

THE CINCINNATI GAS & ELECTRIC COMPANY



E. A. BORGMANN
SENIOR VICE PRESIDENT

Docket No. 50-358

July 7, 1981

Mr. Harold Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

RE: WM. H. ZIMMER NUCLEAR POWER STATION -
UNIT 1 - BWR COOLANT PRESSURE BOUNDARY
PIPING (GENERIC TASK A-42)

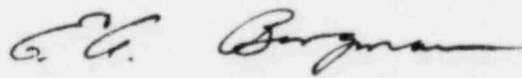


Dear Mr. Denton:

In response to NRC Generic Letter 81-03 dated February 26, 1981 from Darrell G. Eisenhu^g regarding implementation of NUREG-0313, Rev. 1, "Technical Report on Material Selection and Processing Guidelines for BWR Coolant Pressure Boundary Piping (Generic Task A-42)", there are attached responses to NRC's requests for information.

Very truly yours,

THE CINCINNATI GAS & ELECTRIC COMPANY

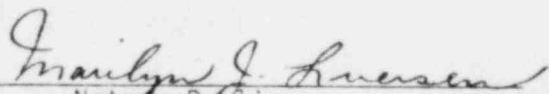
By 
E. A. BORGMANN

EAB:dew
Enclosure

cc: Without Enclosure
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State of Ohio)
County of Hamilton)ss

Sworn to and subscribed before me this
7th day of July, 1981.


Notary Public
MARILYN J. LUERSEN
Notary Public, State of Ohio
My Commission Expires June 7, 1986

8001
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Request: Review all ASME Code Class 1, 2, and 3 Pressure Boundary Piping, Safe Ends, and fitting material, including weld metal. Identify materials that do not meet these guidelines and provide a schedule for replacement or alternatively, prepare a submittal to the Staff to demonstrate that implementing the Staff's guidelines specified in Sect. III of NUREG 0313, Rev. 1 would result in undue hardship.

Response: CG&E has reviewed ASME Class 1, 2, and 3 Pressure Boundary Piping, Safe Ends, and fitting material. The results of this review are included in this Report.

To the extent practical, CG&E is replacing portions of instrument piping which are most susceptible to Intergranular Stress Corrosion Cracking (IGSCC). Any replacements beyond those listed in this submittal would result in an undue hardship on the scheduled plant fuel load.

- Ref: 1. CG&E response to NUREG 0313 in letter from Mr. Borgmann to Mr. Denton dated December 13, 1978.
2. ZPS-1 FSAR, Pages 5.2-19 through 27.
 3. Letter from NRC to BWR Owners dated Feb. 26, 1981, subject NUREG 0313, Rev. 1.

Request: If needed, propose appropriate changes to Technical Specifications to bring them into conformance with NUREG 0313, Rev. 1 and the Staff Model Technical Specification.

Response: The ZPS-1 Technical Specifications will be in compliance with the requirements of NUREG 0313, Rev. 1.

Ref: Letter from NRC to BWR Owners dated
Feb. 26, 1981. Subject NUREG 0313, Rev. 1

<u>RPV Component</u>	<u>Nozzle Matl.</u>	<u>Safe End Matl.</u>	<u>Thermal Sleeve Matl.</u>	<u>S.S. %C Range</u>	<u>Comments</u>
N-1 Recirc. Outlet	C.S.	304 S.S.	-	.023-.028	Qualifies as 304L
N-2 Recirc. Inlet	C.S.	304 S.S.	304 S.S.	.021-.025	Qualifies as 304L
N-4 Feedwater	C.S.	C.S.	304 S.S. (Inconel ext.)	.027 Max.	Qualifies as 304L
N-6 LPCI	C.S.	C.S.	304 S.S.	.06 Max.	
N-9 Jet Pump Instr.	C.S.	304 S.S.		.020 Max.	Qualifies as 304L
N-10 CRD Return	C.S.	C.S.	304 S.S.	.027 Max.	Qualifies as 304L
N-11 Core ΔP & Liquid Control	Inconel	304 S.S.	Inconel	.020 Max.	Qualifies as 304L
N-15 & N-16 Core Sprays	C.S.	C.S.	304 S.S. (Inconel ext.)	.020 Max.	Qualifies as 304L

