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UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

APR 25 1979

Docket No. 50-282
Docket No. 50-306

Northern States Power Company
ATTN: Mr. Leo Wachter
Vice President
Power Production and
System Operation
414 Nicollet Mall
Minneapolis, MN 55401

Gentlemen:

This refers to the inspection conducted by Messrs. L. G. McGregor, J. D. Smith, B. M. K. Wong and J. F. Streeter of this office on February 12-16 and March 14-16, 1979, of activities at the Prairie Island Nuclear Generating Plant, Units 1 and 2, authorized by NRC Operating Licenses No. DPR-42 and No. DPR-60 and to the discussion of our findings with Mr. F. P. Tierney at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During this inspection, certain of your activities appeared to be in noncompliance with NRC requirements, as described in the enclosed Appendix A.

This notice is sent to you pursuant to the provisions of Section 2.201 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations. Section 2.201 requires you to submit to this office within twenty days of your receipt of this notice a written statement or explanation in reply, including for each item of noncompliance: (1) corrective action taken and the results achieved; (2) corrective action to be taken to avoid further non-compliance; and (3) the date when full compliance will be achieved.

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In accordance with Section 2.790 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter, the enclosures, and your response to this letter will be placed in the NRC's Public Document Room, except as follows. If the enclosures contain information that you or your contractors believe to be proprietary, you must apply in writing to this office, within twenty days of your receipt of this letter, to withhold such information from public disclosure. The application must include a full statement of the reasons for which the information is considered proprietary, and should be prepared so that proprietary information identified in the application is contained in an enclosure to the application.

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

Sincerely,

R. F. Heishman, Chief
Reactor Operations and
Nuclear Support Branch

Enclosures:
1. Appendix A, Notice of Violation
2. IE Inspection Reports No. 50-282/79-08 and No. 50-306/79-07

cc w/encls:
Mr. F. P. Tierney, Jr.,
Plant Manager
Central Files
Reproduction Unit NRC 20b
PDR
Local PDR
NSIC
TIC
John W. Ferman, Ph.D.,
Nuclear Engineer, MPCA

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Appendix A

NOTICE OF VIOLATION

Northern States Power Company

Docket No. 50-282
Docket No. 50-306

Based on the inspection conducted on February 12-16 and March 14-16, 1979, it appears that one of your activities was in noncompliance with NRC requirements as noted below. This item is a deficiency and applies to Units 1 and 2.

Technical Specifications 4.16.A.1 and 4.16.A.2 became effective February 14, 1978, and require, respectively, that fire detectors exterior to primary containment be functionally tested once every six months and that the detector alarm circuits also be tested every six months.

Contrary to the above, the initial tests (SP1189) of the fire detectors and alarm circuits were not conducted until (December 28, 1978) approximately ten and one-half months after the technical specifications became effective.

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U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report No. 50-282/79-08; 50-306/79-07

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, Units 1 and 2

Inspection At: Prairie Island Site, Red Wing, MN

Inspection Conducted: February 12-16 and March 14-16, 1979

Inspectors: L. G. McGregor (February 12-16, 1979) 4-13-79

J. D. Smith (March 14-16, 1979) 4-19-79

J. F. Streeter (February 14-15, 1979)

B. M. K. Wong (February 14-15, 1979) 4-19-79

Approved By: for J. F. Streeter, Chief 4-19-79
Nuclear Support Section 1

Inspection Summary

Inspection on February 12-16 and March 14-16, 1979 (Report No. 50-282/79-08; 50-306/79-07)

Areas Inspected: Routine, unannounced inspection of calibration and surveillance of safety related components and equipment and implementation of ASME Code Section XI and pump and valve test program. The inspection involved 93 inspector-hours onsite by four NRC inspectors.
Results: Of the three areas inspected, no Items of Noncompliance were identified in two areas. One Item of Noncompliance (Deficiency - delayed conduct of fire system surveillance, Paragraph 5.c) in one area.

