

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-306/84-13(DRS)

Docket No. 50-306

License No. DPR-60

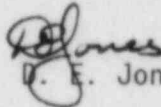
Licensee: Northern States Power Company
414 Nicollet Mall
Minneapolis, MN 55401

Facility Name: Prairie Island Nuclear Generating Plants, Unit 2

Inspection At: Prairie Island Site, Red Wing, MN

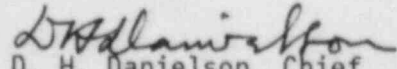
Inspection Conducted: September 6-7 and 24-26, 1984.

Inspector:


V. E. Jones

10-2-84
Date

Approved By:


D. H. Danielson, Chief
Materials and Processes Section

10/2/84
Date

Inspection Summary

Inspection on September 6-7, and 24-26, 1984 (Report No. 50-306/84-13(DRS))

Areas Inspected: Routine unannounced safety inspection to review Inservice Inspection (ISI) procedures, work activities, nondestructive examination (NDE), personnel certifications and data; steam generator (Unit 2) blowdown modification; steam generator antivibration bar (AVB) wash and sludge lancing. The inspection involved a total of 25 inspector-hours onsite by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Persons Contacted

Northern States Power Company (NSP)

E. Watzl, Plant Manager
*D. Mendele, Plant Superintendent, Engineering & Radiation Protection
K. Albrecht, Superintendent, Quality Engineering
G. Lenertz, Lead Senior Production Engineer
M. Anderson, Assistant Materials and Special Processes Engineer

Babcock and Wilcox (B&W)

S. Redner, Eddy Current Coordinator

Conam

J. Funanich, Lead Analyst/Coordinator

Lambert, MacGill, Thomas, Inc. (LMT)

B. Kellerhoff, ISI Supervisor

The inspector also contacted and interviewed other licensee and contractor employees.

*Denotes those present at the exit interview.

2. Inservice Inspection, Unit 2

a. General Information

NSP contracted Lambert, MacGill and Thomas, Inc. (LMT), Babcock and Wilcox (B&W) and Conam to develop and perform the inservice inspection program. LMT was responsible for the inspection of "Balance of Plant" components in accordance with ASME Section XI, 1974 Edition, Summer 1975 Addenda. B&W and Conam were responsible for steam generator eddy current inspection in accordance with ASME Section XI, 1980 Edition, Winter 1980 Addenda.

This is the ninth outage of the first ten year plan.

Eddy current examination was performed on steam generators 2/1 and 2/2 and the following tubes were plugged:

SG 2/1

<u>Row</u>	<u>Column</u>	<u>Row</u>	<u>Column</u>
39	25	44	54
41	28	43	62
42	28	41	67
25	34	27	69

29	37	20	87
45	37	45	54
45	40	40	69
43	41	37	76
45	46	36	44
44	52		

SG 2/2

<u>Row</u>	<u>Column</u>	<u>Row</u>	<u>Column</u>
26	11	40	54
31	16	44	60
33	16	43	62
35	18	31	82
38	23	43	52
46	41	32	18
36	50	36	20

D. Program/Procedure Review

The inspector reviewed the following program/procedures:

- Inservice Inspection Program Examination Plan (Unit 2) - Inspection Period 3 (August 21, 1981 to December 31, 1984)
- NSP, Magnetic Particle Examination, Yoke Method, MT-1, Revision 2
- NSP, Wet Magnetic Particle Examination, MT-2, Revision 0
- NSP, Liquid Penetrant Examination, PT-1, Revision 2
- NSP, High Temperature Liquid Penetrant Examination, PT-2, Revision 2
- NSP, Ultrasonic Examination of Pipe Welds, UT-1, Revision 1
- NSP, Automatic Data Recording, UT-2, Revision 1
- NSP, Ultrasonic Examination of Studs and Bolts, UT-4, Revision 1
- NSP, Visual Examination, Vf-1, Revision 2
- NSP, Visual Examination of Hanger Assemblies, VT-2, Revision 2
- NSP, Visual Examination of Pump and Valve Internal Pressure Boundary Surfaces, VT-3, Revision 1
- B&W, Recirculating Steam Generator Tube Plugging with Mechanical Roll Plugs, Drawing No. 1151806 A-3