NOTE: With the exception of the thermal sleeve-recirc.
inlet nozzle safe end welds, all attachment welds
associated with these components were made with
inconel filler metal (ASME SFA-5.11 and SFA-5.14)

<u>RPV Component</u>	<u>Material</u>	<u>% C</u>	<u>Comments</u>
CRD Housing:			
Flange	304 S.S.	.030-.071	
Outer Tube	304 S.S.	.030-.070	
Inner Cylinder	304 S.S.	.030-.070	
Jet Pump Penetration Seal	304 S.S.	.020	Qualifies as 304L
In Core Housing Assembly:			
Flange	304 S.S.	.05-.06	
Tube	304 S.S.	.06-.07	
Weld Metal	Chromenon 308	.051	
In Core Flanges	304 S.S.	.070	
Weld Metal	ER 308	.035-.042	

REACTOR RECIRCULATION (RR) PIPING
ALL PIPING INSIDE PRIMARY CONTAINMENT

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1RRA1AA3/4	M747-02	B	304 ss		Max. Oper Temp. 150°F
1RRA2AA3/4					
3AA3/4				.041-.052	
4AA3/4				.022-.045	
5AA3/4	M747-04				Replace w/316L to orifice
5AC3/4					
5BA3/4					Replace W/316L to orifice
5BC3/4					
5CA3/4					ECR-1100
6AA3/4	M747-05				Replace w/316L to orifice
6AC3/4					
6BA3/4					Replace w/316L to orifice
6BC3/4					
6CA3/4	M747-04				ECR-1100
7AA3/4	M747-06				Replace w/316L to orifice
7AC3/4					
7BA3/4					Replace w/316L to orifice
7BC3/4					
7CA3/4					ECR-1100
8AA3/4	M747-07				Replace w/316L to orifice
8AC3/4					
8BA3/4					Replace w/316L to orifice
8BC3/4					
8CA3/4	M747-06				ECR-1100
1RRB1AA3/4	M747-08				Replace w/316L to orifice
1BA3/4					" " "
1RRB2AA3/4	M747-09				Replace w/316L to orifice
2BA3/4					" " "
3AA3/4	M747-10				Replace W/316L to orifice
4AA3/4					" " "
1RR01AA20	M47-1	A	316 ss	.05-.07	Furn. by G.E.
AB20	M47-2				
2AA20	M47-1				
2AB20	M47-2				

REACTOR RECIRCULATION (RR) PIPING (Continued)
ALL PIPING INSIDE PRIMARY CONTAINMENT

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1RR02BA16	M47-1	A	304 ss	.05-.07	Furn. by G.E.
2BB16	↓				
2BC16	M47-2				
2BD16	↓				
2CA10	M47-1				
2CB10					
2CC10					
2CD10					
2CE10	↓				
2CF10	M47-2				
2CG10					
2CH10					
2CJ10					
2CK10	↓				
1RR03A3/4	M47-1	B	316 ss	.042-.045	
1RR05A3/4	↓	B	↓		
1RR08AA4	↓	A	304 ss	.055	Furn. by G.E.
1RR08AB4	M47-2	↓	304 ss		↓
13AA4	M47-1	A		.055	Furn. by G.E.
13AB4	M47-2	↓			↓
14AA3/4	M47-1	B		.052	Max. Oper. Temp. 150°F
14AB3/4	M47-2			.045	↓
20AA3/4	M47-1		316 ss	.026	Qualifies as 316L
20AB3/4	M47-2			.026	Qualifies as 316L
21AA3/4	M47-1			.045	Replace w/316L to first valve
21AB3/4	M47-2			.045	Replace w/316L to first valve
22AA3/4	M47-1			.045	Replace w/316L to first valve
22AB3/4	M47-2			.043	Replace w/316L to first valve
27AA3/4	M47-1			.026	Replace w/316L to first valve
27AB3/4	M47-2	↓	↓	↓	Replace w/316L to first valve