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DETAILS

1. Persons Contacted

+*F. Tierney, Plant Manager
+E. Watzl, Superintendent, Plant Engineer, Radiation Protection
A. Hunsted, Staff Engineer
*J. Hoffman, Plant Engineer, Technical
G. Sundberg, Instrument Engineer
*R. Olschlager, Instrument and Control Coordinator
+B. Stephens, Mechanical Engineer
D. Walker, Shift Supervisor
R. Hoffey, Shift Supervisor
R. Ryan, Shift Supervisor

The inspectors also talked with and interviewed several members of the operations, techanical and engineering staffs.

*Denotes those present at the exit interview on February 16, 1979.
+Denotes those present at the exit interview on March 16, 1979.

2. Calibration of Safety Related Components Required by Technical Specifications (Units 1 and 2)

The inspector reviewed plant calibration records, selected logs and records for the below listed calibration activities. This review was performed to determine that the frequency of calibration was met; the service status of the system was in conformance with the applicable limiting conditions of operations; the procedures used to calibrate the components were reviewed and approved as required by the Technical Specifications; the procedures used contained acceptable trip settings using applicable technical specification requirements; the procedures used contained detailed stepwise instructions; the technical content of the procedures would result in satisfactory calibration; the qualifications of two individuals in the I&C group having responsibilities for performing calibrations were adequate.

a. "Reactor High Flux Intermediate Range Calibration," Test 2007 and 1007A

b. "Reactor High Flux Power Range Calibration," Test 2009 and 1009

c. "Pressurizer Level Control Calibration," Test 2001, 2048, 2182, 1048, 1001 and 1182

2311 069

d. "Emergency Core Cooling Temperature Element Calibration Safety Injection System,"
Test 108 and 2088

e. "Residual Heat Removal Pump Flow Calibration,"
Test 2020

f. "Accumulator Boron Concentration Tests,"
Tests 1065 and 2065

g. "Containment System Emergency Charcoal Filter Pressure Drop Calibration,"
Tests 1114 and 2114

h. "Containment Pressure Calibration Sensing Instrumentation,"
Tests 1001, 2001 and 2045

i. "Containment Temperature Calibration,"
Tests 1038 and 2038

j. "Station Battery Load Test,"
Test 1098 and 2098

k. "4 KV Volt and Frequency Calibration,"
Tests 1014 and 1015

l. "Containment Sump Level Instrument Tests and Calibration,"
Tests 1030 and 2030

m. "Refueling Water Storage Tank Level Calibration,"
Test 2023

n. "Volume Control Tank Level Channels Calibration CVC System,"
Test 2025

o. "Boric Acid Makeup Flow Channel Calibration,"
Test 2029

p. "Accumulator Level and Pressure Test and Calibration,"
Test 2031

q. "Control Rod Drive Exhaust Air Temperature Calibration,"
Test 2043

No items of noncompliance or deviations were identified.

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3. Calibration of Safety Related Components Not Specified by Technical Specification (Units 1 and 2)

The inspector reviewed plant calibration records for the below listed components. This review was performed to determine if the operating range/accuracy of components were consistent with applicable Technical Specifications/SAR; the procedures used to calibrate the components were reviewed and approved as required by Technical Specifications; the procedures used contained acceptance criteria consistent with Technical Specifications/SAR; the procedures used contained detailed instructions commensurate with the complexity of the calibration and that the technical content of the procedures would result in satisfactory calibration.

a. Systems

(1) "Analog Reactor Control System,"
Test 1548 and 2548

(2) "Diesel Fire Pump Weekly Test and Calibration,"
Test 1524

(3) "Fire Protection System Test and Calibration,"
Test 1568

(4) "Explosive Detector Calibration,"
Test 1621

(5) "Turbine Bearing Fire Protection Test and Calibration,"
Test 1592 and 2592

(6) "Electrical Penetration Surveillance Test and Calibration,"
Test 2537

b. Instruments

(1) "Mixed Bed A EFF Conductivity Cell,"
CEC-6 System ODE

(2) "Reactor Coolant Drain Tank N_2 Supply Pressure,"
IPC 1014 System OWL

(3) "WST Tank Rad Monitor,"
Inst. 59062 System DRD

2311 071

(4) "Station Air Compressor Receiver Pressure Switch and Valve," Inst. 16086 and 31191 System OSA

(5) "Decon Area Sump Level Switch," Inst. 16677 System OWL

(6) "Turbine High Pressure Cylinder Flange Temperature," Inst. 42083-04 System ITB

(7) "Hydrogen Recombiner Product Gas Oxygen Analyzer," 10 AR-1119 System OWG 20 AR-1119 System OWG Recorder and Alarm

No items of noncompliance or deviations were identified.

