

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-282/85017(DRS); 50-306/85014(DRS)

Docket Nos. 50-282; 50-306

Licenses No. DPR-42; DPR-60

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

Facility Name: Prairie Island Nuclear Generating Plants, Unit 1 & 2

Inspection At: Red Wing, MN

Inspection Conducted: August 28 and 29, 1985

Inspectors: *C.C. Williams for*
A. S. Gautam

9/24/85
Date

C.C. Williams for
K. Tani

9/29/85
Date

Approved By: *Candell C. Williams*
C. C. Williams, Chief
Plant Systems Section

9/24/85
Date

Inspection Summary

Inspection on August 28 and 29, 1985 (Report No. 50-282/85017(DRS);
50-306/85014(DRS))

Areas Inspected: Routine announced safety inspection by regional inspectors of
licensee actions on previous inspection findings. The inspection involved a
total of 17 inspector-hours on site by two NRC inspectors.

Results: No violations or deviations were identified.

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DETAILS

1. Persons Contacted

Northern States Power Company

- *E. L. Watzl, Plant Manager
- J. Goldsmith, Superintendent NTS
- *G. C. Sandberg, Lead Production Engineer NTS
- *J. Ruther, Lead Production Engineer NTS

*Denotes those attending the exit interview on August 29, 1985.

2. Action on Previous Inspection Findings

a. (Closed) IE Bulletin (282/79001-BB; 306/79001-BB):

This item addressed requirements of IE Bulletin 79-01 dated February 8, 1979, regarding qualification of stem mounted limit switches, and the need for qualification reviews for safety related equipment needed during an accident, as advised by Information Notice 78-08. The licensee was required to submit qualification information on applicable limit switches in their plant.

In their June 12, and October 31, 1979, responses to the NRC Region III, the licensee identified the limit switches used for position indication for valves inside the containment and during this review stated that all related limit switches had been replaced with qualified limit switches. The above submittals also reported completion of an IE 78-08 review, and identified unqualified pressurizer pressure transmitters. These transmitters were reported by the licensee to have been replaced with qualified devices.

b. (Closed) IE Bulletin (282/79001-1B; 306/79001-1B):

This item addressed requirements of Bulletin 79-01A dated June 6, 1979, and required the licensee to review qualification and preventative maintenance of ASCO solenoid valves installed in their plant.

As a result of this review the licensee in their October 31, 1979, submittal to Region III reported that they had identified and replaced all ASCO solenoid valves used in safety systems with NP-1 series ASCO solenoid valves qualified to remain functional during accident conditions. The licensee also stated that a maintenance program was in the process of being implemented. This program will be reviewed by the NRC during a subsequent 10 CFR 50.49 Environment Qualification (EQ) audit.

c. (Closed) IE Bulletin (282/79001-2B; 306/79001-2B):

This item addressed requirements of IE Bulletin 79-01E dated January 14, 1980, regarding the environmental qualification of class IE electrical equipment required to function during and following postulated accident conditions. Licensee action was required in the following areas:

- (1) A master list was required to be provided for all Engineered Safety Feature (ESF) Systems required to function under postulated accident conditions, including identification of class IE electrical equipment items within these systems required to function under accident conditions.

The inspector reviewed the licensee's March 13, and May 12, 1980, submittals to the NRC, which included a master list of ESF Systems and components needed to function under postulated accident conditions. The inspector also reviewed the licensee's current master list of May 19, 1983 based on the environmental qualification requirements of 10 CFR 50.49. Twelve items of the Containment Spray System and (54) items of the Safety Injection System including valve operators, motors and transmitters were reviewed on both lists to verify if any item originally identified on the May 12, 1980, master list had been removed from the current master list, without adequate technical justification. Of the items reviewed no discrepancies were found.

- (2) For each class IE electrical equipment item identified in the master list, written evidence was required to be provided to support the capability of the item to function under postulated accident conditions.

The inspector reviewed the licensee's March 13, 1980 submittal to the NRC which included written evidence of the qualification of items on the master list. Qualification deficiencies were identified by the NRC in their May 22, 1981 SER and outstanding deficiencies were addressed in the Franklin Research Center (FRC) Technical Evaluation Report (TER) of March 29, 1983. An SER was subsequently issued to NSP on April 25, 1983 with the TER as an attachment. The 10 CFR 50.49 rule on environmental qualification of electric equipment important to safety for nuclear power plants which became effective on February 22, 1983, specified requirements to be met for demonstrating the environmental qualification of electric equipment important to safety located in a harsh environment. In accordance with this rule the licensee proposed resolutions for equipment EQ deficiencies in their January 16, and May 7, 1984 submittals. The licensee's approach to resolve outstanding deficiencies was accepted by NRR in their subsequent March 25, 1985 SER, and further NRC review of written evidence to support the

qualifications of EQ equipment shall be performed during a subsequent EQ audit.