REACTOR RECIRCULATION (RR) PIPING (Continued)
ALL PIPING INSIDE PRIMARY CONTAINMENT

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1RR28AA3/4	M47-1	B	316 ss	.043	Replace w/316L to orifice
28AB3/4	M47-2		↓	.043	Replace w/316L to orifice
39AA3/4	M47-1		304 ss		Max. Oper. Temp. 150°F
45A3/4	M47-1		316 ss		
48A3/4			↓		
49AA1/2			304 ss		
49AB1/2	M47-2		↓		
50AA3/4	M47-1				ECR-362, Max. Oper. Temp. 150°F
50AB3/4	M47-2		↓		

REACTOR WATER CLEANUP (RT) PIPINGESSENTIAL PIPING

<u>Line No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
*1RTA3AB3/4	B	304 ss		
* A3BB3/4	B			
* B8AA3/4	B			Replace w/316L to orifice
*1RT01AA4	A			
* 01AB4				
08B4				Sch. 80
08C4				
* 91AA2			.040	
* 91AB2			.040	
1RT96A3/4	B	316 ss	.052	
97A3/4			.052	
* 99A1/2		304 ss	.050	
103A4	C	316 ss	--	

*Indicates those line(s) for which any or all of the line lies inside Primary Containment.

REACTOR WATER CLEANUP (RT) PIPING
NON-ESSENTIAL OUTSIDE PC

<u>Line No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1RTA1AA1/2	C	304 ss	.045	
A1BA1/2			.045	
A2AA1/2			--	Max. Oper. Temp. 150°F
A2BA1/2			--	↓
A4AA3/4			--	
A5AA3/4			--	Max. Oper. Temp. 150°F
A6AA3/4			--	↓
A8AA3/4			--	
A9AA3/4			--	
B1AA3/4			--	
B1BA3/4			--	
B2A1/2			--	
B2B1/2			--	
B4AA3/4			--	
B5AA3/4			--	
B6AA3/4			--	
B6BA3/4			--	
B7A3/4			--	
B7B1/2			--	↓
C1AA3/4			.050	
C2AA3/4				
C3AA3/4				Max. Oper. Temp. 150°F
C4AA3/4				↓
03B4		316 ss		
06B4		304 ss		Max. Oper. Temp. 150°F
07AA3				↓
07AB3				
08A4		316 ss		
17A3/4		304 ss		
19AA3				Max. Oper. Temp. 150°F
19AB3				↓
20A4				
33A4		316 ss		
35AA3/4		304 ss		Max. Oper. Temp. 150°F
35AB3/4				↓

RESIDUAL HEAT REMOVAL (RH) PIPING

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1RHA1AA3/4	M-751-01	B	304 ss		
A2AA3/4	↓				
A3AA1/2					
A3BA1/2					
A4AA3/4					
A4BA3/4	↓				
* A5AA3/4	M-751-02			.041-.045	Replace w/316L to orifice
* A6AA3/4	↓			.041-.048	↓
* A7AA3/4	↓			.041-.052	
B1AA3/4	M-751-03				
B2AA3/4	↓				
B3AA1/2					
B3BA1/2					
B4AA3/4					
B4BA3/4					
B5AA1/2					
B5BA1/2	↓				
C1AA3/4	M-751-04				
C2AA3/4	↓				
C3AA1/2					
C3BA1/2					
C4AA3/4					
C4BA3/4					
C5AA3/4	↓				
D1AA3/4	M-751-05				
D2AA3/4	↓				
* E1AA3/4	M-751-10			.041-.045	
* E1BA3/4	↓			.	
* E2AA3/4	↓			.041	
* E2BA3/4	↓			.022-.045	
F1A1	M-751-06			.023-.045	
F1B1	↓			.050-.058	
F1C3/4				.052	
F2AA3/4	↓				

*Indicates those system(s) for which any or all of the system lies inside Primary Containment.

