UNITED STATES NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

REGION III

Report of Construction Inspection

IE Inspection Report No. 050-263/76-16

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

Monticello Nuclear Generating Plant
Monticello, Minnesota

License No. DPR-22
Category: C

Type of Licensee: BWR 1670 MWt

Type of Inspection: Announced, Special

Dates of Inspection: October 13 and 14, 1976

Principal Inspector: W. J. Key (for) 11/4/76 (Date)

Accompanying Inspector: I. N. Jackiw

Other Accompanying Personnel: None

Reviewed By: E. L. Jordan, Acting Chief (for) 11/4/76 (Date)
Engineeirng Support Section

9102070615 761104
PDR ADOCK 05000263
Q PDR

SUMMARY OF FINDINGS

Inspection Summary

Inspection on October 13-14, 1976, (76-16): Evaluate licensee commitment to NRR in their Plant Unique Analyses Report relative to Containment Short Term Program modifications to the Mark I torus support structures. Reviewed modification records. Inspected selected items of installed supports and welding.

Enforcement Items

None.

Licensee Action on Previously Identified Enforcement Items

Not applicable.

Other Significant Items

A. Systems and Components

None.

B. Facility Items (Plans and Procedures)

Modifications to the torus support structures are estimated to be approximately 60% complete. The licensee is presently developing procedures for modifications of the columns to the torus.

C. Managerial Items

None.

D. Noncompliance Identified and Corrected by Licensee

None.

E. Deviations

None.

F. Status of Previously Reported Unresolved Items

Not applicable.

Management Interview

A. The following personnel attended a management interview held at the conclusion of the inspection.

Northern States Power Company (NSP)

L. Eliason, Plant Manager
D. M. Vincent, Engineer
R. Goranson, Assistant Production Engineer
M. M. Clarity, Superintendent Plant Engineering and Radiation Protection
D. D. Antony, Plant Engineer

B. Matters discussed during the interview were as follows.

1. The inspector stated that they had reviewed records relative to the torus modifications and had determined them to meet NRC requirements.

2. The licensee stated that they estimated installation work to be approximately 60% complete. The licensee further stated that procedures were being developed to complete welding of the column-torus shell intersection during plant operations, and with water in torus.

3. The licensee stated, that they expected this work to start sometime during November, 1976.

4. The inspectors stated that their inspection and measurements of welds on selected columns indicated that they were in accordance with drawings and procedures and in compliance with their commitment to NRR in their Plant Unique Analyses Report.

REPORT DETAILS

Section 1

Prepared by W. J. Key

1. Persons Contacted

No personnel, other than those listed under the Management Interview section of this report were contacted.

2. Review of Quality Records

The following (NSP) Welding Procedures, used during modification of torus, were reviewed and determined to meet code requirements.

NSP-WPS 5.2204 (1A1-SW) Revision, B
NSP-WPS 5.2207 (1A8-SW) Revision, A
NSP-WPS 5.2219 (1A1-F) Revision, A
NSP-WPS 5.2203 (1A1-BR) Revision, C w/attachments
NSP-WPS 5.2107 (1AT1-O) Revision, C
NSP-WPS 5.2109 (1AT8-O) Revision, C

3. Material Certifications

Central Steel and Wire Company
Material for wedges and blocks
ASTM - 515 - Grade - 70, ordered on NSP P.O M-92729
Heat No's, 64T229, T08134, D06143

4. Procedures and Specifications

a. Peabody Testing (MT) procedure No. 3.21.A.2 Test report No. MP-11.

b. NSP procedure No. DC-76M005, Revision 0 and 1 Torus Support Clevis Bearing Block Installation.

c. NUTECH Specifications, FIE-1, Revision 1, Fabrication, Installation and Examination Requirements for Class MC Components Liner Type Supports.

d. IP-3, Revision 1, Installation Procedure for Pin Reinforcement.

e. ES-SFA-5.1, Specification for Mild Steel Covered Arc Welding Electrode.

