



Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

March 23, 1983

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

Subject: Dresden Station Unit 2
I.E. Bulletin 82-03
NRC Docket No. 50-237

- References (a): R. C. DeYoung letters to All Licensees
dated October 14 and 28, 1982.
- (b): T. J. Rausch letter to J. G. Keppler
dated December 1, 1982.
- (c): T. J. Rausch letter to D. G. Esienhut
dated January 7, 1983.
- (d): B. Rybak letter to H. R. Denton dated
March 1, 1983.
- (e): B. Rybak letter to H. R. Denton dated
March 18, 1983.

Dear Mr. Keppler:

Reference (a) transmitted I.E. Bulletin 82-03 which addresses stress corrosion cracking in thick wall, large diameter stainless steel piping at BWR plants. The Commonwealth Edison Company response to this bulletin on various items are contained in Reference (b) through (d) leaving only Item 2 open. This letter is our response to Item 2.

Attachment 1 is a description of the augmented inspection performed on Unit 2 and Attachment 2 provides tabular summary of the welds inspected. Crack indications were found in ten welds, our repair program is contained in References (e) and (f).

To the best of my knowledge and belief the statements contained herein and in the attachments are true and correct. In some respects these statements are not based on my personal knowledge but upon information furnished by other Commonwealth Edison and contractor employees. Such information has been reviewed in accordance with Company practice and I believe it to be reliable.

IE11

J. G. Keppler

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March 23, 1983

Please address any questions you may have concerning this matter to this office.

One (1) signed original of this letter is also being provided to the Document Control Desk as requested.

Very truly yours,



B. Rybak
Nuclear Licensing Administrator

lm

Attachments

cc: Resident Inspector - Dresden
R. Gilbert - NRR
US NRC Document Control Desk

6251N

ATTACHMENT 1

AUGMENTED INSERVICE INSPECTION

Dresden Unit 2
January, 1983

The planned inservice inspection for Dresden Unit 2 during the refueling outage which began in January, 1983, was influenced by ASME Section XI requirements, prior NRC commitments, and by I.E. Bulletin 82-03 Rev. 1. The furnace sensitized safe ends on the reactor pressure vessel were to be volumetrically examined in their entirety including the circumferential nozzle-to-safe end and safe end-to-piping welds. The Commonwealth Edison response to I.E. Bulletin 82-03 Rev. 1, dated December 1, 1982, identified a total of 23 welds to be ultrasonically examined in the recirculation system. The sample consisted of 12 safe end-to-piping welds and 11 circumferential butt welds. This sample was enlarged to 30 by the addition of four welds in the 16-inch diameter branch lines which connect to the 28-inch recirculation piping and of 3 welds in the ring header.

The sample employed is summarized in the Table and individual welds are shown along with their respective SRI numbers on the included isometric drawings.

RESULTS

As previously presented, a crack indication was found in the 28-inch diameter furnace sensitized safe end on nozzle N1B. We consider furnace sensitized stainless steel to be a separate material category and that the presence of this crack indication does not require additional inspections of 28-inch diameter piping. The other eleven large diameter furnace sensitized safe ends were examined ultrasonically with no crack indications being found.

No crack indications were found in the 28-inch, 22-inch, and 16-inch diameter piping welds. As part of the examination of the furnace sensitized safe ends, no crack indications were found at the 12-inch riser piping connections to these safe ends. Of the four weld joints selected from the remaining 30 riser welds, two elbow weld joints contained crack indications. Additional sampling consisted of four elbow welds with crack indications found at one weld joint, followed by examination of all remaining elbow welds. A total of nine of the 20 elbow weld joints contained crack indications.

