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

REGION III

Report No. 50-282/79-20

Docket No. 50-282 License No. DPR-42

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

Facility Name: Prairie Island Nuclear Generating Plant, Unit 1

Inspection At: Prairie Island Site, Red Wing, Minnesota

Inspection Conducted: August 14 and 15, 1979

Inspector: K. D. Ward K. D. Ward 8/29/79

Approved By: D. H. Danielson, Chief D. H. Danielson 8/29/79
Engineering Support Section 2

Inspection Summary

Inspection on August 14 and 15, 1979 (Report No. 50-282/79-20)
Areas Inspected: QA/QC program, review and evaluate nondestructive examination (NDE) and welding data, reports and radiographs of feedwater piping repair activities. Also QA/QC program, review and evaluate NDE data and reports of inservice inspection (ISI). This inspection involved a total of 8 inspector-hours on site by one NRC inspector.
Results: No items of noncompliance or deviations were identified.

1113 149

7910090 288

DETAILS

Persons Contacted

Northern States Power Company (NSP)

J. Brokaw, Superintendent Operation and Maintenance
D. Hansen, Engineer, ISI Coordinator
S. Fehn, Senior Sch. Engineer
A. Hunstad, Staff Engineer

All of the above were present at the exit interview.

Functional or Program Areas Inspected

IE Bulletin 79-13, Unit 1

1. General Information

IE Bulletin 79-13 was sent to all pressurized water reactor facilities informing the licensee's of the cracks in feedwater system lines at the D. C. Cook site.

Being Unit 1 was shutdown because of turbine problems, radiographic and ultrasonic examinations were performed in accordance with the IE Bulletin 79-13. When radiography was performed, an unacceptable wormhole and slag inclusion was revealed in weld No. FW-159, Loop A.

The recent radiographs were compared with the original radiographs taken in 1970. The recent radiographs had a better technique than the original therefore the defects were more clear.

AZCO, Inc. Appleton, Wisconsin, was contracted to perform the repair.

Peabody, Magnaflux Corporation was contracted to perform the radiography only.

Lambert, MacGill, Thomas, Inc. (LMT) was contracted to perform ultrasonics, liquid penetrant and magnetic particle examinations.

The ANI was present for the weld repair.

2. Procedure Review

The following procedures were reviewed.

a. Northern States Power Company (Prepared by LMT)

Visual Examination, NSP-VT-1, Rev. 1, March 27, 1978, ASME Section V and XI, 1974 Edition, Summer 1975 Addenda.

Visual Examination of Assembled Hanger Assemblies, NSP-VT-2, Rev. 1, September 19, 1979, ASME Section V, 1974 Edition, Summer 1975 Addenda.

Liquid Penetrant Examination, NSP-PT-1, Rev. 1, September 8, 1977, ASME Section V, 1974 Edition, Summer 1976 Addenda.

Magnetic Particle Examination (Yoke), NSP-MT-1, Rev. 1, September 8, 1977, ASME Section V, 1974 Edition, Summer 1976 Addenda.

Ultrasonic Examination of Pipe Welds, NSP-UT-1, Rev. 0, March 18, 1977, ASME Section V, 1974 Edition, Summer 1976 Addenda.

b. Peabody, Magnaflux Corporation

Radiographic Examination of Welds, 3.20.A.1-3, Rev. 0, September 1, 1977, ASME Section V, 1974 Edition, Winter 1976 Addenda.

c. AZCO, Incorporated

Welding Procedure ANITH-A, gas tungsten and shielded metal arc processes, B31.1, 1978. Procedure qualified to ASME Section IX, 1974 Edition.

No items of noncompliance or deviations were identified.

