

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-282/92019(DRS); No. 50-306/92019(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

Inspection Conducted: September 14-18, 1992

Inspector:

J. H. Neisler  
J. H. Neisler

10/6/92  
Date

Approved By:

R. N. Gardner  
R. N. Gardner, Chief  
Plant Systems Section

10/6/92  
Date

Inspection Summary

Inspection on September 14-18, 1992 (Reports No. 50-282/92019(DRS); No. 50-306/92019(DRS))

Areas Inspected: Routine announced inspection of Station Blackout/Electrical Systems Upgrade Modification, cooling water header replacement modification and review of design and construction plans for the independent spent fuel storage installation.

Results: No violations or deviations were identified. Licensee management commitment and the performance of construction and testing activities were generally good and contributed to prompt correction of deficiencies and the overall quality of the modifications.

## DETAILS

### 1. Persons Contacted

#### Principle Licensee Employees

\*W. Brenner, Mechanical Engineer  
\*R. Cole, SBO Mechanical Engineer  
B. Desai, Project Manager, Cooling Water Pipe Modification  
\*J. Freeman, Project Superintendent  
\*G. Goering, Manager, NPD  
\*J. Goldsmith, Program Manager, SBO  
\*P. Hellen, SBO Project Coordinator  
J. Kapitz, Proj ct Engineer, Spent Fuel Storage Facility  
\*D. Perrine, Startup Supervisor  
\*R. Peterson, Electrical Engineer  
\*R. Pond, Project Electrical Engineer, SBO  
\*A. Rothstein, Quality Control Supervisor  
\*P. Suleski, Project Mechanical Engineer, SBO  
\*M. Thompson, Project Engineer, SBO  
R. Vohra, Civil/Structural Engineer

#### U. S. Nuclear Regulatory Commission (NRC)

\*M. Dapas, Senior Resident Inspector, Prairie Island  
\*D. Kosloff, Resident inspector, Prairie Island  
\*S. Ray, Senior Resident Inspector, Monticello  
\*E. Schweibinz, Project Engineer, DRP

\*Denotes those present at the exit interview on  
September 18, 1992.

### 2. Structural Concrete Inspection

The inspector examined repairs made to cracked concrete beneath the D5 diesel exhaust louvers inside the exhaust room and at other locations on the walls where licensee quality inspectors had determined that the concrete did not meet licensee specifications. Based on visual inspection of the crack repairs, the inspector determined that the repairs met applicable specifications and standards.

### 3. Expansion of Stay Form for D5/D6 Building Wall During Construction

A stay form failed during concrete placement on the wall of the D5/D6 building. The fresh concrete slumped against the wall of the turbine building causing a significant distortion in the siding and girt framing of the turbine building wall immediately north of G-wall between elevations 705 and 725. The turbine building has a 13-inch thick non-seismic concrete flood wall which extends up to the 705 foot elevation.

The D5/D6 building is classified as a seismic Category I structure intended to be structurally independent from the turbine building. A 0.5 inch clear distance between the two buildings is designed to permit maximum out-of-phase displacements of the buildings due to seismic events. Because the turbine building flood wall only extends to the 705 foot level, separation may have been maintained below this elevation by a compressible board. However, the inspector questioned whether the concrete that had slumped over the top of the flood wall had affected the seismic independence of the D5/D6 building.

The licensee removed the siding to investigate the conditions of the concrete in the area beneath the slumped wall. The investigation revealed that the D5/D6 building wall overlapped and was resting on the turbine building flood wall to a depth of 1½ to 2 inches. The licensee's corrective action was to chip the slumped concrete back until the compressible board was exposed, thereby assuring the seismic independence of the D5/D6 building in the area of the slump. The licensee's investigation and portions of the corrective action were witnessed by the NRC inspector. This activity closes inspection followup item 282/92010-05 and 306/92010-05.

4. D5/D6 Building Walkthrough Inspections

The inspector performed several walkthrough inspections in areas of the D5/D6 building and observed the following:

Aluminum cable trays are fastened to supports using galvanized steel clips. The inspector noted two clips on trays in the cable spreading room that were severely corroded. The licensee immediately replaced the corroded clips with new galvanized clips. The quality control group inspected the other cable trays to determine if other corroded clips had been installed. No other corroded clips were identified.

Conduit tag number 27402 exiting from circuit breaker cabinet number 27-2 is identified with both orange and green tape indicating that cables from both safety trains are routed through the conduit. The licensee has previously identified the conduit as incorrectly color coded. An engineering change request had been issued to correct miscoded conduits.

The inspector observed the installation of penetration fire stops. Work was being performed according to procedure and workers appeared to be well qualified. Procedure ESU-8-120, Revision, "Penetration Sealing" specifies the use of Five Star structural concrete in certain penetration

applications. NRC Information Notice 92-66 identifies certain problems associated with the manufacture and testing of Five Star Products manufactured products. Licensee representatives stated that the licensee buys the structural concrete and grout as nonsafety related commercial grade and contracts with a Minnesota based testing laboratory to perform the necessary qualification testing for those materials used in safety related applications.

5. Cooling Water Header Replacement

The inspector reviewed the cooling water header replacement modification and discussed the modification with cognizant licensee personnel. The original pipe has experienced micro-biological induced corrosion and resultant pipe wall loss. The new pipe will be of the same material with a  $\frac{1}{2}$  inch instead of  $\frac{3}{8}$  inch wall thickness. Portions of the cooling water pipe embedded in concrete will not be replaced but will have weld overlay in the degraded area. The modification will comply with the original design code, USAS B31.1-1967, and maintain the existing Quality Assurance classification, except some of the valves are to be ASME Section III, Class 3, without N-stamp.

The licensee had begun excavating the old pipe and cutting the necessary holes in the turbine building walls to facilitate the removal of the existing piping and installation of the new pipe. The replacement pipe was not onsite for inspection.

6. Independent Spent Fuel Storage Installation

The inspector reviewed and discussed with cognizant personnel the licensee's plans for construction of the independent spent fuel storage installation (ISFSI). The scope of the ISFSI installation will include the installation of two safety related concrete pads, each 36 feet wide, 216 feet long and 3 feet thick, access roads from the plant spent fuel storage area, and an earthen berm 17 feet higher than the concrete pads around the facility. The licensee began clearing and grading activities during the inspection.

7. Exit Meeting

The inspector met with licensee representatives (denoted in Paragraph 1) at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection activities. The licensee acknowledged the inspection findings. The inspector also 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 document/processes as proprietary.