superintendent, Technical Engineering
D. Schuelke, Superintendent, Radiation Protection
S. Fehn, Senior Scheduling Engineer
G. Sundberg, Instrument Engineer
G. Edon, Shift Supervisor
P. Ryan, Shift Supervisor
M. Balk, Shift Supervisor
J. Meath, Shift Supervisor
D. Walker, Shift Supervisor

2. General

Unit 2 operated routinely throughout the month. Unit 1 was shut down from October 2-23 to repair a ruptured steam generator tube. The licensee continued inspection and upgrading of pipe support base plates and seismic design pipe supports in response to IE Bulletins IEB 79-02 and IEB 79-14 during the outage.

3. Steam Generator Tube Rupture

At approximately 2:45 p.m. on October 2, 1979 the inspector heard announcement of Unit 1 safety injection on the plant page and proceeded immediately to the control room. The inspector was informed that the apparent cause was a tube rupture in a steam generator. The inspector verified that the air ejector offgas monitor was offscale (high) and that the pressurizer level and pressure had dropped (level was offscale low). The inspector observed that a member of the plant staff had the emergency procedure for steam generator tube rupture and that automatic actions were being verified.

As soon as immediate response was complete a licensee supervisor initiated communication with the emergency response centers in IE Headquarters and in the Region III office. The Resident Inspector coordinated communications with the response centers until all systems were stable.

The licensee plant staff performed professionally in identifying the problem and in implementing emergency procedures.

The Region III emergency response team arrived onsite at approximately 6:50 p.m. to provide independent assessment and monitoring. Results of the emergency team efforts are described in a separate inspection report".^{1/}

The licensee proceeded to place the plant in cold shutdown to identify the ruptured tube, to determine the cause of the tube failure, and to complete repairs. The licensee's event report^{2/}, accurately describes the sequence of events, inspection and identification of the cause and corrective actions completed prior to restart.

Messrs. B. D. Liaw, NRR, and K. D. Ward, IE Region III, participated in the licensee's examination and observed portions of the licensee's inspection of the steam generator. These activities were described in a separate inspection report^{3/}.

After completion of repairs and inspection of the steam generator, the licensee proceeded to restart the plant in accordance with approved procedures. Prior to restart the Resident Inspector verified that the licensee had fulfilled commitments made to NRR during a meeting in Bethesda, Maryland on October¹²16, 1979. The commitments were that the events would be documented in a report and available for review by NRR and that the licensee would implement administrative controls regarding iodine limits.

4. Plant Operations

The inspector reviewed plant operations including examination of selected operating logs, special orders, temporary memos, jumper and tagout logs for the month of October. Tours of the plant included walks through the various areas of the plant to observe operations and activities in progress, to inspect the status of monitoring and instruments, to observe for adherence to radiation controls and fire protection rules, to check proper alignment of selected valves and equipment controls, and to review status of various alarmed annunciators with operators.

The inspector also reviewed annunciator status, recorder charts, surveillance records, and logs to verify that plant operations were maintained in accordance with Technical Specification requirements.

1/ IE Inspection Report No. 50-282/79-26

2/ P-RO-79-27, Tube Rupture in No. 11 Steam Generator, dtd October 16, 1979.

3/ IE Inspection Report No. 50-282/79-25

The inspector performed independent verification of selected plant systems and instrumentation during the licensee's preparations for heatup after repairs to the steam generator were complete. Checklists completed included:

- Cl.1.4-1, Reactor Coolant System
- Cl.1.5-1, Rod Control and Position Indicating Systems
- Cl.1.9-1, Nuclear Instrumentation System, Part 1

The inspector also verified valve positions for portions of the auxiliary feedwater, safety injection, residual heat removal, and component cooling systems, and reviewed completed checklists to confirm that the plant staff had completed system checks and surveillance tests required to be completed before heatup.

No items of noncompliance or deviations were identified.

5. Security

The inspector conducted periodic observations of access control, issuing badges, vehicle inspection, escorting, and communication checks.

No items of noncompliance or deviations were identified.