4. Surveillance Test Witnessing

The following surveillance testing was witnessed to verify that all test prerequisites were met and the stepwise procedures were completed as required:

a. Test SP 1186 Emergency Diesel Generator Start and Operation, Unit 1 (Rev. June 16, 1978).

b. Test SP 1106A Diesel Driven Cooling Water Pump, Unit 1 (Rev. June 16, 1978).

c. Test SI 1088 Operational Test of Safety Injection Pumps, Unit 2 (Rev. June 16, 1978).

No items of noncompliance or deviations were identified.

5. Surveillance of Safety Related Components or Equipment (Units 1 and 2)

a. Purpose of Review

The inspector reviewed plant surveillance records to determine if test procedures are approved in accordance with the Technical Specifications; test procedures include appropriate (1) prerequisites and preparations, (2) acceptance criteria, and (3) instructions to ensure tested item is restored to operation following the test; technical content of procedures assures compliance with the Technical Specifications and Inservice Inspection Program; tests were performed within the time

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frequencies specified in the Technical Specifications and Inservice Inspection Program; tests were performed by qualified individuals; test results were reviewed as required by facility administrative requirements; test results were in conformance with Technical Specifications and Inservice Inspection Program; appropriate action was taken for test results not meeting the acceptance criteria.

b. Administrative Documents, Personnel Qualifications and Test Records Reviewed

(1) Test Records

Test Procedure	Date of Tests
SP 1072-45, "Local Leakage Rate Test of Penetration 45"	3/25/77, 3/19/76 4/29/75 and 4/26/75
SP 1089, "Residual Heat Removal Pumps and Suction Valves from the Refueling Water Storage Tank," Rev. 10	2/13/79, 1/30/79, 1/31/79
SP 1090, "Containment Spray Pump Test" Rev. 14, dtd 11/26/78	2/22/79, 1/25/79 12/21/78
SP 1099, "Main Steam Isolation Valves Closure Test," Rev. 2, 7/5/77	4/12/78, 3/28/78, 12/9/77
SP 1102, "Turbine-driven Auxiliary Feedwater Pump Test," Rev. 8, 8/2/78	1/31/79, 12/27/78, 11/28/78
SP 1106, "12 Diesel Cooling Water Pump Test," Rev. 4, 6/26/78	2/23/79, 2/15/79, 2/14/79 and 2/8/79
SP 1151, "Cooling Water System Test," Rev. 0, 4/16/77	1/23/79, 10/17/78, 7/18/77
SP 1155, "Component Cooling System Test," Rev. 5, 10/30/78	1/18/79, 12/13/78, 11/15/78
SP 1156, "Low Level Gas Decay Tanks to Plant Vent Control Valve Test," Rev. 2, 6/5/78	12/5/78, 9/8/78, 6/6/78