TABLE
AUGMENTED INSERVICE INSPECTION

Dresden Unit 2
January, 1983

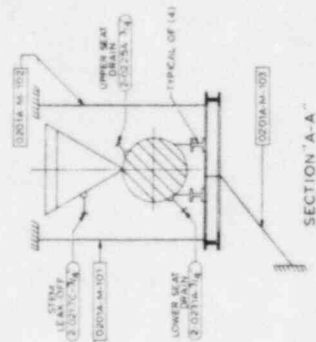
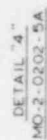
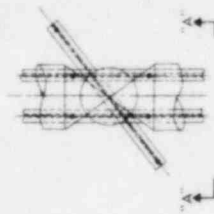
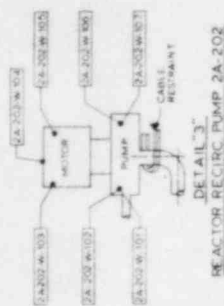
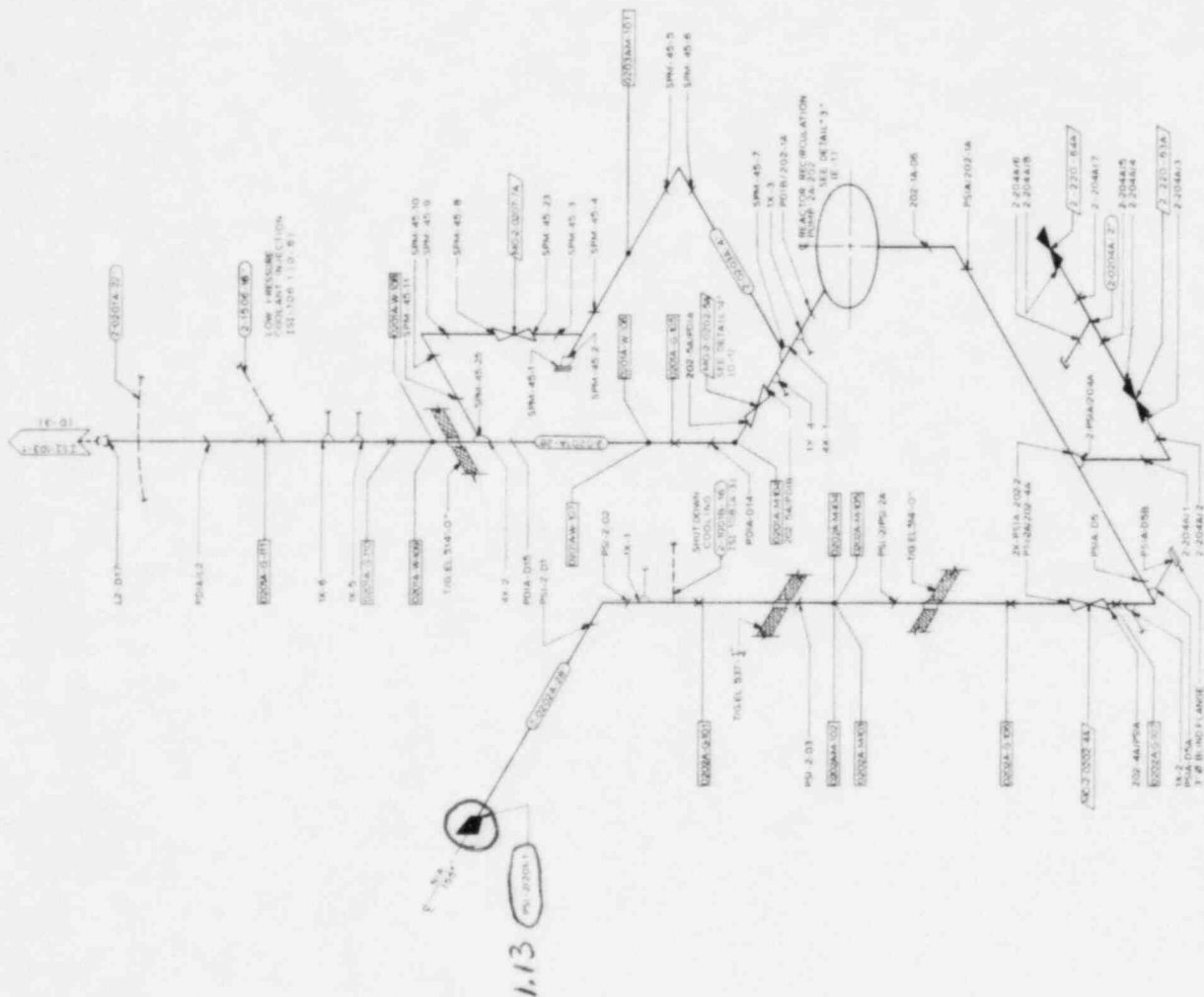
System/Category	Diameter	Butt Welds		Crack
		Examined	Total	Indications
Furnace Sensitized SE	28"	2	2	1 (FSSE)
	12"	10	10	None
Recirc Outlet	28"	6 ¹	33	None
Recirc Ring Header	22"	4	10	None
	Sweepolet	2 ²	8	None
LPCI	16"	2	6 ³	None
Shutdown Cooling	16"	2	6 ³	None
Recirc Inlet	12"	14 ⁴	40 ⁴	2
1st Additional Sample	12"	4	26	1
2nd Additional Sample	12"	17	22	6

- 1 Includes two piping to safe end welds
- 2 Adjacent to end caps
- 3 Up to isolation valve
- 4 Includes ten piping to safe end welds

AUGMENTED INSERVICE INSPECTION (cont'd)

The original riser sample included two weld connections to the ring header (one cross and one sweepolet). Although no indications were found, the sample was increased to a total of 3 riser-to-sweepolet and 2 riser-to-cross weld joints. No crack indications were found at the ring header connections.

The weld numbers for all inspected welds are circled on the isometric drawings and their respective SRI numbers are noted. The weld mark on the individual piping lines is circled for weld joints having crack indications.