- (3) Service condition profiles (i.e., temperature, pressure etc., as a function of time) were required to be provided for equipment identified in subsections (1) and (2) above. The NRC reviewed plant service condition profiles provided by the licensee and addressed them in SERs described in subsections (1) and (2) above.
- (4) 79-01B required evaluation of the qualification of EQ equipment against the guidelines provided in Enclosure 4 and 5 of the bulletin, and required an equipment qualification plan including schedules for completing the qualification of outstanding items.

The licensee's submittals and subsequent TER and SERs discussed in subsections (1) and (2) above identified the licensee's evaluation required by 79-01B, and its acceptance by the NRC. Schedules for qualification of outstanding items were also discussed in the referenced SERs, and during this review the licensee stated that, with the exception of a Unit 2 valve for the steam supply to the turbine driven auxiliary feedwater pump, all items had been qualified to DOR Guidelines for existing equipment, and NUREG 0588 for equipment purchased after issuance of the 50.49 rule.

- (5) Maximum expected flood levels resulting from postulated accidents were required to be identified inside the containment. The inspector reviewed System Component Evaluation Work Sheets and found appropriate references to flood levels for the equipment reviewed.
- (6) Licensee Event Reports (LERs) were required to be submitted for equipment not capable of meeting environmental qualification requirements for the intended services. The licensee's 79-01B review of this equipment did not identify any equipment requiring immediate corrective action; therefore no LERs were submitted.

d. (Closed) IE Bulletin (282/79001-3B; 306/79001-3B):

This item addressed Supplement 1 of IE Bulletin 79-01B dated February 29, 1980, and included generic questions and answers resulting from a NRC Task Group/Licensee "workshop" meeting regarding the environmental qualifications of class IE equipment in use at power reactor facilities. The intent of this bulletin was to assist the licensees in their actions to provide evidence of equipment qualifications to the NRC. No licensee response was required.

- e. (Closed) IE Bulletin (282/79001-4B; 306/79001-4B):

This item addressed supplement 2 of IE Bulletin 79-01B dated September 30, 1980, and included generic questions and answers resulting from NRC/Licensee meetings regarding environmental qualification of class IE equipment in use at power reactor facilities. The intent of this bulletin was to clarify the scope and depth of the 79-01B review, and no specific response from licensees was required.

- f. (Closed) IE Bulletin (282/79001-5B; 306/79001-5B):

This item addressed Supplement 3 of IE Bulletin 79-01B, dated October 24, 1980, regarding qualification of two issues related to the environmental qualification of class IE equipment. Licensees were required to respond to both issues.

- (1) The first issue addressed clarifications of apparent inconsistencies between Supplements 1 and 2 of IE 79-01B NRC staff positions as to whether the equipment required to achieve a cold shutdown condition must be environmentally qualified if the licensing basis for the plant was a Hot Safe Shutdown condition.

The licensee stated in their January 22, 1981 response to Region III that a review had been performed to identify additional electrical equipment necessary to achieve and maintain a cold shut down condition. The license indicated that the RHR System if available would normally be used for cold shutdown. However, in the event that the RHR System components identified for cooldown were not available, the auxiliary feedwater system along with the secondary side power operated relief valves would be used to bring the plant to a safe cold shutdown condition. The licensee further indicated that all necessary components of the above systems were environmentally qualified.

- (2) The second issue addressed the qualification and installation of TMI Action Plan Equipment, and addressed qualification requirements and schedules for submittals of the qualification and installation of these items.

The licensee submitted qualification information for installed TMI Action Plan Equipment in Appendix A of their October 31, 1980 letter to Region III as part of their EQ master list. In Appendix B of their April 30, 1982 submittal to NRR, the licensee identified the TMI equipment still pending qualification. The March 25, 1985 SER from the NRC accepted the licensee's approach to resolve any outstanding TMI qualification issues falling within the scope of 10 CFR 50.49 regarding qualification to requirements of NUREG 0737 and Regulatory Guide 1.97.

3. Exit Interview

The Region III inspector met with the licensee representatives (denoted under Paragraph 1) at the conclusion of the inspection on August 29, 1985. The inspector summarized the purpose and findings of the inspection. 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 documents/processes as proprietary.