- . B&W, Roll Expansion Tool Set-Up, Maintenance and Operating Instructions for Remote and Manual Roll Plug Installation, Drawing No. 1151810 A-0
- . B&W, Recirculating Steam Generator Manual Removal of Mechanical Roll Plugs, Drawing No. 1146399 A-1
- . B&W, Roll Plug Removal Tooling, Drawing No. 1151811 A-0
- . B&W, Administrative Procedure for Control of Inservice Inspection Procedures and Procedure Qualification, ISI-1, Revision 5
- . B&W, Administrative Procedure for Records Management, ISI-2, Revision 5
- . B&W, Personnel Qualification - Eddy Current Examination, ISI-24, Revision 6
- . B&W, Administrative Procedure for Control of Manuals and Reports, ISI-61, Revision 18
- . B&W, Administrative Procedure for Control of Documents, ISI-62, Revision 3
- . B&W, Administrative Procedure for Approval of B&W Manuals for Baseline and Inservice Inspection Programs, ISI-63, Revision 7
- . B&W, Administrative for the Design, Fabrication, and Certification of Calibration Standards, ISI-76, Revision 13
- . B&W, Administrative Procedure for Tagging and Correction of Nonconforming Items, ISI-78, Revision 8
- . B&W, Administrative Procedure for Preventive Maintenance of Nondestructive Examination Equipment, ISI-80, Revision 15
- . B&W, Insertion, Calibration, Operation, and Removal of Eddy Current RSG Tube Examination Equipment in the Hot Leg and Cold Leg Heads, ISI-405, Revision 0
- . B&W, Eddy Current Examination of Tubing by the Absolute Multicoil (8x1) Technique, ISI-425, Revision 7
- . B&W, Multifrequency Eddy Current Examination of RSG Tubing in Series 51 Steam Generators, ISI-428, Revision 2
- . B&W, Technical Procedure for the Evaluation of Eddy Current Data of Nuclear Grade Steam Generator Tubing, ISI-460, Revision 7
- . B&W, Technical Procedure for the Evaluation of Eddy Current Data Generated from the Multielement Probe, ISI-463, Revision 3

. B&W, Technical Procedure for the Evaluation of Eddy Current Data of Nuclear Grade Steam Generator Tubing for Intergranular Attack, ISI-467, Revision 3

. B&W, Technical Procedure for the Evaluation of Eddy Current Bobbin Coil Data for Wear Fretting and AVB Wear, ISI-464, Revision 2

c. Material and Equipment Certification

The inspector reviewed the certification documents, relative to the following items:

- . Ultrasonic Instruments, Calibration Blocks, Transducers, and Couplant
- . Liquid Penetrant, Magnaflux Materials, Penetrant, Cleaner and Developer
- . Magnetic Particle, Magnaflux Materials and Equipment
- . Eddy Current Equipment
- . Mechanical Plugging Equipment

d. NDE Personnel Certifications, Data Reports

The inspector reviewed NDE personnel certifications in accordance with SNT-TC-1A, 1975 Edition and Data Reports.

No items of noncompliance or deviations were identified.

3. Steam Generator Blowdown Modification

a. General

The Unit 2 Steam Generator Blowdown System was modified as part of the plan to allow for wet layup recirculation, pump down of the steam generators when cold, and to enhance the capabilities of the steam generator crevice flushing procedure.

The modification consisted of :

- (1) Replacing Rockwell Hermavalves with Rockwell Univalves on the feedwater supply line vents. This replacement was necessary because the Hermavalves could act as stop-checks; thereby, preventing recirculation flow.
- (2) Adding and replacing drain valves to the inlet and outlet of the first motor valve on the steam generator blowdown line.

. Review of Procedures

The inspector reviewed the following procedures:

- . NSP, General Welding Specification, NSP-PP-100, Revision 2
- . NSP, Open Butt Welding Small Diameters of Carbon Steel (P1) Using SMAW and Uphill Root Pass, ISI-OB-1.1, Revision 0
- . NSP, Liquid Penetrant Examination, PT-1, Revision 2

c. Review of Records, Reports and Certifications

The inspector reviewed the following documentation items and determined that the applicable requirements of QC/QA commitments have been met.

- . Material Certification NDE and Welding
- . Welder Qualification Records
- . Weld Examinations and Acceptance Records
- . NDE Personnel Qualification Certifications
- . Final Test Reports
- . Fabrication and Inspection Records

No items of noncompliance or deviations were identified.

4. Steam Generator Antivibration Bar (AVB) Wash and Sludge Lancing

a. General

The steam generator AVB wash and sludge lancing utilize a high pressure water spray, approximately 75 and 750 PSI respectively, to remove sludge buildup. The total amount of sludge removed from steam generators 2/1 and 2/2 was 509.04 pounds (wet weight). The amount of sludge was approximately triple the normal value because of oxygen within the system, which has been corrected.

b. Review of Procedure

NSP, Steam Generator Bundle Cleaning and Sludge Lancing (Series Operation), D27.13, Revision 10

No items of noncompliance or deviations were identified.

5. Exit Interview

The inspector met with site representatives (denoted in Persons Contacted paragraph) at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection noted in this report.