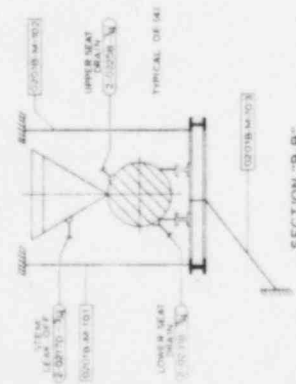
NOTE
1. 2-0203A-4" WAS REPLACED IN 1975
FROM 50M-45.3 TARDU 50M-45.25

FOR LEGEND & SYMBOL, SEE 151-100

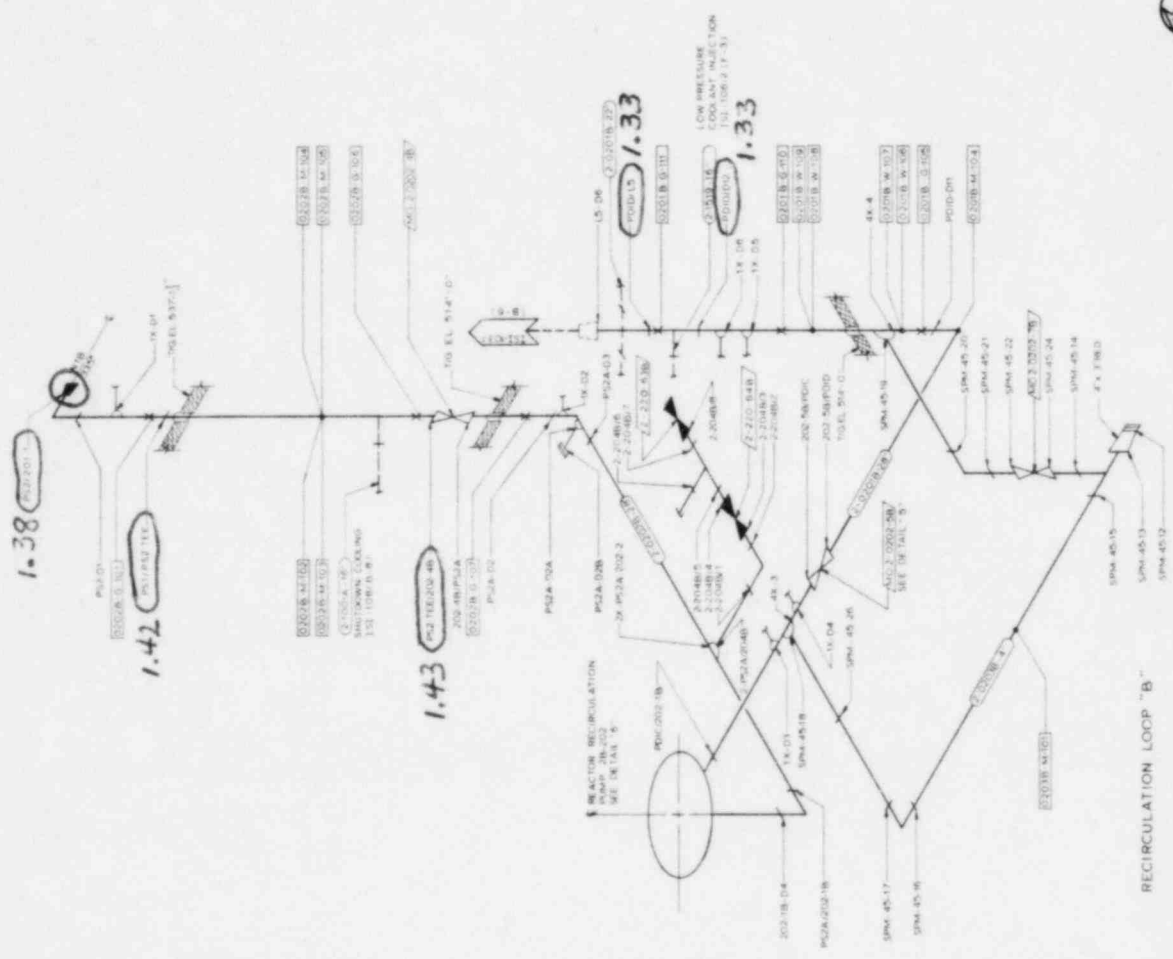
INSERVICE INSPECTION CLASS 1
NUCLEAR BOILER & REACTOR
RECIRCULATING PIPING
DRESDEN NUCLEAR POWER
STATION UNIT 2
COMMONWEALTH EDISON CO
CHICAGO, ILLINOIS

[illegible]

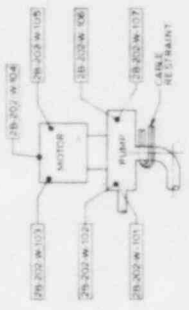
DETAIL "5"
MO-2-0202-5B



SECTION "B-B"



RECIRCULATION LOOP "B"