RESIDUAL HEAT REMOVAL (RH) PIPING (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1RHF3A1	M-751-07	B	304 ss	.050-.058	
F3B1	↓			.045-.057	
F3C3/4	↓			.052	
G1AA3/4	M-051-01				
G2AA3/4	M-051-02				
G3AA3/4	M-051-03				
G4AA3/4	M-751-09				
G5AA3/4	↓				
G6A3/4	M-751-06				
G6B3/4	↓			.045-.050	
G7A3/4	M-751-07			.041-.052	
G7B3/4	↓				
G8AA3/4	M-751-11				
G8B1/2	↓				
G9AA3/4	↓				
G9B1/2	↓	↓			
* 01A18	M-051-03	A	↓	.062	
* 94A3/4	↓	B	↓	.026	Qualifies as 304L

* Indicates those system(s) for which any or all of the system lies inside Primary Containment.

REACTOR CORE ISOLATION COOLING (RI) PIPING

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
*1RIA1AA3/4	M-752-07	B	304 ss		Replace w/316L to orifice
* A1BA3/4	↓	↓	↓		↓
* A2AA3/4					
* A2BA3/4					
* B1AA3/4	M-752-06				
* B1BA3/4	↓				
* B2AA3/4					
* B2BA3/4	↓				
C1AA3/4	M-752-05				
D1AA3/4	M-752-04				
D2AA3/4	↓				
D2BA3/4					
D3AA3/4					
D3BA3/4					
D4AA3/4					
D4BA3/4	↓				
E1AA3/4	M-752-01				Max. Oper. Temp. 170°F
E2AA3/4	↓				↓
F1AA3/4	M-752-02				
F2AA1/2	↓				
F2BA1/2	↓				
70A6	M-023	A	316 ss		↓

*Indicates those system(s) for which any or all of the system lies inside Primary Containment.

NUCLEAR BOILER (NB) PIPING

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
* 1NBA1AA1	M-83-1	A	316L ss		
* 1AB3/4	↓	B	304 ss		Replace w/316L to orifice
* 1BA1		A	316L ss		
* 1BB3/4		B	304 ss		Replace w/316L to orifice
* 2AA3/4		↓	↓		↓
* 2BA3/4		↓	↓		
* 3AA1		A	316L ss		
* 3AB3/4		B	304 ss		
* 3AD3/4		↓	↓		
* 3AF3/4		↓	↓		
* 3BA1		A	316L ss		
* 3BB3/4		B	304 ss		
* 3BD3/4					
* 3BF3/4					
* 3BH3/4					
* 4AA3/4					Replace w/316L to orifice
* 4BA3/4					↓
* 5AA3/4					
* 5BA3/4		↓			↓
* 6AA1		A			
* 6AB3/4	↓	B			
* 7AA3/4	M-83-2				
* 7BA3/4	↓				
* 8AA3/4					
* 8BA3/4					
* 9AA3/4					
* 9BA3/4					
* 1NBB1AA3/4					
* 1BA3/4					
* 2AA3/4					
* 2BA3/4					
* 3AA3/4					
* 3BA3/4					
* 4AA3/4	↓	↓	↓		

NUCLEAR BOILER (NB) PIPING (Continued)

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
* 1NBB4BA3/4	M-83-2	B	304 ss		
* 5AA3/4					
* 5BA3/4					
* 6AA3/4					
* 6BA3/4					
* 7AA3/4					
* 7BA3/4					
* 8AA3/4					
* 8BA3/4					
* 9AA3/4					
* 9BA3/4					
* 1NBC1AA3/4					Replace w/316L to orifice
* AB3/4					
* AD3/4					
* 1NBC2AA3/4					Replace w/316L to orifice
2AE3/4					
* AH3/4					

* Indicates those system(s) for which any or all of the system lies inside Primary Containment.

HIGH PRESSURE CORE SPRAY (HP) PIPING

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1HPA1AA3/4	M-749-01	B	304 ss		
A2AA3/4	↓	↓	↓		
A3AA1/2	↓	↓	↓		
A3BA1/2	↓	↓	↓		
A4AA3/4	M-749-02	↓	↓		
* A5AA3/4	M-749-01	↓	↓	.045	Replace w/316L to orifice
A7AA3/4	M-049	↓	↓		
A7AB3/4	↓	↓	↓		

* Indicates those system(s) for which any or all of the system lies inside Primary Containment.

