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NORTHERN STATES POWER COMPANY

MINNEAPOLIS, MINNESOTA 55401

July 3, 1980

Mr. James G. Keppler
Director, Region III
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Response to I. E. Bulletin 80-08 Dated May 6, 1980

I. E. Bulletin 80-08 requested license holders to determine if the facility contains flued head penetrations and if so, to provide information concerning design and nondestructive examination of these penetrations. Please see the attached response to this request.

Please contact us if you require additional information concerning our response.

Yours truly,

D. E. Gilberts

D. E. Gilberts
Vice President
Power Production

cc: Mr. G. Charnoff
Director, Division of Reactor Construction Inspection
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Attachments

DEG:nk

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Response to NRC IE Bulletin No. 80-08

Examination of
Containment Liner Penetration Welds

1. FLUED HEAD PENETRATION LIST

Table 1 provides a list of flued head penetrations.

2. a. APPLICABLE CODE

The primary containment (drywell) flued head penetrations are designed and constructed in accordance with ASME Boiler and Pressure Vessel Code Section III Class B.

Refer to FSAR Sections 2.2.3.1, 2.2.3.2, 5.2.3 and 5.4.B.

The tabulation below shows the applicable year and addenda:

Component	Year and Addenda
Containment	Not Available
Bellows	1965 through October, 1968
Flued Head	1965 through Summer 1966
Pipe	1965 through August, 1967

Regulatory Guide 1.19 was published later and is not applicable.

2. b. TYPE OF NDE

Table 1 lists, for each penetration, the type of nondestructive examination specified for each joint.

The code used is explained in Table 3.

2. c. WELD JOINT

Table 1 contains information about the type of weld joints for each penetration, including:

- joint description (see Table 2)
- pipe size (O.D.)
- materials - base on both sides of joint
- wall thickness on both sides of joint
- whether or not backing bars were used

2. d. NONDESTRUCTIVE EXAMINATION RESULTS

Table 1 lists, for each penetration, the NDE results for each joint.

The code used is explained in Table 4. See the end of Table 1 for the explanation of the numbers in parenthesis.

3. JUSTIFICATION FOR NOT RADIOGRAPHING SOME JOINTS

All non-destructive examination identified in Table 1 as either T1 or T2 included radiography (see Table 3).

Radiography was performed in every case where joint configuration permitted.

In the triple flued head expansion joints, the weld between the bellows expansion joint and the flued head was not radiographed. The anchor plates were shop-installed, and once they were welded to the flued head, the joint could not be radiographed. The bellows were not shop-installed because doing so would double the risk of shipping and handling damage.

TABLE 1

PENETRATION		WELD JOINT						NDE			
NUMBER SERVICE	DESIGN	DESCR. (Table 2)	PIPE SIZE O.D. (In.)	BASE MATERIALS		WALL THICK. (In.)	BACKING BARS	TYPE (Table 3)	RESULTS (Table 4) RT	UT	PT or MT
X-7A Main Steam	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	A	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-7B Main Steam	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	A	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-7C Main Steam	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	A	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-7D Main Steam	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	A	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-8 Main Stm Line Drain	Triple Flued Head	B	18	A516 Gr. 70	A516 Gr. 70	1/.5	NO	T1, T5	S-R	A	A
		G	18.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-9A Reactor Feedwater	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	S,P-R	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-9B Reactor Feedwater	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	A	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-10 Steam to RCIC	Triple Flued Head	B	16	A516 Gr. 70	A516 Gr. 70	1/.5	NO	T1, T5	S-R	A	A
		G	16.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-11 Steam to HPCI	Triple Flued Head	B	28	A516 Gr. 70	A516 Gr. 70	1.5/.5	NO	T1	P-R	--	(1)
		G	28.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-12 RHR Shutdown Supply	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	A	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A

TABLE 1 (Cont'd.)