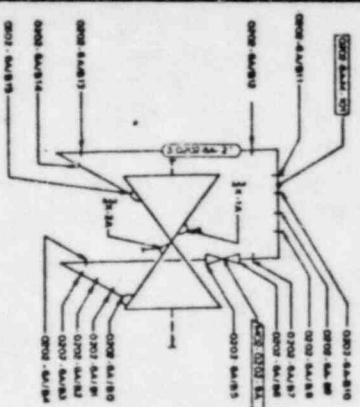


DETAIL - 6 -
REACTOR RECIRC PUMP 2B-202

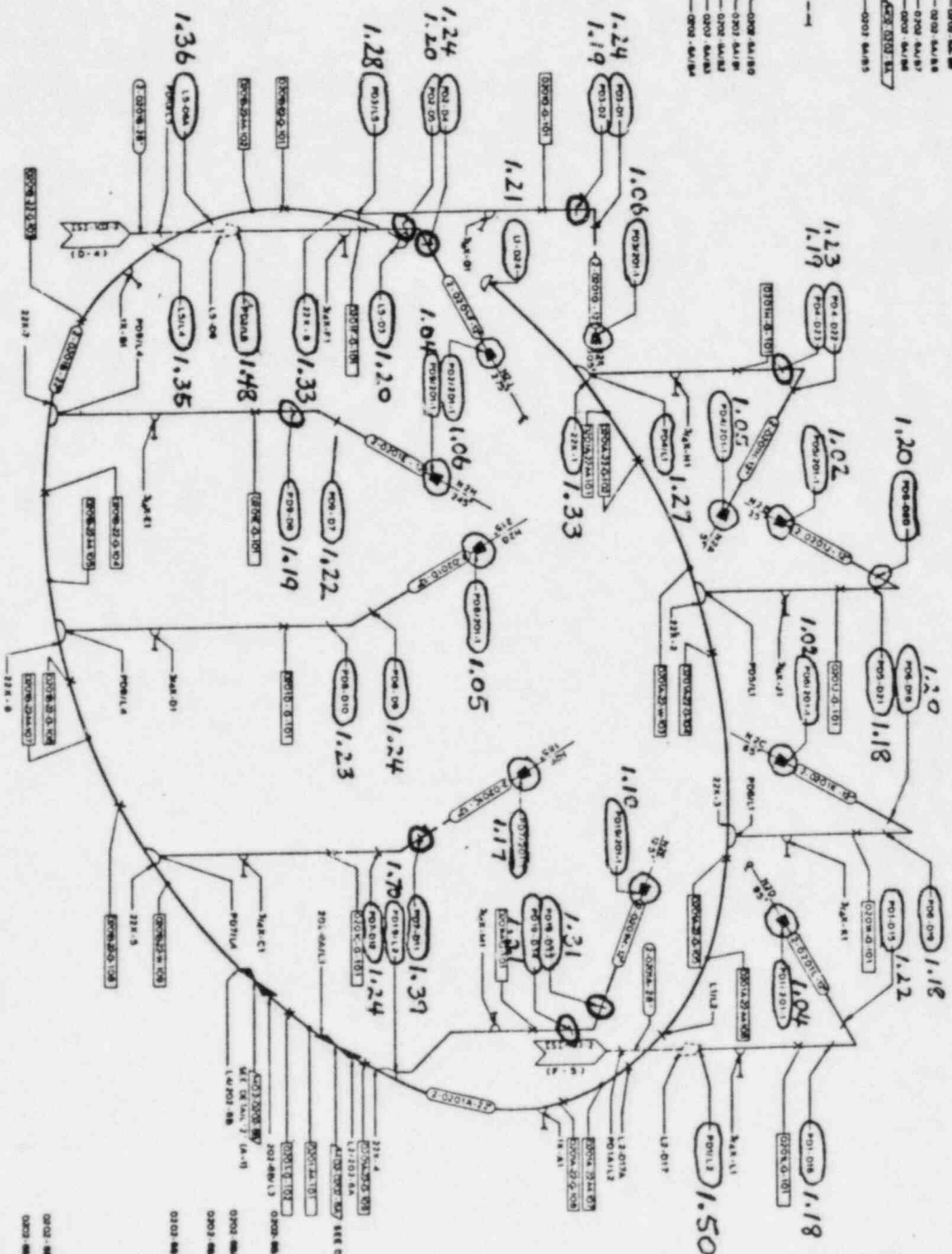
NOTE
1. 2 D203B 4" WAS REPLACED IN
1975 F BOM WELD NO. 5PM4 45 10
THRU 5PM4 45 19

FOR LITIGANT & SPOURER, SEE 151, 106

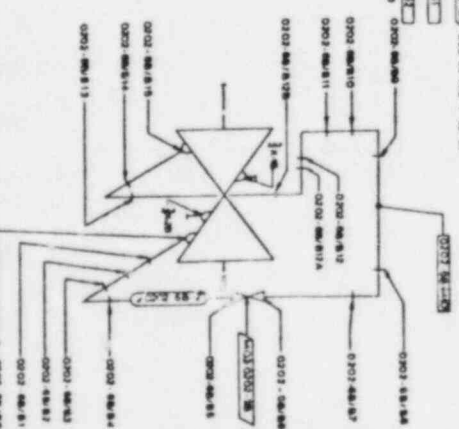
INSERVICE INSPECTION CLASS I
NUCLEAR BOILER & REACTOR
RECIRCULATING PIPING
DRESDEN NUCLEAR POWER
STATION UNIT 2
COMMONWEALTH EDISON CO
CHICAGO, ILLINOIS



