U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No: 50-282/82-13; 50-306/82-13(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: August 1-31, 1982

Inspectors:

C. D. Feierabend — 8/31/82

for B. L. Burgess — 8/31/82

Approved By:

L. Reyes, Chief
Reactor Projects Section 2C — 9/2/82

Inspection Summary

Inspection on August 1-31, 1982 (Report No. 50-282/82-13; 50-306/82-13(DPRP))
Areas Inspected: Routine resident inspection of Organization and Administration; Followup on Regional Request; Operations Safety Verification; Monthly Surveillance Observation; Onsite Review Committee; Operating Event; and Followup on Licensee Events. The inspection involved a total of 123 inspector hours onsite by 2 NRC inspectors including 21 inspector hours onsite during off-shifts. Results: Of the seven areas inspected, no items of noncompliance or deviations were identified in six areas. One item of noncompliance was identiiied in the area of Operating Event (failure to follow surveillance test procedure - Paragraph 7).

DETAILS

1. Personnel Contacted

*E. Watzl, Plant Manager
J. Brokaw, Plant Superintendent, Operations and Maintenance
*D. Mendele, Plant Superintendent, Engineering and Radiation Protection
*A. Hunstad, Staff Engineer
R. Lindsey, Superintendent, Operations
G. Miller, Superintendent, Operations Engineering
D. Schuelke, Superintendent Radiation Protection
M. Klee, Superintendent, Nuclear Engineering
S. Northard, Nuclear Engineer
M. Gruber, Engineer
B. Frazer, Engineer
B. Held, Shift Supervisor
D. Cragoe, Shift Supervisor
M. Wadley, Shift Supervisor
M. Balk, Shift Supervisor
R. Holthe, Shift Supervisor
P. Valtakis, Shift Supervisor

*Attended exit interview.

2. Organization and Administration

The inspector was informed of changes in the licensee's plant management. This included promotion of Mr. R. L. Lindsey, Superintendent of Operations, to the position of Plant Superintendent, Operations and Maintenance, replacing Mr. J. Brokaw who has been selected for a two year assignment to the Institute of Nuclear Power Operations (INPO).

The inspector reviewed the licensee's onsite organization and confirmed that it is as described in Technical Specifications.

3. Regional Requests

The resident inspector was requested by Region III to determine the 1981 use of containment purge systems during power operation. The licensee did not use either the 18 inch inservice purge system or the 36 inch containment purge system during power operations during 1981. The licensee vented containment once on each unit via the 2 inch Post LOCA Hydrogen Control system for a total of 8 hours, Unit 1 and 17 hours on Unit 2.

4. Operations Safety Verification

a. General Observations

Both units operated at power throughout the month.

An outside independent fire protection consultant was onsite for inspection of fire protection system operability during the week of August 23-27, 1982. The audit team discussed the results of the audit with plant personnel and will furnish audit report to the licensee.

An Institute of Nuclear Power Operations (INPO) evaluation team was onsite from August 23-31, and will complete its evaluation of site activities in September.

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, radwaste, turbine, both containment buildings and external areas were conducted to observe plant equipment conditions, including potential fire hazards. The inspectors verified that equipment in need of maintenance had work requests issued for timely repair. The inspector observed that the physical security plan was being implemented.

During the tour of Unit 2 Containment the inspector observed that the licensee found weld rod improperly stored inside a welding locker. The licensee took immediate action to have the weld rod discarded as required by procedure. All welders in the maintenance department at Prairie Island were admonished concerning the need to adhere to procedures pertaining to weld rod control.

The inspector reviewed weld rod control procedures and documentation for the period of January 1, 1982 to August 15, 1982. The inspector could not find any discrepancies during this period. The inspector considers this event an isolated incident and will continue to observe weld rod control during the routine inspection program.

d. Independent Verification

The inspector performed a walkdown of the accessible portions of the Cooling Water System. Observations included confirmation of selected portions of the licensee's procedures, checklists, and plant drawings and verification of correct valve and power supply breaker positions to insure that plant equipment and instrumentation were properly aligned.

No items of noncompliance were identified.