5. Personnel Qualifications

The inspector reviewed welder and NDE Personnel Qualifications, and determined them to meet the requirements of ASME and ASNT-TC-1A.

The following Cherne Contracting Corporation (CCC) procedures were reviewed and found to meet NRC requirements.

a. Typical-01-3, General Instructions for Field Installation of 2" Anchor Bolts.

b. Typical-01-4, General Instructions for Field Installation of 1 3/8" Anchor Bolts.

The following records of column base holes were reviewed and found acceptable.

OUTSIDE COLUMNS			INSIDE COLUMNS		
Column No.	Record No.	Hole No.	Column No.	Record No.	Hole No.
1-O	1 Typ. 01-4	1	1-I	1 Typ. 01-3	1
	2	2		2	2
	3	3	2-I	3 Typ. 01-3	1
	4	4		4	2
2-O	5 Typ. 01-3	1	3-I	5 Typ. 01-3	1
	6	2		6	2
3-O	7 Typ. 01-3	1	4-I	7 Typ. 01-3	1
	8	2		8	2
4-O	9 Typ. 01-4	1	5-I	9 Typ. 01-3	1
	10	2		10	2
	11	3	6-I	11 Typ. 01-3	1
	12	4		12	2
5-O	13 Typ. 01-4	1	7-I	13 Typ. 01-3	1
	14	2		14	2
	15	3	8-I	15 Typ. 01-3	1
	16	4		16	2
6-O	17 Typ. 01-4	1	9-I	17 Typ. 01-3	1
	18	2		18	2
	19	3	10-I	19 Typ. 01-3	1
	20	4		20	2
7-O	21 Typ. 01-4	1	11-I	21 Typ. 01-3	1
	22	2		22	2
	23	3	12-I	23 Typ. 01-3	1
	24	4		24	2
8-O	25 Typ. 01-3	1	13-I	25 Typ. 01-3	1
	26	2		26	2
9-O	27 Typ. 01-3	1	14-I	27 Typ. 01-3	1

OUTSIDE COLUMNS (cont)

Column No.	Record No.		Hole No.
	28		2
10-0	29	Typ. 01-3	1
	30		2
11-0	31	Typ. 01.3	1
	32		2
12-0	33	Typ. 01-3	1
	34		2
13-0	35	Typ. 01-4	1
	36		2
	37		3
	38		4
14-0	39	Typ. 01-4	1
	40		2
	41		3
	42		4
15-0	43	Typ. 01-3	1
	44		2
16-0	45	Typ. 01-4	1
	46		2
	47		3
	48		4

INSIDE COLUMNS (cont)

Column No.	Record No.		Hole No.
	28		2
15-I	29	Typ. 01-3	1
	30		2
16-I	31	Typ. 01-3	1
	32		2

REPORT DETAILS

Section II

Prepared by: I. N. Jackiw 11/3/76 (Date)

Reviewed by: W. S. Little 11/3/76 (Date)

1. Persons Contacted

No personnel, other than those listed under the Management Interview section of this report were contacted.

2. Torus Support Design Changes

The inspector reviewed the licensee's design change records pertaining to the containment torus support structure.

The following items were reviewed:

a. Design Change 76M004-A "Drilling of Anchor Bolt Holes in Column Base Plates."

(1) The completed package was reviewed and all followup action was completed on June 8, 1976.

(2) The safety evaluation was performed by NSP and NUTECH.

(3) The Cherne Contracting Company installation procedure "Anchor Bolt Hole Sawing" was reviewed by the operations committee on March 3, 1976.

(4) Master checklists for 2" and 1 3/8" rock anchors were reviewed. No discrepancies were noted.

b. Design Change 76M004-B "Core Drilling Rock Bolt Holes."

(1) This change was covered by work request authorization WRA 76-397.