DETAIL -1-
MO 2-0202-2-6A



DETAIL - 2 -



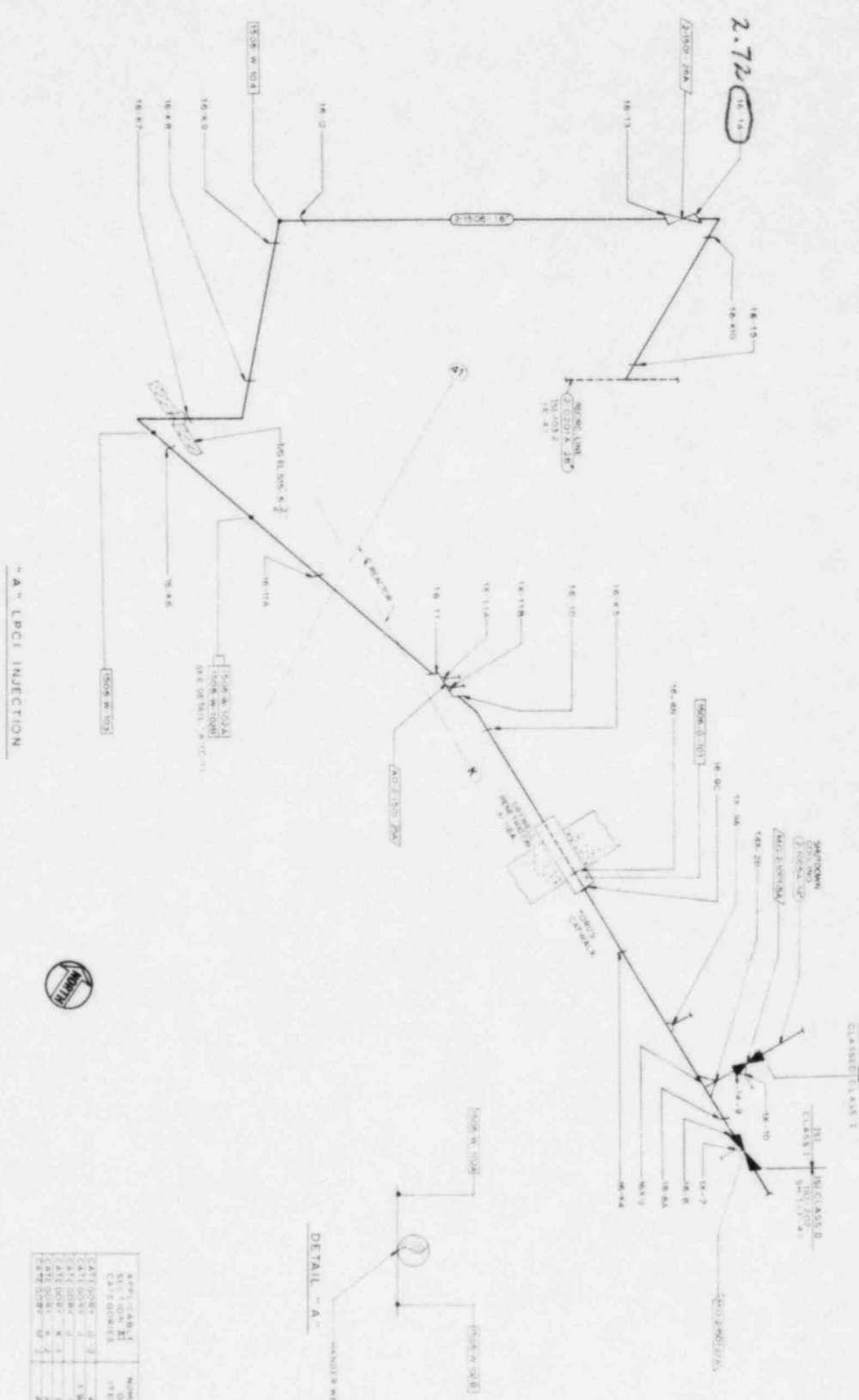
new 501 line. The
Bacon

SPECIAL ORDER	
CITY	
STATE	
ZIP CODE	
NAME	1
ADDRESS	2
CITY	3
STATE	4
ZIP CODE	5
NAME	6
ADDRESS	7
CITY	8
STATE	9
ZIP CODE	10

THE RING MEMBER IS APPROXIMATELY 1 FOOT BELOW THE GROUTING AT THE 50'-6" ELEVATION. THE RISERS DO NOT HAVE GROUTING TO ATTACH TO THE VESSEL AT THE 540-8' ELEVATION.