5. Monthly Surveillance Observation

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-1088 Safety Injection Pumps Test

Test was completed satisfactorily.

b. SP-1155 Component Cooling System Test

Test procedure had been revised without including Unit 2 valve numbers. After the procedures were revised and reviewed, adding the requirements for Unit 2, the test was completed satisfactorily.

c. SP-2032 Safeguards Logic Functional Test

Test was completed satisfactorily.

d. SP-1116 Monthly Power Distribution Map, Unit 1

1) Observation

A problem with incore detector "A" withdrawal limit switch was identified during the test. A work request has been written, and repair will be completed when radiation levels permit access to the withdrawal limit switch location. Flux map data was not affected by the limit switch problem and the completed surveillance was satisfactory.

2) Evaluation of Data

Data reduction and comparison of the monthly measurement of core power distribution identified a hot channel measurement which was near the Technical Specification (T.S.) limit. As a precautionary measure, the plant reduced power to 98 percent at 1030 on August 11, 1982 to assure operation within T.S. limits.

The licensee discussed the measurement results with the corporate core analysis department and with the fuel vendor. After evaluation the licensee returned the plant to 100 percent power. Subsequent measurements of core power distribution indicated hot channel measurements within T.S. limits.

The licensee has discussed this event with NRR and the NRC resident inspectors.

No items of noncompliance were identified.

6. Onsite Review Committee

The inspector attended an Operations Committee (OC) meeting on August 13. The agenda included review and evaluation of the results of core power distribution surveillance testing (Paragraph 5.d). The inspector observed committee proceedings and confirmed that the Technical Specifications quorum requirements were met.

No items of noncompliance were identified.

7. Operating Event

Incomplete Restoration of D-2 Diesel Generator

a. Sequence of Events

Diesel generator D-1 was taken out of service for annual maintenance on August 23, 1982. In compliance with Technical Specification (T.S.) requirements, surveillance test SP-1186 was completed on the redundant diesel generator, D-2, at 0550 on August 17 and the test procedure was signed by the operators and the Shift Supervisor as being acceptable.

During review of control board status by the oncoming shift at about 0700 the "D-2 Not Ready" status light was observed to be lit. The operator reviewed the status of the D-2 control panel and discovered that the Manual/Auto Switch for D-2 supply to Unit 1 Safeguards

Bus 16 was in the "Manual" position. The operator immediately repositioned the switch to "Auto", which cleared the "D-2 Not Ready" status light.

The oncoming operator and Shift Supervisor reviewed the recently completed SP-1186 and found that, although all steps in performing the operability test had been initialed as completed, the last step in the procedure, which required independent verification of restoration to service had not been initialed as completed. This step included verification of all associated annunciation and status lights, including the "D-2 Not Ready" status light. The independent verification of status was then completed and recorded on the test procedure and in the reactor log.

Review of the plant logs and evaluation by the Superintendent of Operation and discussion with the Shift Supervisor indicated that Breaker 16-7 would not have closed to automatically pick up Bus 16 if all offsite power had been lost.

The licensee then notified the Senior Resident Inspector, notified NRC via the ENS telephone and submitted a preliminary report to Region III via telecopy.

b. Investigation and Conclusions

The inspector was informed of the event during review and evaluation by the Superintendent of Operations and observed the licensee notified NRR. The inspector reviewed the operating logs and the completed SP-1186, discussed the event with the available shift and supervisory personnel and reviewed the emergency power system, electrical and logic drawings. The review verified that D-2 would have started and come up to speed from an SI or loss of offsite power signal. In the event there was a loss of all offsite power the Bus 16 breaker would not have automatically closed, but would have annunciated that the loading sequence had not been completed. With D-1 out of service this would be a loss of all AC power to Unit 1, (Unit 2 would not be affected) which would initiate operator action per abnormal procedure A.B.1.1 - Loss of All AC Power Unit 1. The procedure provides detailed instructions for restoring the AC power by manually loading the diesels.

Because D-2 would have started and would have been immediately available to assume manual loading,the affect on health and safety for the postulated emergency condition would be minimal. During preoperational testing the licensee had demonstrated that one diesel generator can assume loads from simultaneous safety injection actuation of both units. Manual loading of one unit would be less severe than simultaneous loading of both units.