(2) Installation procedure "Core Drill Holes for Installation of 2 "Rock Anchors" was used for this activity.

c. Design Change 76M004-C "Installation of Torus Support Column Reinforcement."

(1) Approved Procedures and checklists were used for performing this design change.

(2) Hold points were signed off by Cherne Contracting Company inspectors.

(3) Final review of the design change was performed and documented by Cherne personnel.

d. The inspector reviewed a letter dated May 20, 1976, which stated that Cherne Contracting Company and Northern States Power reviewed all records associated with design change 76M004A-C.

e. During review of records for the field installation of the torus supports the inspector confirmed the following:

(1) Nonconformance reports (NCR) were handled in accordance with approved Cherne Company procedures.

(2) Magnetic particle examinations were conducted by Peabody Testing using approved procedures and qualified personnel.

(3) Welding checklists included welder identification and filler metal identification.

(4) A certificate of compliance dated March 25, 1976, provided mill test data for the 1 3/8" and 2" William Form Engineering Corporation bolts.

3. Drywell to Torus Differential Pressure

At the time of the inspection the inspectors confirmed that the drywell to torus differential pressure was at 1.15 psi.

The inspectors also reviewed a recorder strip chart of the differential pressure for a two week period. No discrepancies were noted.

Attachment:
Inspection of Torus Support
Structure, Monticello

Attachment 1

INSPECTION OF TORUS SUPPORT STRUCTURE

Column No. / Outside		INSPECTION ITEMS 1a	1b	1c	1d	2a	2b	3a	3b	3c	3d	3e	3f	4	5	6	
7-0 stiffners 4 Bolts	L				NA	320° 10" Pc	320° 10" Pc			2"	3"		All around	4 Bolts			
	S				NA	1" wide at crown	1" wide at crown	5"	1½"			2'x2'6" x 2¼"	¾"	1⅜"			
14-0 stiffners 4 Bolts	L				NA					2"	3"		All around	4 Bolts			
	S				NA	1"	1"	5"	1½"			2'x2'6" x 2¼"	¾"	1⅜"			
2-0 stiffners 2 Bolts	L				NA					2"	3"		All around	2 Bolts			
	S				NA	1"	1"	5"	1½"			2'x2'6" x 2¼"	¾"	2"			
Column No. / Inside						Full Penetration welds to stub assembly	Full Penetration welds to Base assembly					Clevis Base plate					
15-I stiffners 2 Bolts	L				NA	320° 10" Pc	320° 10" Pc			2"	3"		All around	2 Bolts			
	S				NA	1"	1"	5"	1½"			2'x2'6" x 2¼"	¾"	2"			
10-I stiffners 2 Bolts	L				NA					2"	3"		All around	2 Bolts			
	S				NA	1"	1"	5"	1½"			2'x2'6" x 2¼"	¾"	2"			
5-I stiffners 2 Bolts	L				NA					2"	3"		All around	2 Bolts			
	S				NA	1"	1"	5"	1½"			2'x2'6" x 2¼"	¾"	2"			

Monticello

Column No. Outside		7a	7b	7c	7d	7e	7f	7g	7h
7-0	L	yes	yes	yes	NA		NA	NA	NA
	S				NA	1 3/8"	NA	NA	NA
14-0	L	yes	yes	yes	NA		NA	NA	NA
	S				NA	1 3/8"	NA	NA	NA
2-0	L	yes	yes	yes	NA		NA	NA	NA
	S				NA	2"	NA	NA	NA
						1 3/8" & 2" Williams Form Engineering Corporation Bolts			
Column No. Inside									
15-I	L	yes	yes	yes	NA		NA	NA	NA
	S				NA	2"	NA	NA	NA
10-I	L	yes	yes	yes	NA		NA	NA	NA
	S				NA	2"	NA	NA	NA
5-I	L	yes	yes	yes	NA		NA	NA	NA
	S				NA	2"	NA	NA	NA