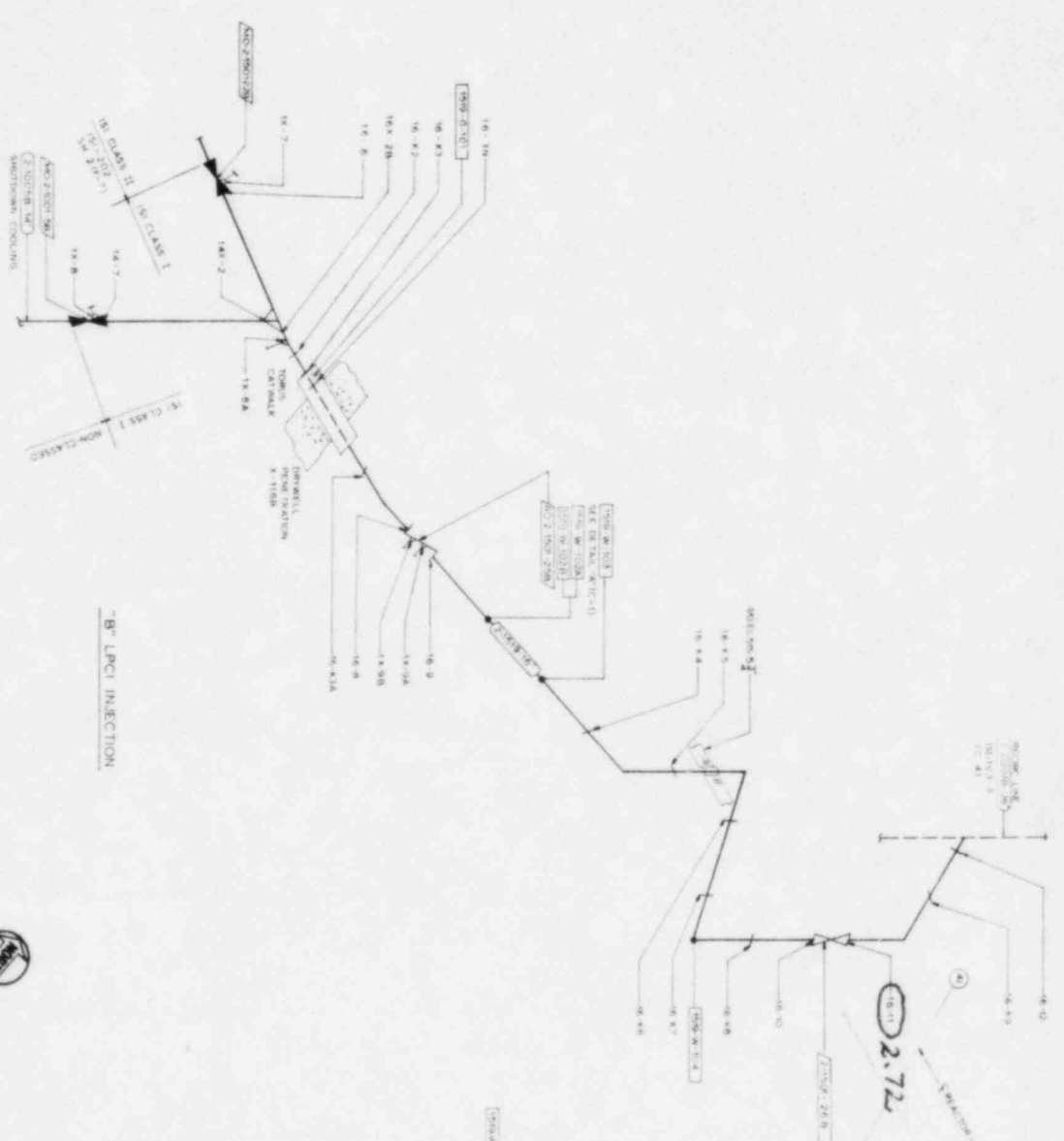
INSERVICE INSPECTION CLASS I
NUCLEAR COLLIER & NEAL CORP
REGULATING PIPING
DRESDEN NUCLEAR POWER
STATION UNIT 2
COMMONWEALTH EDISON CO
CHICAGO ILLINOIS

MARKET & LUNDT

[illegible]

WALFORD WELD

DETAIL "A"



"B" LPCI INJECTION



APPLICABLE	SECTION	REVISION
CLASS I	SECTION 1	17-00
CLASS II	SECTION 2	17-00
CLASS III	SECTION 3	17-00
CLASS IV	SECTION 4	17-00
CLASS V	SECTION 5	17-00
CLASS VI	SECTION 6	17-00
CLASS VII	SECTION 7	17-00
CLASS VIII	SECTION 8	17-00
CLASS IX	SECTION 9	17-00
CLASS X	SECTION 10	17-00
CLASS XI	SECTION 11	17-00
CLASS XII	SECTION 12	17-00
CLASS XIII	SECTION 13	17-00
CLASS XIV	SECTION 14	17-00
CLASS XV	SECTION 15	17-00
CLASS XVI	SECTION 16	17-00
CLASS XVII	SECTION 17	17-00
CLASS XVIII	SECTION 18	17-00
CLASS XIX	SECTION 19	17-00
CLASS XX	SECTION 20	17-00
CLASS XXI	SECTION 21	17-00
CLASS XXII	SECTION 22	17-00
CLASS XXIII	SECTION 23	17-00
CLASS XXIV	SECTION 24	17-00
CLASS XXV	SECTION 25	17-00
CLASS XXVI	SECTION 26	17-00
CLASS XXVII	SECTION 27	17-00
CLASS XXVIII	SECTION 28	17-00
CLASS XXIX	SECTION 29	17-00
CLASS XXX	SECTION 30	17-00

DETAIL A

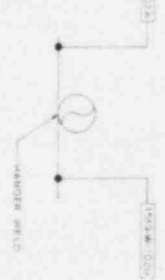


FIG. 150000 A. Schematic, SEE 151-100

INSPECTION CLASS I
LOW PRESSURE COOLANT
INJECTION PIPING
DRESCHEM NUCLEAR POWER
STATION
COMMONWEALTH EDISON CO
CHICAGO, ILLINOIS

SARGENT & Lundy
151-106
A

ATTACHMENT 2

Dresden Unit 2
Response to I.E. Bulletin 82-03 Rev. 1

Item 2: Results of Recirculation System Inspections

A total of 54 circumferential welds on recirculation piping and branch piping connections were ultrasonically inspected during this 1983 Refueling Outage.

