U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-282/82-01; 50-306/82-01(DPRP)

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

Inspection At: Prairie Island Site, Red Wing, MN 55066

Inspection Conducted: January 1-31, 1982

Inspectors:

C. D. Feierabend 2/16/82

B. L. Burgess 2/10/82

Approved By:

R. L. Nelson, Acting Chief 2/24/82
Reactor Projects Section 2C

Inspection Summary
Inspection on January 1-31, 1982 (Report No. 50-282/82-01; 50-306/82-01)(DPRP)
Areas Inspected: Routine resident inspection of plant operation, maintenance, surveillance, security, training, radiation protection, followup on IE Bulletins, followup of IE Circulars, followup of Licensee Event Reports, followup on plant trips, and followup of Regional Requests. The inspection involved a total of 147 inspector hours onsite by 2 NRC inspectors including 36 inspector hours onsite during off-shifts.
Results: Of the eleven areas inspected, no apparent items of noncompliance or deviations were identified in ten areas. One item of noncompliance was identified in the area of Event Report review. (Failure to follow procedure-Paragraph 6.a)

DETAILS

1. Personnel Contacted

*F. Tierney, Plant Manager
J. Brokaw, Plant Superintendent, Operations and Maintenance
E. Watzl, Plant Superintendent, Plant Engineering and Radiation Protection
D. Mendele, Superintendent, Operations Engineering
D. Schuelke, Superintendent, Radiation Protection
*A. Hunstad, Staff Engineer
R. Lindsey, Superintendent, Operations
R. Stenroos, Assistant Radiation Protection Superintendent
J. Nelson, Superintendent, Maintenance
J. Hoffman, Superintendent, Technical Engineering
M. Klee, Superintendent, Technical Engineering
S. Northard, Nuclear Engineer
J. Curtis, Engineer
J. Maki, Engineer
D. Brown, Engineer
B. Frazer, Engineer
S. Schaefer, Engineer
G. Miller, Engineer
G. Lenertz, Engineer
O. Nelson, Engineer
K. Beadell, Engineer
D. Cragoe, Shift Supervisor
P. Ryan, Shift Supervisor
M. Balk, Shift Supervisor
T. Goetsch, Shift Supervisor
J. Meath, Shift Supervisor
D. Walker, Shift Supervisor
P. Valtakis, Shift Supervisor
R. Held, Shift Supervisor

*Denotes those attending the exit interview.

2. Operational Safety Verification

a. General

Unit 1 operated routinely throughout the month. The licensee is continuing to monitor reactor coolant chemistry activity.

Unit 2 tripped from 100% power on 1/26/82 at 1430 and returned to power operation the same day. The trip was caused by an I&C technician opening the bypass breaker before the reactor trip breaker was closed on train "A". The unit operated routinely through the rest of the month.

b. Control Room Observations

The inspector observed control room operations, reviewed applicable logs, conducted discussions with control room operators, and observed shift turnovers. The inspector verified the operability of selected emergency systems, reviewed equipment control records, and verified the proper return to service of affected components.

c. Tours

Tours of the auxiliary, turbine and external areas were conducted to observe plant equipment conditions, including potential fire hazards, and to verify that maintenance work requests had been initiated for equipment in need of maintenance.

d. Independent Verification

The inspector performed a walkdown of the accessible portions of the radiation monitoring and chemical and volume control systems. Observations included confirmation of selected portions of the licensee's procedures, checklists, plant drawings, verification of correct valve and power supply breaker positions to insure that plant equipment and instrumentation are properly aligned, and review of control room and local system indication to insure proper operation within prescribed limits.

No items of noncompliance were identified.

3. Surveillance

The inspector witnessed portions of surveillance testing of safety related systems and components. The inspection included verifying that the tests were scheduled and performed within Technical Specification requirements, observing that procedures were being followed by qualified operators, that LCO's were not violated, that system and equipment restoration was completed, and that test results were acceptable to test and Technical Specification requirements.

Tests witnessed included:

a. SP-2015 4.16 KV Voltage and Frequency Test.

Test was performed on Unit 2 to check pickup and dropout setpoints for the No. 21922 Reactor Coolant Pump Bus undervoltage and underfrequency relays.

Test was performed satisfactorily.

b. SP-1003 Analog Protection Functional Test

During the performance of the test several bistables were found to be outside of test requirements. Work Requests (WR's) were issued for recalibration/repair and the test was completed satisfactorily. After review of the test by the system engineer one of the delta temperature setpoints was identified as a Reportable Occurrence.

The licensee will issue an Event Report (LER).

c. SP-1219 Bus 16 4.16 KV Undervoltage Surveillance Test.

The inspector observed the test to insure that a recent revision to the test prevented a previous event[1] from reoccurring. The test was completed satisfactorily.

No items of noncompliance were identified.