LOW PRESSURE CORE SPRAY (LP) PIPING

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Matl.</u>	<u>%C</u>	<u>Comments</u>
1LPA1AA3/4	M-700-01	B	304 ss		
A2AA3/4	↓				
A3AA1/2	M-750-02				
A3BA1/2	↓				
A4AA3/4					
A4BA3/4	↓				
A6AA3/4	M-050				
* A7AA3/4	M-751-02	✓	✓	.026-.054	Replace w/316L to orifice

* Indicates those system(s) for which any or all of the system lies inside Primary Containment.

MAIN STEAM (MS)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1MSA5AA3/4	M-721-30	B	304 ss	
* A5AC3/4	↓			
* A5BA3/4				
* A5BC3/4	↓			
* A6AA3/4	M-721-31			
* A6AC3/4	↓			
* A6BA3/4				
* A6BC3/4	↓			
* A7AA3/4	M-721-32			
* A7AC3/4	↓			
* A7BA3/4				
* A7BC3/4	↓			
* A8AA3/4	M-721-33			
* A8AC3/4	↓			
* A8BA3/4				
* A8BC3/4	↓	↓		
B8AA3/4	M-721-36	D		
B8BA3/4	↓			
B8CA3/4				
B8DA3/4	↓	↓		
* A1AA3/4	M-721-26	B		
* A1AC3/4	↓			
* A1BA3/4				
* A1BC3/4	↓			
A2AA3/4	M-721-27			
A2AC3/4	↓			
A2BA3/4				
A2BC3/4	↓			
* A3AA3/4	M-721-28			
* A3AC3/4	↓			
* A3BA3/4				
* A3BC3/4	↓			

MAIN STEAM (MS) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1MSA4AA3/4	M-721-29	B	304 ss	
* A4AC3/4	↓	↓	↓	
* A4BA3/4				
* A4BC3/4	↓	↓	↓	

* Indicates those system(s) for which any or all of the system lies inside Primary Containment.

STANDBY LIQUID CONTROL (SC) PIPING

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Material</u>	<u>%C</u>	<u>Comments</u>
*1SC02D1½	M-57	A	316 ss	.024	Less than .035%C, no need to
1SC22A3/4		B		.026	replace

* Indicates those line(s) for which any or all of the line lies inside Primary Containment.

STANDBY LIQUID CONTROL (SC) PIPING

<u>Line No.</u>	<u>Drawing No.</u>	<u>Class</u>	<u>Material</u>	<u>%C</u>	<u>Comments</u>
1SCA2AA3/4	M-757-3	B	304 ss		Max. Oper. Temp. 150°F
1SC02AA1½	M-57				
AB1½		↓	↓		↓
BA1½		A			
BB1½		↓	↓		↓
C1½					
* D1½		↓	316 ss	.024	Less than .035%C, no need to replace
1SC10B1			304 ss		Max. Oper. Temp. 150°F
13AA1		B			
13AB1					
14A1½					
15A1½					
16AA1					
16AB1					
18A3/4					Max. Oper. Temp. 560°F
19A3/4					Max. Oper. Temp. 150°F
21A3/4					
* 22A3/4				.026	Less than .035%C, no need to replace
01A4					Max. Oper. Temp. 150°F
01BA3					
01BB3					
05AA1					
05AB1					
06B3					
07B3/4					
08A3					
11B3					
13BA1					
13BB1					
23A2					

*Indicates those line(s) for which any or all of the line lies inside Primary Containment.