PENETRATION		WELD JOINT						NDE			
NUMBER SERVICE	DESIGN	DESCR. (Table 2)	PIPE SIZE O.D. (In.)	BASE MATERIALS		WALL THICK. (In.)	BACKING BARS	TYPE (Table 3)	RESULTS (Table 4) RT	UT	PT OR MT
X-13A RHR Shutdown Return	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	S,P-R	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-13B RHR Shutdown Return	Triple Flued Head	A	34	A516 Gr. 70	A516 Gr. 70	2/.5	NO	T2	A	--	--
		F	34	A516 Gr. 70	A516 Gr. 70	.5/.5	NO	T1, T5	S,P-R	A	A
		G	34.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	[illegible]
X-14 RWCU Supply	Triple Flued Head	B	20	A516 Gr. 70	A516 Gr. 70	1.125/.5	NO	T1, T5	A	A	A
		G	20.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-15 (Spare)	Cap	E	18	A516 Gr. 70	A420 WPL 1	1/.375	NO	T1	A	--	A
X-16A Core Spray	Triple Flued Head	B	24	A516 Gr. 70	A516 Gr. 70	1.25/.5	NO	T1, T5	A	A	A
		G	24.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T2	A	--	A
X-16B Core Spray	Triple Flued Head	B	24	A516 Gr. 70	A516 Gr. 70	1.25/.5	NO	T1, T5	P-R	A	A
		G	24.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-17 Rx Head Spray	Triple Flued Head	B	20	A516 Gr. 70	A516 Gr. 70	1.125/.5	NO	T1, T5	A	A	A
		G	20.25	A516 Gr. 70	A105 Gr. II	.5/.375	NO	T3	--	--	A
X-18 Flr. Drain Sump Disch.	Double Flued Head	C	6.625	A333 Gr. 1	A105 Gr. II	.432/.432	NO	T1, T5	A	A	A [illegible]
X-19 Equip. Drain Sump Disch.	Double Flued Head	C	6.625	A333 Gr. 1	A105 Gr. II	.432/.432	NO	T1, T5	A	A	A
X-20 Service Water Sup.	Double Flued Head	C	6.625	A333 Gr. 1	A105 Gr. II	.432/.432	NO	T2 (2)	P-R	--	--
								T5	--	A	--
X-21 Service Air	Double Flued Head	C	3.5	A333 Gr. 1	A105 Gr. II	.3/.3	NO	T1	(1)	--	(1)
X-22 Inst. Air	Double Flued Head	C	3.5	A333 Gr. 1	A105 Gr. II	.3/.3	NO	T1, T5	A	A	(1)

TABLE 1 (Cont'd.)

PENETRATION		WELD JOINT						NDE			
NUMBER SERVICE	DESIGN	DESCR. (TABLE 2)	PIPE SIZE O.D. (In.)	BASE MATERIALS		WALL THICK. (In.)	BACKING BARS	TYPE (TABLE 3)	RESULTS (Table 4) RT	UT	PR or M
X-23 Cooling Wtr. Supply	Double Flued Head	C	12.75	A333 Gr. 1	A105 Gr. II	.687/.687	NO	T1, T5	(1)	A	A
X-34 Cooling Wtr Return	Double Flued Head	C	12.75	A333 Gr. 1	A105 Gr. II	.687/.687	NO	T1, T6	A	A	A
X-36 CRD Return (Now Spare)	Double Flued Head	C	6.625	A333 Gr. 1	A105 Gr. II	.432/.432	NO	T1, T5	A	A	A
X-41 Recirc Loop Sample	Double Flued Head	A	6.625	A333 Gr. 1	Carbon Stl.	.432/.432	NO	T2	A	--	--
		I	6.625	Carbon Stl.	A182 Gr. F	.432/.432	NO	T1	IF-R	--	A
X-42 Standby Liquid Control	Double Flued Head	A	4.5	A333 Gr. 1	Carbon Stl.	.337/.337	NO	T2	A	--	--
		I	4.5	Carbon Stl.	A182 Gr. F	.337/.337	NO	T1	A	--	A
SPARES	Nozzle Caps										
X-100E		E	12.75	A333 Gr. 1	A420 WPL1	.687/.375	NO	T1	A	--	A
X-101A	"	E	12.75	A333 Gr. 1	A420 WPL1	.687/.375	NO	T1	A	--	A
X-101C	"	E	12.75	A333 Gr. 1	A420 WPL1	.687/.375	NO	T1	S, P-R	--	A
X-102	"	E	12.75	A333 Gr. 1	A420 WPL1	.687/.375	NO	T1	A	--	A
X-104E	"	E	12.75	A333 Gr. 1	A420 WPL1	.687/.3 5	NO	T1	A	--	A
X-105B	"	E	12.75	A333 Gr. 1	A420 WPL1	.687/.3 5	NO	T1	BT-R	--	A

NOTES

(1) Unable to locate NDE results for these welds.

(2) Initial RT revealed porosity at one location. Repairs were made at a later date after process piping had been welded onto nozzle. This prohibited RT, therefore, UT was performed with acceptable results.

TABLE 2

WELD JOINT DESCRIPTION

A	drywell penetration nozzle to transition sleeve
B	drywell penetration nozzle to bellows expansion joint
C	drywell penetration nozzle to flued head fitting
E	drywell penetration nozzle to permanent cap
F	transition sleeve to bellows expansion joint
G	bellows expansion joint to flued head fitting
I	transition sleeve to flued head fitting

TABLE 3

TYPE OF NDE

T1	100% radiography + Liquid penetrant or magnetic particle check of surface of weld and adjacent pipe.
T2	100% radiography
T3	Liquid penetrant or magnetic particle check of root pass and final surface of weld and adjacent pipe.
T5	Ultrasonic test

TABLE 4

NDE RESULTS

A	Acceptable - No Defects
S	Slag
P	Porosity
C	Crack
IF	Incomplete Fusion
BT	Burn Through
R	Defect Repaired. NDE then performed with acceptable results