February 24, 2000

Mr. M. Wadley
President, Nuclear Generation
Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

SUBJECT: PRAIRIE ISLAND INSPECTION REPORT 50-282/2000001(DRP);
50-306/2000001(DRP)

Dear Mr. Wadley:

On February 15, 2000, the NRC completed a baseline inspection at your Prairie Island Nuclear Generating Plant. The results of this inspection were discussed on February 15, 2000, with Mr. J. Sorensen and other members of your staff. The enclosed report presents the results of that inspection.

The inspection was an examination by the resident inspectors of activities conducted under your license as they relate to reactor safety, verification of performance indicators, event followup, and to compliance with the Commissions rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities, and interviews with personnel. No significant findings were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Document Room.

Sincerely,

Original signed by
Michael Kunowski for

Roger Lanksbury, Chief
Reactor Projects Branch 5

Docket Nos. 50-282, 50-306
License Nos. DPR-42, DPR-60

Enclosure: Inspection Report 50-282/2000001(DRP);
50-306/2000001(DRP)

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REGION III

Docket Nos:	50-282, 50-306
License Nos:	DPR-42, DPR-60
Report No:	50-282/2000001(DRP); 50-306/2000001(DRP)
Licensee:	Northern States Power Company
Facility:	Prairie Island Nuclear Generating Plant
Location:	1717 Wakonade Drive East Welch, MN 55089
Dates:	January 6 through February 15, 2000
Inspectors:	S. Ray, Senior Resident Inspector S. Thomas, Resident Inspector S. Burton, Senior Resident Inspector, Monticello
Approved by:	Roger Lanksbury, Chief Reactor Projects Branch 5 Division of Reactor Projects

SUMMARY OF FINDINGS

Prairie Island Nuclear Generating Plant, Units 1 & 2
NRC Inspection Report 50-282/2000001(DRP); 50-306/2000001(DRP)

The report covers a 6-week period of resident inspection.

No findings were identified in any cornerstones.

Report Details

Both units operated at or near full power for the entire inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R03 Emergent Work

a. Inspection Scope

The inspectors reviewed and observed the following emergent work activities that involved risk significant systems and/or required coordination with other scheduled risk significant work:

- Packing replacement on the 11-reactor coolant charging pump in accordance with Work Order (WO) 9913303, “P3103-3-11, 11-Charging Pump Quarterly Check”;
- Evaluation and Repair of the D6 diesel generator governor control problem in accordance with General Condition Report 19993016, “D6 Failed to Load to 100 Percent Power Within 60 Seconds During SP 2307”;
- Recalibration of the 11 and 12 steam generator power-operated relief valves’ current-to-pneumatic converters performed in accordance with WO 0000028, “Emergency Response Computer System Alarm 1T0526A, HI TEMP, is in,” and WO 0000108, “Check Current-to-Pneumatic Signal to CV-31084” subsequent to discovering leak-by on the 11-steam generator relief valve; and
- Troubleshooting, replacement, and calibration of a turbine building steam exclusion damper actuation module in accordance with WO 0000381, “Loop 15684 Was High Out of Tolerance Per SP [Surveillance Procedure] 1112.”

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed two partial walkdowns of redundant equipment trains while the counterpart trains were disabled due to planned maintenance. These systems were selected due to the significant increase in core damage frequency caused by taking the one train out-of-service for maintenance. The inspectors also performed a complete walkdown of a system, which was selected based on its considerable impact on the plant’s accident mitigation capabilities. The inspection activities were:

- A partial walkdown of the Unit 1 A train component cooling water system when preventive maintenance was being performed on the 12-component cooling water pump;

- A partial walkdown of the Unit 1 B train safety injection system when preventive maintenance was being performed on the 11-safety injection pump; and

- A complete walkdown of the accessible portions of the Unit 2 auxiliary feedwater system (AFW) using System Prestart Checklist C28-7, "Auxiliary Feedwater System Unit 2," Revision 41. As part of this inspection, outstanding work orders and condition reports were also reviewed for operability concerns.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R05 Fire Protection

a. Inspection Scope

The inspectors walked down the following risk significant areas looking for any fire protection degradations:

- The 707-, 718-, and 735-foot elevations of the D5/D6 diesel generator building using F5 Appendix A, "Fire Detection Zone 97," Revision 5; and

- The relay and cable spreading room for Units 1 and 2 using F5 Appendix A, "Fire Detection Zone 12," Revision 5.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R09 Inservice Testing

a. Inspection Scope

The inspectors reviewed and observed the inservice testing for two pumps. These pumps were selected based on their respective system importance ranking as described in the licensee's Probabilistic Risk Assessment. The pumps that were selected for inspection were:

- The 22 diesel cooling water pump per SP 1106B, "22 Diesel Cooling Water Pump Test," Revision 53; and

- The 22 turbine-driven AFW pump per SP 2102, "22 Turbine-Driven AFW Pump Monthly Test," Revision 61.

b. Observations and Findings

There were no findings and documented during this inspection.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors observed the performance of a training crew during a simulator exercise scenario which included a steam generator tube rupture with a loss of the 1R transformer.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee implementation of the maintenance rule requirements, including a review of scoping, goal-setting, and performance monitoring, short-term and long-term corrective actions, and current equipment performance status. The systems selected for inspection were all classified as risk significant by the licensee's maintenance rule program. The systems evaluated were:

- The 4160-volts alternating current system;
- The 480-volts alternating current system; and
- The safety injection system. The safety injection system inspection included a detailed investigation of Condition Report 19991988, "Relief valve, SI-4-2, Exceeded +103% of Set Pressure During As-Found Testing."