Failure to complete the independent verification D-2 restoration to service per Table 3 of SP-1186, which would have identified incomplete restoration, is considered to be noncompliance with T.S. 6.5.A.4 which requires that surveillance and testing requirements that could have an effect on nuclear safety be prepared and followed. (NC 282/82-13-01)

The licensee will submit an event report.

8. Licensee Events Report Followup

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

a. P-RO-82-08 Not Used (Closed)

b. P-RO-82-10 One Unit 2 Containment Isolation Valve Leaked in Excess of Technical Specification Limits (Closed)

Initial Local Leak Rate Testing (LLRT) showed leakage in excess of the test equipment being used. Subsequent testing with a higher range flowmeter measured a flow rate of 81,300 scc/min. which would be within the Technical Specification limit.

The inspector had observed[1/] portions of the maintenance and testing related to installation and local leak rate testing of blank flanges added to the Unit 2 containment purge system as corrective action to prevent recurrence. The licensee plans to install blank flanges on Unit 1 during the next refueling outage.

c. P-RO-82-11 Inoperability of 12 Auxiliary Feedwater Pump (Open)

The inspector confirmed that subsequent surveillance testing was satisfactory. The licensee is evaluating proposed corrective actions to prevent recurrence.

d. P-RO-82-12 Failure of One Unit 2 Containment Isolation Sample Valve to Fully Close (Closed)

Initial licensee evaluation considered that the dual indication would be resolved by a limit switch adjustment, however, further investigation showed that limit switches were properly adjusted, and that the valve had remained partially open after the test. The inspector had observed the integrated SI test[2/] and observed a portion of the retesting.

1/ Inspection Report No. 50-306/82-11(DPRP)
2/ Inspection Report No. 50-306/82-09(DPRP)

e. P-RO-82-13 Failure of Unit 2 Pressurizer Steam Space Sample Valve to Close (Open)

The licensee will submit a revised report when the valve is repaired. Cause and component codes will be assigned.

f. P-RO-82-14 Unit 2 Operation Outside of Delta-I Target Band (Closed)

This event was discussed in detail in a previous inspection report.3/

9. Exit Interviews

The inspector conducted interim interviews during the inspection period and met with Mr. Watzl and other members of your staff, as identified in Paragraph 1, at the conclusion of the inspection.

The inspector informed the licensee that inspections would be conducted by a visiting resident inspector during the absence of the assigned Senior Resident Inspector.

The inspector discussed the results of the inspection and stated that except for the event involving operability testing of the D-2 diesel generator, no areas of concern were identified. The inspector stated that although the diesel generator would have started and would have been available to accept load following a loss of offsite power, the fact that it would not have automatically energized the safeguards bus is significant, and that failure to complete the independent verification is noncompliance with the requirement to prepare and follow surveillance procedures. (Paragraph 7)

3/ Inspection Report No. 50-306/82-11(DPRP)

delayed such that less than seven (7) days are available for your review, please notify this office promptly so that a new due date may be established. Consistent with Section 2.790(b)(1), any such application must be accompanied by an affidavit executed by the owner of the information which identifies the document or part sought to be withheld, and which contains a full statement of the reasons which are the bases for the claim that the information should be withheld from public disclosure. This section further requires the statement to address with specificity the considerations listed in 10 CFR 2.790(b)(4). The information sought to be withheld shall be incorporated as far as possible into a separate part of the affidavit. If we do not hear from you in this regard within the specified periods noted above, a copy of this letter, the enclosures, and your response to this letter will be placed in the Public Document Room.

The responses directed by this letter (and the accompanying Notice) are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

We will gladly discuss any questions you may have concerning this inspection.

Sincerely,

J. F. Streeter, Chief
Projects Branch 2

Enclosures:
1. Appendix, Notice of Violation
2. Inspection Report No. 50-282/82-13; No. 50-306/82-13(DPRP)

cc w/encls:
E. L. Watzl, Plant Manager
DMB/Document Control Desk (RIDS)
Resident Inspector, RIII, Prairie Island
Resident Inspector, RIII, Monticello
John W. Ferman, Ph. D., Nuclear Engineer, MPCA