The results of these UT inspections are tabulated in Table R-1.

Item 3: Corrective Actions

The following welds require corrective action as a result of cracks discovered during the ultrasonic examination:

28" Recirc. Weld

Safeend-elbow weld #PS2/201-1.

12" Recirc. Welds

Elbow pipe Weld #

PD2-D4	PD7-D11
PD2-D5	PD9-D8
PD3-D2	PD19-D13
PD4-D23	PD19-D14
PD5-D20	

See letters and attachments dated March 1, 1983 and March 14, 1983 from J. J. McDonald, SNED, to D. Farrar for the repair program and corrective action for the above welds.

When cracks were found during the examination, additional inspections were conducted in accordance with IWB 2430 of ASME Code Section XI.

Table R-1

DRESDEN NUCLEAR POWER STATION
UNIT NO. 2, STATE NUMBER 82900
JANUARY, 1983 INSERVICE INSPECTION

ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS				
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION	
B-J	<u>Recirc. 28"</u>	UT	Tee-Cross Weld #PD1D/L5	1	4	80	I.D. Geom.	
			2	5	100	I.D. Geom.		
			3	5	63	I.D. Geom.		
			4	2	320	I.D. Geom.		
			5	3	125	I.D. Geom.		
			Pipe-Tee Weld #PD1D/D12				NRI	
			Pipe-Valve Weld , #PS2-Tee/202-4B	1	3	50	I.D. Geom.	
			Pipe-Pipe Weld #PS1/PS2 Tee	1	2	75	I.D. Geom.	
			<u>Recirc. 22"</u>	Sweepolet Weld #22X-8				NRI
				CAP-Pipe Weld #L5-D3	1	4	60	Spot Ind.
	2			3	100	I.D. Geom.		
	3			3	100	I.D. Geom.		
	Pipe-Cross Weld #L5-D6A						NRI	
	Cross-Pipe Weld #L5/L4						NRI	
	Sweepolet Weld #22X-1						NRI	
	Pipe-Cap Weld #L1/D24			1	2	120	I.D. Geom.	
	2			2	50	O.D. Geom.		

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ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS			
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION
B-J	<u>Recirc. 12"</u>	UT	Pipe-Red Weld #PD2/L5				NRI
			Pipe-Sweepolet Weld #PD191/L2				NRI
			Elbow-Pipe Weld #PD19-D13	1	5	60	Axial Crack
				2	5	50	Axial Crack
			Pipe-Elbow Weld #PD19-D14	1	2	150	Circum. Crack
			Pipe-Elbow Weld #PD5-D20	1	3	60	I.D. Geom.
				2	4/5	50/75	Spot Ind.
				3	4/5	50	Spot Ind.
				4	3	90	Circum. Crack
				5	3	70	Circum. Crack
			Elbow-Pipe Weld #PD5-D21	1	3	60	O.D. Geom.
				2	3	200	I.D. Geom.
			Pipe-Elbow Weld #PD7-D11	1	2	100	O.D. Geom.
				2	3	50	Circum. Crack
				3	4/5	80/50	Axial Crack
				4	3	75	O.D. Geom.
			Elbow Pipe Weld #PD7-D12	1	2	50	O.D. Geom.
				2	3	100+4	I.D. Geom.
				3	3/4/5	90/40/40	I.D. Geom.
			Pipe-Elbow Weld #PD4-D22	1	3	60	I.D. Geom.
			Elbow-Pipe Weld #PD4-D23	1	2	100+1	Circum. Crack
				2	2	100+7	Circum. Crack
				3	2	75	O.D. Geom.
				4	3	50	O.D. Geom.
				5	3	80	I.D. Geom.
				6	4	100	Axial Crack

DRESDEN NUCLEAR POWER STATION
UNIT NO. 2, STATE NUMBER 82900
JANUARY, 1983 INSERVICE INSPECTION

ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS			
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION
B-J	Recirc. 12" (Cont'd)	UT	Elbow-Pipe Weld #PD4-D23 (Cont'd)	7	4	70	I.D. Geom.
				8	4	75	I.D. Geom.
				9	4	60	I.D. Geom.
				10	4	80	I.D. Geom.
				11	4	50	I.D. Geom.
				12	4	65	I.D. Geom.
				13	5	90	I.D. Geom.
				14	5	80	Axial Crack
				15	5	80	Axial Crack
				16	5	100	Axial Crack
				17	5	100	I.D. Geom.
			Pipe-Elbow Weld #PD6-D18	1	2	60	O.D. Geom.
				2	3	70	O.D. Geom.
				3	5	50	O.D. Geom.
			Elbow-Pipe Weld #PD6-D19	1	3	70	O.D. Geom.
			Pipe-Elbow Weld #PD1-D15	1	3	60	I.D. Geom.
				2	2	55	I.D. Geom.
			Elbow-Pipe Weld #PD1-D16				NRI
			Pipe-Elbow Weld #PD8-D9	1	2	50	I.D. Geom.
				2	3	50	O.D. Geom.
			Elbow-Pipe Weld #PD8-D10	1	2	75	O.D. Geom.
				2	3	100	I.D. Geom.
			Pipe-Elbow Weld #PD9-D7	1	3	50	I.D. Geom.
				2	2	60	I.D. Geom.