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R13 Maintenance Work Prioritization

a. Inspection Scope

The inspectors reviewed the licensee's evaluation of plant risk, scheduling, configuration control, and performance of the 12-component cooling pump annual inspection accomplished in accordance with Preventive Maintenance Procedure (PM) 3119-1-12, "12-Component Cooling Pump Annual Inspection," Revision 10. The inspectors chose to

evaluate this maintenance activity based on its significant contribution to the increase in core damage frequency for Unit 1.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R14 Nonroutine Plant Evolutions

a. Inspection Scope

The inspectors observed licensee performance during the loading of spent fuel storage cask #11, which was actually the tenth cask to be loaded. The inspectors evaluated the performance of operations, maintenance, engineering, and radiation protection personnel during cask movement and fuel loading evolutions. The following procedures were reviewed during this inspection:

- Maintenance Procedure D95.1, "TN-40 Cask Loading Procedure," Revision 9;
- Operating Procedure C17, "Fuel Handling System," Revision 26; and
- Special Operating Procedure D5.1, "Spent Fuel Pit Handling Operations," Revision 19.

Additional inspection of these activities was documented in Inspection Report 72-10/2000001(DNMS).

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed the following operability evaluations:

- Condition Report 19993254, "Suspect Top Nozzle Spring Hold-down Block Screws on V Region Fuel Assemblies in Unit 1 Reactor Core," and Condition Report 19991375, "Suspect Top Nozzle Spring Hold-down Block Screws on V Region Fuel Assemblies in Unit 2 Reactor Core." These evaluations were selected because of the potential effect on the barrier integrity of the fuel cladding.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R16 Operator Workarounds

a. Inspection Scope

The inspectors reviewed three operator workarounds (OWAs) to identify any potential affect on the function of mitigating systems or the operator's ability to respond to an event. The inspectors also performed the semiannual inspection which evaluated the cumulative effect of all the operator workarounds on overall plant risk and safety. The individual workarounds evaluated were:

- OWA 19993320, "CV-31389 Deaerator Pressure Regulator Does Not Automatically Maintain Pressure in the Deaerator";
- OWA 19993459, "Potable Water System Level Control Malfunctions Causing Numerous Control room Alarms and Require Local Operator Action"; and
- OWA 20000083, "Water Treatment System Does Not Consistently Operate as Designed Which Requires Constant Operator Attention."

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed the schedule, status, and current work for the on-line installation of modifications to the component cooling water supply to the spent fuel heat exchangers and replacement of one of the heat exchangers in accordance with Design Change Packages 99CC01, "Component Cooling Leakage Modification," and 99SF02, "Replace 122 Spent Fuel Pool Heat Exchanger."

b. Observations and Findings

There were no findings identified and documented during this inspection. The inspectors intended to continue the inspection activities for these modifications until they are completed around March 2000.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed and observed the following post-maintenance testing activities involving risk significant equipment:

- The D2 diesel generator prelube pump 5-year breaker planned maintenance retest in accordance with WO 9908227, “PE-121k-46 Breaker Electrical 5yr PM D2 Prelube Pump”; and

- Testing of the 12-component cooling water pump subsequent to the performance of the annual inspection per PM 3119-1-12, “12-Component Cooling Pump Annual Inspection,” Revision 10.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R20 Refueling and Outage Activities

a. Inspection Scope

The inspectors reviewed a portion of the licensee’s planning and scheduling activities for the next Unit 2 refueling outage.

b. Observations and Findings

There were no findings identified and documented during this inspection. The inspectors intended to continue inspection activities in this area through the completion of the upcoming Unit 2 refueling outage.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors observed the performance of the following surveillance testing on risk significant equipment:

- Surveillance Test Procedure (SP) 1112, “Steam Exclusion Damper Test,” Revision 34; and

- SP 2305, “D6 Diesel Generator Slow Start Test,” Revision 9.

b. Observations and Findings

There were no findings identified and documented during this inspection.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the temporary modification package, safety evaluation, and installation work orders associated with Temporary Modification 00T068, "U1 Overspeed Trip Piping Change." This modification provided a bypass around a degraded valve which is normally used to perform the overspeed trip testing on the Unit 1 turbine. The inspectors also observed the installation and testing of the temporary modification. This activity was selected for inspection because it increased the risk of a transient or reactor trip initiating event.

b. Observations and Findings

There were no findings identified and documented during this inspection.