4. Maintenance

a. Review of Work Request (WR's) and Work Request Authorization (WRA's)

The inspectors selected and reviewed several WR's and WRA's to determine the status of safety related systems, to verify that proper priorities were given and to verify that design changes were initiated where appropriate.

b. Observations

The inspectors observed portions of safety related maintenance activities to determine that the activities did not violate limiting conditions for operation (LCO's), that administrative approvals and equipment control tags were completed prior to initiating the work, that approved procedures were used (or activity was within the "skills of the trade"), that the procedures used were adequate to control the activity, and that proper QA/QC controls were used.

No items of noncompliance were identified.

5. Spent Fuel Assembly

The inspectors followed licensee preparations for recovery and storage of spent fuel assembly D-34, that had separated from the top nozzle, described in a previous inspection report.[2] The inspectors observed

1/ Licensee Event Report P-RO-81-29.
2/ IE Inspection Report No. 50-282/81-22; 50-306/81-24.

design and fabrication of a fixture to retrieve and upright the assembly and the design and fabrication of a fixture that will replace the top nozzle for movement of the assembly to a storage location.

The inspectors observed testing of the uprighting fixture for retrieving the dummy fuel element from a position duplicating the angle that assembly D-34 came to rest. The test demonstrated feasibility of retrieval as planned and provided the basis for a procedure to retrieve and upright the assembly. The inspectors also observed demonstration of the procedure on the dummy element. The inspectors followed the design and preliminary testing of expansion bolt type anchors that were used to attach the fuel retrieval fixture to D-34. The inspectors witnessed final testing of the fixture while it was installed on a mock-up that provided four tubes for installation of the anchor bolts, installation of the four bolts and the retrieval fixture, and a pull test to verify that the bolts and fixture would adequately support the fuel assembly. The fixture was tested to 1400 lbs. with no indication of slippage on any tube. All installation and testing was performed remotely by personnel on the floor above the mock-up, approximately the same distance that the personnel will be above the present location of D-34.

The licensee is processing the fabrication and installation of the fixture for handling the assembly as a design change (82L685), including the necessary safety evaluations and committee reviews, in accordance with licensee QA requirements.

The inspector observed retrieval and uprighting of D-34 on 1/19/82. One modification to the uprighting tool was made to give greater clearance between the tool and the wier gate wall. There was no apparent damage to any of the fuel pins. No apparent increase in activity levels occurred during the operation.

The assembly handling fixture was installed on 1/20/82. The inspector observed portions of licensee activities during installation of the fixture and in preparation for movement to a permanent storage location. The inspector observed movement of D-34 to its assigned location of L-17 in the small fuel pool on 1/20/82.

The licensee plans to update the Event Report (P-RO-81-31) after determining the cause of the failure.

No items of noncompliance were identified.

6. Licensee Event Report Followup

a. P-RO-81-23 Inoperability of One Cooling Water Header Isolation Valve. (Open)

The inspector reviewed the report to determine that reportability requirements were fulfilled and corrective actions were accomplished to prevent recurrence.

During his review of the event report and licensee followup actions, the inspector determined that the licensee had not prepared an investigative report for review by the Operations Committee. This was not in accordance with requirements of Procedure 5ACD3.6, Operating Occurrences and Events, which is an implementing procedure for Section 18.2 of the licensee Quality Assurance Plan, Revision 6, to ensure that event investigation and reporting is timely.

Failure to prepare and review an investigative report for event P-RO-81-23 is considered to be a noncompliance with 10 CFR 50, Appendix B, Criterion V, as described in the Appendix of the letter forwarding this report.

b. P-RO-81-27 No. 11 Shield Building Vent System Inoperable (Closed)

The inspector reviewed the event report and the corrective actions as stated in the event report. During the review the inspector noted that the licensee had identified an event where a system was returned to service without performing all the necessary surveillance requirements.

At approximately 0301 on November 21, 1981 the No. 11 Shield Building Ventilation System (SBVS) was taken out of service for charcoal filter replacement of the Pre, Absolute, and Charcoal (PAC) filter. Prior to placing the No. 11 SBVS ("A" train) out of service the No. 12 ("B" train) was tested satisfactorily for operability.

Work Request Authorization (WRA) No. E6602-ZS-Q and Radiation Work Permit (RWP) No. S-731 documented the authorization to perform the actual work to replace the charcoal filter trays. After completing the charcoal filter replacement SP-1073 (Shield Building Ventilation System Functional Test) was performed and No. 11 SBVS returned to service.

The WRA specifically noted in the Explanation and Special Instructions section to perform SP-1080 (No. 11 Shield Building Ventilation System Charcoal Filter Iodine Removal Efficiency, DOP and Freon Test) after replacing the filters on the No. 11 SBVS PAC filter. The filters were replaced on 11/12/81 but SP-1080 was not performed until 11/16/81. Technically the No. 11 SBVS was not operable until the SP-1080 was performed. However, the surveillance was completed satisfactorily

on 11/16/81 and gave the assurance that there was no reduction to health and safety of the public because there was no reduction in No. 11 SBVS performance.

