

S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-282/92012(DRS); No. 50-306/92012(DRS)

Docket Nos.: 50-282; 50-306 Licenses No. DPR-42; No. DPR-60

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

Facility Name: Prairie Island Nuclear Generating Station
Units 1 and 2

Inspection At: Welch, MN 55089

Inspection Conducted: June 22-26, 1992

Inspector: R. N. Gardner for
J. H. Neisler

7/7/92
Date

Approved By: R. N. Gardner
R. N. Gardner, Chief
Plant Systems Section

7/7/92
Date

Inspection Summary

Inspection on June 22-26, 1992 (Reports No. 50-282/92012(DRS);
No. 50-306/92012(DRS)).

Areas Inspected: Routine, announced inspection to review and evaluate the licensee's ongoing and completed construction activities and preoperational testing of the station blackout/electrical system upgrade modification (37700) (SIMS USI A44).

Results:

No violations or deviations were identified. Construction and testing activities were generally good. However, the inspection identified some issues such as cracked concrete, housekeeping and electrical separation that require further licensee attention. In most cases, these issues had been previously identified by the licensee.

DETAILS

1. Persons Contacted

Northern States Power Company (NSP)

- *K. Albrecht, General Superintendent, Engineering
- P. L. Fendrick, Superintendent, Mechanical Construction
- *G. T. Goering, Manager, Nuclear Projects Department (NPD)
- *J. E. Goldsmith, Program Manager, SBO/ESU
- *S. A. Fehn, Superintendent, Startup
- *K. W. Hohmeister, Power Systems Quality Assurance
- *J. McDonald, Superintendent, Site Quality Assurance
- *R. G. O'Bryan, Superintendent, SBO/ESU Project Construction
- *D. B. Perrine, Supervisor, Startup
- B. A. Peterson, Quality Control Inspector, Civil/Structural
- *R. K. Pond, Project Engineer, Electrical
- *A. G. Rothstein, Senior Quality Specialist
- *R. W. Sitek, Supervisor, Turnover/Closeout
- B. W. Stuart, Project Engineer, Civil/Structural
- *P. F. Suleski, Project Engineer, Mechanical
- *M. A. Thompson, Project Engineer, SBO/ESU Project

U. S. Nuclear Regulatory Commission (NRC)

- *D. C. Kosloff, Resident Inspector, Prairie Island
- *T. Kobetz, Reactor Inspector, Region III

*Denotes those persons attending the exit interview on June 26, 1992.

2. Inspection of Station Blackout/Electrical Systems Upgrade (SBO/ESU) Modification

The inspector examined the licensee's activities involving the installation of the station blackout modification and upgrade of the plant electrical distribution systems. The inspection consisted of the review of completed work in the civil/structural, mechanical and electrical disciplines and the observation of ongoing electrical and mechanical work and diesel generator testing. In general, activities relating to the SBO/ESU modification were satisfactory. However, the inspector identified some issues that require further licensee attention.

- a. During walkdown of the SBO building, the inspector observed cracks in the concrete beneath the east discharge louver for the D5 diesel generator radiator fans. These were diagonal cracks on both sides of a corner on the base slab for the louver. Discussions with licensee personnel revealed that the cracks had

been identified by quality control and civil engineering and a nonconformance issued. The licensee's investigation attributed the cracks to heat generated during welding of the louver to the embed base plate. During the inspection, the licensee's civil engineering personnel inspected concrete at the base of the remaining louvers and found other cracks. Disposition of the licensee's nonconformance requires that the cracks be repaired using appropriate repair methods specified by the civil engineering group.

- b. Fuses in the 4160Vac circuit breaker control circuits are 250Vac rated. The control circuits are 125Vdc. The inspector questioned the application of ac fuses in the 125Vdc control circuits. The normal voltage in these circuits is 130Vdc with an increase to about 135Vdc during battery equalizing. The licensee did not produce documentation attesting to the adequacy of the fuses in this application. The 4160 volt circuit breakers have not been placed in service. During subsequent telephone conversations between the inspector and cognizant licensee engineers, the inspector was informed that the licensee had an ongoing study to determine the acceptability of ac fuses in dc applications.
- c. The inspector observed that housekeeping in the SBO building was generally good. However, in some instances the control of contractor activities was lax in certain areas. Tools, material and equipment were noted in Class 1E cable trays in the DG room below plant grade level and unused, unbent E-7018 weld electrodes were observed in a stub bucket on a scaffold in the DG room. The licensee took immediate action to improve the contractor's housekeeping controls in these areas.
- d. The inspector observed several cable tray installations that did not meet separation requirements between Class 1E and non-Class 1E trays. All the trays were the open top ladder bottom type. The licensee stated that inadequate separation of cable trays had previously been identified by quality control inspectors and that tray covers and bottoms had been procured and would be installed before the SBO diesels were placed in service.
- e. During review of structural inspection records and interviews with civil quality control, the inspector noted that gaps for load indicating washers varied from a maximum of 0.015 inches to complete closure. Load indicating washers are used as direct tension

indicators instead of indirect indication devices such as torque wrenches. The inspector questioned whether the complete closure of the washer gap provided adequate controls to assure that the correct tension was applied to the bolts. The design specification for structural bolting, H1AW 02400-59-S-934, stated that complete closure of the washer gap is not cause for rejection on ASTM A-325 bolts.

2. Testing and System Checks

The inspector witnessed initial testing of the D5 diesel generators and system checks for portions of the D6 generator electrical system. Detailed procedures were available and used for both the D5 generator testing and the system checks. Diesel manufacturers were on hand to advise and direct the licensee's test personnel.

3. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection and summarized the scope and findings of the inspection. The inspector discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents or processes as proprietary.