4. OTHER ACTIVITIES

4OA2 Performance Indicator Verification

Cornerstone: Mitigating Systems

.1 Safety System Unavailability, Auxiliary Feedwater System

a. Inspection Scope

The inspectors verified the Auxiliary Feedwater Safety System Unavailability Performance Indicator data reported by the licensee for January 1999 through December 1999 for Unit 1 and Unit 2. This was accomplished, in part, through evaluation of the Limiting Conditions for Operation Log times for AFW and required support systems, review of applicable work orders, and discussions with licensee personnel.

b. Observations and Findings

There were no findings identified and documented during this inspection.

.2 Safety System Unavailability, Residual Heat Removal System

a. Inspection Scope

The inspectors verified the Residual Heat Removal System Unavailability Performance Indicator data reported by the licensee for January 1999 through December 1999 for Unit 1 and Unit 2. This was accomplished, in part, through evaluation of the Limiting Conditions for Operation Log times for residual heat removal and required support systems, review of applicable work orders, and discussions with licensee personnel.

b. Observations and Findings

There were no findings identified and documented during this inspection.

4OA4 Other

Cornerstone: Mitigating Systems

(Closed) Licensee Event Report (LER) 50-282/2000-001-00; 50-306/2000-001-00: "Missed Surveillance of Steam Exclusion Damper due to Incorrect Wiring and Malfunction of Limit Switch."

The licensee determined that the limit switch for control room outside air damper CD-34176 was improperly wired so that it would not indicate the correct position. However, the limit switch was also malfunctioning such that the improper wiring did not reveal itself during routine surveillance testing. The net result was that the surveillance test procedure activities performed monthly for many years did not actually prove operability of the damper and therefore, did not meet the surveillance testing requirements of Technical Specification Table 4.1-1C, Functional Unit 24, which required a monthly functional test of the damper.

Testing of the dampers performed after December 1999 included visual observations of damper operation and did not reveal any problems with that damper. There was no indication that the damper had ever actually been inoperable. Therefore, this issue was not considered a failure of mitigating equipment, did not reach the threshold of the Significance Determination Process, and was not assigned a risk color.

Additional licensee corrective actions and its analysis of the event were contained in the LER. The failure to meet the surveillance testing requirements constitutes a violation of minor significance and is not subject to formal enforcement action in accordance with Section IV of the NRC's Enforcement Policy.

4OA5 Meetings, including Exit

Exit Meeting Summary

The inspectors presented the inspection results to Mr. J. Sorensen and other members of licensee management at the conclusion of the inspection on February 15, 2000. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Amundson, General Superintendent Engineering
L. Ganser, Acting Manager Nuclear Performance Assessment
J. Goldsmith, General Superintendent Engineering, Nuclear Generation Services
J. Gonyeau, Life Cycle and Management Support Engineer
A. Johnson, General Superintendent Radiation Protection and Chemistry
G. Lenertz, General Superintendent Plant Maintenance
D. Schuelke, Plant Manager
T. Silverberg, General Superintendent Plant Operations
M. Sleigh, Superintendent Security
J. Sorensen, Site General Manager

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

50-282/2000-001-00; 50-306/2000-001-00	LER	Missed surveillance of steam exclusion damper due to incorrect wiring and malfunction of limit switch.

Discussed

None

LIST OF ACRONYMS USED

AFW	Auxiliary Feedwater
CFR	Code of Federal Regulations
DNMS	Division of Nuclear Materials Safety
DRP	Division of Reactor Projects
LER	Licensee Event Report
NRC	Nuclear Regulatory Commission
OWA	Operator Workaround
PM	Preventive Maintenance Procedure
SP	Surveillance Test Procedure
URI	Unresolved Item
WO	Work Order

NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

Reactor Safety	Radiation Safety	Safeguards
! Initiating Events	! Occupational	! Physical Protection
! Mitigating Systems	! Public	
! Barrier Integrity		
! Emergency Preparedness		

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the Significance Determination Process, and assigned colors of GREEN, WHITE, YELLOW, or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent little effect on safety. WHITE findings indicate issues with some increased importance to safety, which may require additional NRC inspections. YELLOW findings are more serious issues with an even higher potential to affect safety and would require the NRC to take additional actions. RED findings represent an unacceptable loss of safety margin and would result in the NRC taking significant actions that could include ordering the plant shut down.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing incremental degradation in safety: GREEN, WHITE, YELLOW, and RED. The color for an indicator corresponds to levels of performance that may result in increased NRC oversight (WHITE), performance that results in definitive, required action by the NRC (YELLOW), and performance that is unacceptable but still provides adequate protection to public health and safety (RED). GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an Action Matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, as described in the matrix. The NRC's actions in

response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html