3. Personnel Qualification Review

a. AZCO, Incorporated, Welding

J. Dorniden No. BA
M. Knutson No. AH

b. Lambert, MacGill, Thomas, Incorporated, NDE

Name	Level	Method
D. Gonzalez	II	UT-PT
D. Liembach	I	UT
R. Pechacek	II	UT
S. Smith	I	UT
W. Tighe	Trainee	UT
E. Thomas	III	UT-PT-MT
E. Thomas	I	ET

c. Peabody Magnaflux Corporation, NDE

Name	Level	Method
R. Carpente	II	RT
C. Brown	II	RT

K. Erickson	I	RT
D. Olsen	III	RT
T. Puchtel	I	RT
M. Sherwin	III	RT

No items of noncompliance or deviations were identified.

4. Material and Equipment Certifications Review

The following items were reviewed.

a. Weld Rod
50 No. E70S-2, 3/32" HT. 065162
50 No. E70S-2, 1/8" HT. 065163
50 No. 7018, 3/32" HT. 422B3681
200 No. 7018, 1/8" HT. 432C0201
200 No. 7018, 5/32" HT. 42158021

b. Ultrasonic Couplant, LMT GEL, Batch No. 111778

c. Ultrasonic instruments, recorders, calibration blocks, and transducers.

d. Magnetic Particle equipment.

e. Liguid Penetrant, Magnaflux Materials
Cleaner - Batch No. 78L035
Penetrant - Batch No. 7A004
Developer - Batch No. 6K069

No items of noncompliance or deviations were identified.

5. Repair

Weld FW-159 was ground out leaving an area approximately 3 1/2" long and 7/8" deep. The gauged area was then PT and MT examined to varify that the defect was removed. The root pass was welded in and a MT was performed when the root pass was completed. UT, RT and MT was performed after final post weld heat treatment (PWHT) and found to be acceptable.

No items of noncompliance or deviations were identified.

6. Review of Radiographs

The inspector reviewed the following radiographs as specified in IE Bulletin No. 79-13:

ISO No.	Weld No.	Diameter	Thickness	Date RT
ISI-52A	FW164	16"	0.64"	7/79 (Nozzle to Pipe)
ISI-69A	FW216	16"	0.62"	7/79 (Pipe to Nozzle
ISI-52A	FW163	16"	1.03"	7/79

ISI-52A	FW157	16"	1.12"	7/79
ISI-52A	FW158	16"	1.16"	7/79
ISI-52A	FW160	16"	1.05"	7/79
ISI-52A	FW162	16"	1.15"	7/79
ISI-52A	FW155	16"	1.30"	7/79
ISI-52A	FW153	16"	1.05"	7/79
ISI-152A	FW156	16"	1.06"	7/79
ISI-52A	FW154	16"	1.02"	7/79
ISI-52A	FW152	16"	1.06"	7/79
ISI-52A	FW151	16"	1.17"	7/79
ISI-52A	FW161	16"	1.03"	7/79
ISI-69A	FW215	16"	1.03"	7/79
ISI-69A	FW213	16"	1.05"	7/79
ISI-52A	FW150	16"	1.15"	7/79
ISI-52A	FW227	16"	1.16"	7/79
ISI-52A	FW149	16"	1.11"	7/79
ISI-52A	FW148	16"	1.06"	7/79
ISI-52A	FW159	16"	1.12"	7/79

ISO No.	Base Metal	Diameter	Thickness	Date RT
ISI-52A	Lopp A	16"	1.03"	7/79
ISI-52A	Loop B	16"	1.03"	7/79

No items of noncompliance or deviations were identified.

7. Data and Audit Review

The following documents were reviewed:

a. Surveillance data performed by NSP.
b. Welding process and data sheets.

No items of noncompliance or deviations were identified.

8. Conclusion

The construction testing and repair of the feedwater sections appeared to satisfy the applicable procedures and code requirements. RIII will review the licensee's written response to IE Bulletin 79-13 upon receipt. This is an unresolved item. (282/79-20-1)

Inservice Inspection

1. General Information

a. Lambert, MacGill, Thomas, Incorporated (LMT) performed the inservice inspection (ISI) in accordance with ASME Section XI, 1974 Edition, Summer 1975 Addenda.

b. The ANI was present for the ISI.