7. IE Bulletins

The inspector completed review of the licensee's actions in response to the following Bulletins and verified that required actions are complete.

a. IEB No. 78-05 Malfunctions of Circuit Breaker Auxiliary Contact Mechanism.

This was reviewed during a previous inspection.[3/4/] Licensee actions is complete. (Closed)

b. IEB No. 79-05 Nuclear Incident at Three Mile Island (Including All Revisions).

Licensee actions is complete. All continuing actions are included in the requirement of NUREG-0737. (Closed)

c. IEB No. 79-06 Review of Operations Errors and System Misalignments
IEB No. 79-06A Identified During the Three Mile Island Incident.
IEB No. 79-06B

Licensee actions is complete. NRR has completed a Safety Evaluation[5/] of responses to the Bulletin. (Closed)

IEB No. 79-06C Review of Operational Errors, TMI.

This item is being reviewed by NRR as a part of TMI Task Action Plan, Item II, K.3.5. (Closed)

d. IEB No. 79-08 Everts Relevant to BWRs.

No applicable. (Closed)

3/ IE Inspection Report No. 50-282/80-06; 50-306/80-07.
4/ IE Inspection Report No. 50-282/80-20; 50-306/80-20.
5/ NRR Letter to NSP dated July 8, 1981

e. IEB No.79-13 Rev.1 — Cracking in Feedwater System Piping.

IEB No.79-13 Rev.2 — The revisions did not impose additional requirements for inspection. (Unit 1 had been inspected per the basic bulletin.) (Closed)

f. IEB No.79-26 — Boron Loss From BWR Control Blades.

Not applicable. (Closed)

No items of noncompliance were identified.

8. IE Circulars

The inspector verified that the licensee had received IE Circulars (IEC's) and had taken actions to review for applicability and implementation where required.

a. IEC No.80-09 — Problems with Plant Internal Communications Systems.

(Closed)

b. IEC No.80-10 — Failure to Maintain Environmental Qualification of Equipment. (Closed)

c. IEC No.81-02 — Performance of NRC Licensed Individuals While on Duty. (Closed)

d. IEC No.81-03 — Inoperable Seismic Monitoring Instrumentation. (Closed)

e. IEC No.81-04 — Role of Shift Technical Advisors. (Closed)

f. IEC. No.81-08 — Foundation Materials. (Closed)

g. IEC No.81-09 — Containment Effluent Water That Bypasses Radioactivity Monitor. (Closed)

h. IEC No.81-14 — Main Steam Isolation Valves Failure to Close. (Closed)

No items of noncompliance were identified.

9. Training

The licensee requires all employees to attend annual retraining for access control, radiation protection and control of work within the protected areas. The inspector attended a retraining class on 1/12/82. The scope appeared adequate and sufficiently well prepared, with the instructor highlighting recent changes to portal monitor equipment, etc., that occurred subsequent to preparation of the films.

No items of noncompliance were identified.

10. Operations Committee (OC)

The inspector attended an OC meeting on 1/8/82, observing the conduct of the meeting, noting that the membership met the Technical Specification requirements.

The meeting included review and approval of the licensee safeguards plan implementing procedures and discussion of the format and scope for revision to the system description portion of the Operations Manual.

No items of noncompliance were identified.

11. Reactor Trip

Prairie Island Unit 2 tripped from 100% power on 1/26/82 at 1430. The trip occurred while performing surveillance SP-2035, Reactor Protection Logic Test. The procedure was completed with the exception of the last two steps. The last two steps require the operator in control to reset and close the reactor trip breaker first and then for the I&C technician to open the bypass breaker. However, when the control room operator announced over his headset to the I&C technician that he was closing the reactor trip breaker, the I&C technician opened the bypass breaker, tripping the reactor.

The inspector responded to the control room to observe Unit 2 operations and to monitor plant parameters during the trip. The inspector held discussions with licensee personnel to ascertain safety system status, reactor coolant chemistry, and plant parameters. The inspector verified the red phone notification of the NRC and reviewed corrective actions prior to returning the unit to power operation. Immediate corrective actions were to complete the Surveillance SP-2035 and to realign plant systems for restart. Future corrective actions being considered are to revise the procedure to include a step to verify that the reactor trip breaker is shut before opening the bypass breaker.

All systems responded as expected. The plant was returned to power operation and the turbine paralleled to the grid at 1934 on 1/26/82.

No items of noncompliance were identified.

12. Sirens

The inspector conducted an inspection of the Prairie Island 10 Mile Emergency Planning Zone (EPZ) Siren System as requested by Region III. The inspection will be documented in a future inspection report.

13. Exit Interview

The inspectors conducted an interim interview with Mr. Tierney and Mr. Watzl to discuss the item of noncompliance relating to Licensee Event Report (LER) investigation and review.

The inspector met with Mr. Tierney and Mr. Hunstad at the conclusion of the inspection period. The inspector discussed the scope and results of the inspection.