DRESDEN NUCLEAR POWER STATION
UNIT NO. 2, STATE NUMBER 82900
JANUARY, 1983 INSERVICE INSPECTION

ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS			
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION
B-J	Recirc. 12" (Cont'd)	UT	Elbow-Pipe Weld #PD9-D8	1	2	60	O.D. Geom.
				2	2	100+2	Circum. Crack
				3	3	75	I.D. Geom.
				4	3	80	O.D. Geom.
			Pipe-Elbow Weld #PD2-D4	1	2	75	O.D. Geom.
				2	2	50	I.D. Geom.
				3	3	100	O.D. Geom.
				4	4	50	Axial Crack
				5	4	75	Axial Crack
			Elbow-Pipe Weld #PD2-D5	1	5	62	I.D. Geom.
				2	4	50	I.D. Geom.
				3	3	50	Mode Conver.
				4	3	50	I.D. Geom.
				5	3	50	I.D. Geom.
				6	2	150	Circum. Crack
				7	2	100	Circum. Crack
			Pipe-Elbow Weld #PD3-D1	1	2	90	I.D. Geom.
				2	2	80	O.D. Geom.
				3	3	70	O.D. Geom.
				4	2	80	O.D. Geom.
				5	3	50	I.D. Geom.
			Elbow-Pipe Weld #PD3-D2	1	2	50	O.D. Geom.
				2	2	50	I.D. Geom.
				3	3	50	I.D. Geom.
				4	3	80	O.D. Geom.
				5	4	150	Axial Crack
				6	4	50	Axial Crack
				7	4	100	Axial Crack
				8	5	40	Axial Crack

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ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS			
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION .
B-J	<u>Recirc. 12" (Cont'd)</u>	UT	Pipe-Sweepolet Weld	1	2	100	I.D. Geom.
			#PD3-L5	2	2	90	I.D. Geom.
				3	2	90	O.D. Geom.
				4	3	100+1	I.D. Geom.
			Pipe-Reducer Weld #PD1-L2				NRI
			Pipe-Sweepolet Weld	1	2	55	O.D. Geom.
			#PD4-L1	2	2	100+4	Mode Conver.
				3	3	100+2	I.D. Geom.
	<u>Shutdown Cooling 16"</u>		Tee-Elbow Weld #16-8	1	2	100	I.D. Geom.
			Tee-Pipe Weld #16-11	1	2	150	Mode Conver.
	<u>Low Pressure Cooling Injection - 16"</u>						
	<u>Isolation Condenser - 12"</u>		Elbow-Valve Weld #16-14				NRI
			Elbow-Valve Weld #16-11	1	3	159	O.D. Geom.
Elbow-Valve Weld #12-10					NRI		
	Elbow-Pipe Weld #12-11				NRI		

DRESDEN NUCLEAR POWER STATION
UNIT NO. 2, STATE NUMBER 82900
JANUARY, 1983 INSERVICE INSPECTION

ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS			
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION
B-J	Furnace Sensitized Safe End Welds	UT					
			<u>Recirc. 28"</u>				
			SE-Pipe Weld #PS1-2/201-1				NRI
			SE-Elbow Weld #PS2-201-1	1	2	100	Circum. Crack
				2	2	75	I.D. Geom.
				3	3	50	I.D. Geom.
				4	2	50	Spot Ind.
				5	2	50	Spot Ind.
				6	2	40	Spot Ind.
				7	2	55	Spot Ind.
				8	2	40	Spot Ind.
				9	2	50	Spot Ind.
				10	2	35	Spot Ind.
				11	2	50	Spot Ind.
				12	2	50	Spot Ind.
				13	2	50	Spot Ind.
				14	2	60	Spot Ind.
			<u>Recirc. 12"</u>				
			SE-Pipe Weld #PD4/201-1	1	2	63	I.D. Geom.
				2	2	50	I.D. Geom.
			SE-Pipe Weld #PD5/201-1				NRI
			SE-Pipe Weld #PD6/201-1	1	2	62	I.D. Geom.
			SE-Pipe Weld #PD1/201-1				NRI
			SE-Pipe Weld #PD19/201-1	1	2	45	I.D. Geom.
				2	3	70	I.D. Geom.
			SE-Pipe Weld #PD7/201-1	1	2	65	I.D. Geom.

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ASME CATEGORY	COMPONENT	METHOD	EXTENT OF EXAMINATION	RESULTS			
				INDICATION NO.	SCAN TYPE	PERCENT DAC	EVALUATION
B-J	<u>Recirc. 12" (Cont'd)</u>	UT	SE-Pipe Weld #PD8/201-1	1	2	80	O.D. Geom.
			SE-Pipe Weld #PD9/201-1	1	2	75	I.D. Geom.
			SE-Pipe Weld #PD2/201-1	1	2	45	I.D. Geom.
				2	3	100	I.D. Geom.
			SE-Pipe Weld #PD3/201-1				NRI