2311 073

SP 1157 & 2157, "Post LOCA Hydrogen Control System Valve Operation," Rev. 2, 6/5/78	4/10/78, 12/9/78
SP 1160, "Chilled Water Crossover Control Valve Test," Rev. 1, 6/5/78	12/19/78, 9/19/78, 6/22/78, 3/21/78, 12/20,77, 9/20/77, 6/21/77
SP 1161, "Control Room Chilled Water Pump Test," Rev. 3, 6/20/78	2/20/79, 1/23/79, 12/19/78, 11/21/78, 10/17/78, 9/19/78, 8/22/78, 7/18/78, 6/22/78, 5/23/78, 4/18/78, 3/21/78, 2/21/78, 1/17/78
SP 1180, "Diesel Cooling Water System Test," Rev. 3, 12/1/78	1/26/79, 12/22/78, 11/24/78
SP 1159, "Reactor Vessel Injection Isolation Valve Test," Rev. 1, 6/5/78	2/27/79, 11/27/78, 8/29/78
SP 1002, "Analog Protection Functional Test," Rev. 5, 8/29/78	2/16/78
SP 1178, "CVCS Check Valve Test"	4/2/78, 12/9/78
SP 1187, "Diesel-driven Fire Pump Battery Inspection," Rev. 3, 8/2/78	1/78 thru 1/79
SP 1096 & 1097, "Station Battery Monthly Test and Station Battery Quarterly Inspection," Rev. 4, 10/30/78	1/78 thru 1/79
SP 1053, "Fire Protection System Monthly Fire Pump Running Test," Rev. 6, 10/13/78	9/15/78, 10/13/78 11/17/78, 12/15/78, 1/19/79
SP 1189, "Safety Related Fire Detector Check," Rev. 0, 9/28/78	12/28/78

2311 074

SP 1190, "Emergency Diesel Generator Oil Storage Tanks Sampling Procedure," Rev. 0, 11/15/78	8/78 thru 1/79
SP 2130, "Containment Vacuum Breakers Quarterly Test," Rev. 3, 8/2/77	12/29/77, 3/28/78, 6/27/78, 9/26/78, 12/28/79
SP 2171, "Tech Spec Shock Suppressor Check," Rev. 0, 10/17/77	11/14/77, 12/20/78
SP 1046, "Full Length Control Rod Drop Timing," Rev. 4, 6/20/78	12/14/78

(2) Personnel Qualification Records

The qualification records for two individuals involved in the tests identified above were reviewed to determine if the individuals were qualified in accordance with the Technical Specifications and ANSI N18.1.

(3) Administrative Documents

The following facility administrative documents were used during the review:

(a) Operations Manual Appendix G, Section 6, "Surveillance," dated January 31, 1977.

(b) "Northern States Power Company, Prairie Island Nuclear Generating Plant, ASME Code Section XI Inservice Inspection and Testing Program and Information Required for NRC Review of Requests for Relief from ASME Code Section XI Requirements," Rev. 1, dated September 15, 1978.

c. Findings

(1) Technical Specifications 4.16.A.1 and 4.16.A.2 became effective February 14, 1978, and require, respectively, that fire detectors exterior to primary containment be functionally tested once every six months and that the detector alarm circuits also be tested every six months.

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Contrary to the above, the initial tests (SP 1189) of the alarm circuits were not conducted until (December 28, 1978) approximately 10 1/2 months after the technical specifications became effective. This is an Item of Non-compliance (50-282/79-0-01; 50-306/79-0-01) of the Deficiency level.

(2) The monthly emergency diesel generator fuel oil sample analysis for viscosity, water, and sediment was not performed during the period November 21, 1978 through January 12, 1979, as required by Technical Specification 4.6.A.1.c. However, the inspector verified that this was an isolated example.

(3) A few examples were noted where the tester was identified in the test documentation but the tester's signature was not documented, where there were delays in forwarding test results from the group supervisor to the Surveillance Coordinator, where temporary test equipment used to obtain performance data was not specifically identified, and where test documentation did not indicate abnormal conditions were promptly brought to the attention of the appropriate supervisor. The licensee instructed personnel involved in the conduct and review of tests of the importance of the proper conduct, review, and documentation of tests.

No other items of importance were noted.

6. Plant Tour (Units 1 and 2)

The inspector conducted a tour of various areas of the plant to observe operations and activities in progress, general housekeeping and cleanliness, and equipment caution or lockout tags. Exceptional cleanliness was observed throughout areas toured.

No items of noncompliance or deviations were identified.

7. Exit Interviews

The inspector met with licensee representatives (denoted in Paragraph 1) on February 16, 1979, and at the conclusion of the inspection on March 16, 1979. The inspectors summarized the purpose, scope, and findings of the inspection.

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