2. Review of Program and Procedures

a. The inspector established through review and discussion with the licensee representatives that the NSP ISI Program was in accordance with ASME Section XI, 1974 Edition, Summer 1975 Addenda. The program was organized as "fill in time" when LMT was not performing NDE in accordance with Bulletin 79-13.

b. LMT prepared the following NSP procedures.

- Ultrasonic Examination of Pipe Welds, NSP-UT-1, Rev. 0, March 18, 1977.

- Liquid Penetrant Examination, NSP-PT-1, Rev. 1, September 8, 1977.

- Visual Examination, NSP-VT-1, Rev. 1, March 27, 1978.

- Visual Examination of Assembled Hanger Assemblies, NSP-VT-2, Rev. 1, September 18, 1978.

No items of noncompliance or deviations were identified.

3. Data Review and Evaluation

Review of the data files for the following systems demonstrated that the QA/QC and technical requirements were met. The specified information was available for the UT, PT and VT examinations performed.

Circ. Butt Welds Class I

Component	Line No.	ISO No.	Weld No.	NDE
Seal Injection B	2-VC-21B	27A	W-14	UT-VT
Seal Injection B	2-VC-21B	27B	W-15A	UT-VT
Auxiliary Spray to Pressurizer	2-RC-19	32	W-8	UT-VT
Auxiliary Spray to Pressurizer	2-RC-19	32	W-9	UT-VT
RTD C. L. A.	2-RC-8A	7	W-22	UT-VT
RTD C. L. A.	2-RC-8A	7	W-20	UT-VT
RTD H. L. A.	2-RC-7A	8	W-19	UT-VT

Socket Weld

Component	Line No.	ISO No.	Weld No.	NDE
RTD H. L. A.	2-RC-7A	8	SW-10	PT-VT

Pressure Retaining Bolting

Component	ISO No.	Weld No.	NDE
RTD Cold Leg A	8	RC-1-7	VT
RTD Hot Leg A	8	RC-1-9	VT
RTD Hot Leg A	8	RC-1-10	VT
RTD Hod Leg B	23	RC-1-12	VT

Supports (Non Welded)

Component	ISO No.	Weld No.	NDE
Seal Injection A	11A	RCVCH-1247, A1	VT
RTD C. L. B.	22	137-RTD-3, D	VT
Drain X-Over B	25	RPCH-17, A	VT
Letdown Line	26	RPCH-139, C1	VT
Letdown Line	26	RPCH-126, D	VT
PZR Surge B	28	RPCH, 43, D	VT
PZR Surge B	28	134-RC-4 C1	VT
Auxiliary Spray to PZR	--	RPCH-7, D	VT
Auxiliary Spray to PZR	--	RPCH-6, E	VT

No items of noncompliance or deviations were identified.

4. Material and Equipment Certification

The inspector reviewed the following items.

a. Ultrasonic Couplant, LMT GEL, Batch No. 111778.

b. Ultrasonic instruments, recorders, calibration blocks, and transducers.

c. Liquid Penetrant, Magnaflux materials.
Cleaner - Batch No. 78L035
Penetrant - Batch No. 7A004
Developer - Batch No. 6K069

No items of noncompliance or deviations were identified.

5. NDE Personnel Certifications

Name	Level	Method
D. Gonzalez	II	UT-PT
D. Liembach	I	UT
R. Pechacek	II	UT
S. Smith	I	UT

W. Tighe	Trainee	UT
E. Thomas	III	UT-PT-MT
E. Thomas	I	ET

No items of noncompliance or deviations were identified.

Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, items of noncompliance, or deviations. An unresolved item disclosed during the inspection is discussed in Paragraph 8.

Exit Interview

The inspector met with the site representatives at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection noted in the report.