6. Maintenance

The inspector reviewed several work requests (WR's) and work request authorizations (WRA's) and verified that all required reviews and approvals had been completed. The inspector observed work in progress during troubleshooting of controls for a Unit 1 power operated relief valve and restoration to service.

The inspector also observed work in progress in Unit 1 containment during inspection and repair of the No. 11 steam generator and during repairs to cooling water system seismic restraints.

No items of noncompliance or deviations were identified.

7. Licensee Event Reports (LERs)

The inspector reviewed the following LERs submitted by the licensee, determined that reporting requirements had been met, and determined that corrective actions were being implemented. (Closed)

- a. P-10-78-21 Excessive Leakage through Unit 2 Containment Purge Supply Valves

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The licensee has submitted an update report to identify the cause and corrective actions. Purge valves remain closed under administrative control.

- b. P-R0-79-17 Loss of both source range channels at shutdown
- c. P-R0-79-22 Instrument drift, Steam exclusion system
- d. P-R0-79-26 Axial offset outside target band
- e. P-R0-79-27 Tube Rupture in No. 11 Steam Generator (See Paragraph 3 above)

8. Exit Interview

The inspector conducted an exit interview with Mr. Tierney at the conclusion of the inspection. The inspector discussed the scope and results of the inspection and stated that no items of noncompliance or deviations were identified.

Attachment: Preliminary
Inspection Findings

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POOR ORIGINAL

PRELIMINARY INSPECTION FINDINGS

1. LICENSEE

Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401
Prairie Island 1 (Redwing, MN)
Prairie Island 2 (Redwing, MN)

2. REGIONAL OFFICE

U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement, RIII
799 Roosevelt Road
Glen Ellyn, IL 60137

3. DOCKET NUMBERS
50-282; 50-306

4. LICENSE NUMBERS
DPR-42; DPR 60

5. DATE OF INSPECTION

OCTOBER 1-6, 1979

☒ 6. Within the scope of the inspection, no items of noncompliance or deviation were found.

☐ 7. The following matters are preliminary inspection findings:

2162 298

☐ 8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.


Nuclear Regulatory Commission

POOR ORIGINAL

PRELIMINARY INSPECTION FINDINGS

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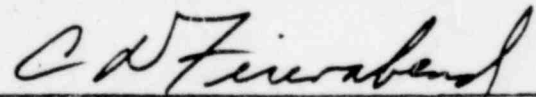
OCTOBER 7-12, 1979

☒ 6. Within the scope of the inspection, no items of noncompliance or deviation were found.

☐ 7. The following matters are preliminary inspection findings:

2162 299

☐ 8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.


Nuclear Regulatory Commission

DOOR ORIGINAL

PRELIMINARY INSPECTION FINDINGS

1. LICENSEE

Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Prairie Island 1 (Redwing, MN)
Prairie Island 2 (Redwing, MN)

2. REGIONAL OFFICE

U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement, RIII
799 Roosevelt Road
Glen Ellyn, IL 60137

3. DOCKET NUMBERS
50-282; 50-306

4. LICENSE NUMBERS
DPR-42; DPR 60

5. DATE OF INSPECTION

October 13-20, 1979

☒ 6. Within the scope of the inspection, no items of noncompliance or deviation were found.

☐ 7. The following matters are preliminary inspection findings:

2162 500

☐ 8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.

C. L. Fierch
Nuclear Regulatory Commission

POOR ORIGINAL

OFFICE OF INSPECTION AND ENFORCEMENT

PRELIMINARY INSPECTION FINDINGS

1. LICENSEE

Northern States Power Company
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Glen Ellyn, IL 60137

3. DOCKET NUMBERS

50-282; 50-306

4. LICENSE NUMBERS

DPR-42; DPR 60

5. DATE OF INSPECTION

October 21-31, 1979

☒ 6. Within the scope of the inspection, no items of noncompliance or deviation were found.

☐ 7. The following matters are preliminary inspection findings:

2162 301

☐ 8. These preliminary inspection findings will be reviewed by NRC Supervision/Management at the Region III Office and they will correspond with you concerning any enforcement action.

CS Fiverson
Nuclear Regulatory Commission