CONTAINMENT MONITORING (CM)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>%C</u>	<u>Comments</u>
* 1CMA1AA3/4	M-081-02	B	304 ss		
* A2AA3/4					
* A3AA3/4					
* A4AA3/4					
* A5AA3/4					
* A6AA3/4					
* A7AA3/4					
* A8AA3/4					
* A9AA3/4					
* B1AA3/4					
01BA1/2	M-081-01				
01BB1/2					
01BC1/2					
01BE1/2					
01BF1/2					
01BG1/2					
01BH1/2					
01BL1/2					
01BM1/2					
01BN1/2					
01BP1/2					
01BQ1/2					
01BT1/2					
01BV1/2					
01BW1/2					
01BX1/2					
01BY1/2					
* 02A3/4					
02B1/2					
03A1/2					
04B3/4					
* 05A3/4					
05B1/2					

* Indicates those system(s) for which any or all of the system lies inside Primary Containment

CONTAINMENT MONITORING (CM) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>%C</u>	<u>Comments</u>
1CM06A1/2	M-081-01	B	304 ss		
* 09A1/2					
09B1/2					
10A3/4					
* 10B3/4					
11A1/2					
11B1/2					
14A3/4					
* 14B3/4					
15A1/2					
15B1/2					
15C1/2					
15E1/2					
15F1/2					
15G1/2					
15H1/2					
15L1/2					
15M1/2					
15N1/2					
15P1/2					
15Q1/2					
15T1/2					
15V1/2					
15W1/2					
15X1/2					
15Y1/2					
16A1/2					
17A1/2					
17B1/2					
18A1/2					
18B1/2					
19A1/2					
20A1/2					
20B1/2					

* Indicates those system(s) for which any or all of the system lies inside Primary Containment.

CONTAINMENT MONITORING (CM) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>%C</u>	<u>Comments</u>
1CM21A1/2	M-081-01	B	304 ss		
21B1/2					
22A1/2					
22B1/2					
24A1/2					
24B1/2					
26A1/2					
* 36A3/4					
* 36B3/4					
* 36C3/4					
* 37A2					
* 38A2					
* 39A3/4					
* 39B3/4					
* 39C3/4					
1CY01AA16	M-027-03				
01AB16					
01B16					
02C6					
28A3/4	M-049				
1FC12A8	M-053-01	C			
12B6					
13A8					
14BB8					
14CA8					
14CB8					
15A12					
1IA86AB3/4	M-071-08				
86AC3/4					
86AD3/4					
115BA1/2	M-071-05				
115BB1/2					

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CONTAINMENT MONITORING (CM) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>%C</u>	<u>Comments</u>
1IA115CA1/2	M-071-05	C	304 ss		
115CB1/2	↓	↓	↓		
* 1INB2AA3/4	M-740-03				
* 3AA3/4	↓	↓	↓		
* 4AA3/4	↓	↓	↓		

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DRYWELL PNEUMATIC (IN)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1INB5AA3/4	M-740-04	C	304 ss	
* B6AA3/4	↓			
* B7AA3/4				
B8AA3/4	M-721-42			
B9AA3/4	M-721-43			
C1AA3/4	M-721-44			
C2AA3/4	M-721-45			
C3AA3/4	M-740-06			
C4AA3/4	M-740-06			
* 01A3	M-040-02			
* 09B3	M-040-01			
* 18AA1/2	M-040-02			
* 18AB1/2				
* 18AC1/2				
* 18AD1/2				
* 18AE1/2				
* 18AF1/2				
* 18AG1/2				
* 18AH1/2				
* 18AK1/2				
* 18AL1/2				
* 18AP1/2				
* 18AR1/2				
* 18AS1/2				
* 19AA2				
* 19AB2				
* 19AC2				
* 19AD2				
* 19AE2				
* 19AF2				
* 19AG2				
* 19AH2				

DRYWELL PNEUMATIC (IN) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1IN19AK2	M-040-02	C	304 ss	
* 19AL2				
* 19AP2				
* 19AR2				
* 19AS2				
* 20AA3/4				
* 20AB3/4				
* 20AC3/4				
* 20AD3/4				
* 21AA2				
* 21AB2				
* 21AC2				
* 21AD2				
22AA1/2				
22AB1/2				
22AC1/2				
22AD1/2				
22B1				
22C1				
* 22D1				
* 22EB1/2				
* 22EF1/2				
* 22EK1/2				
22F1				
* 23AB2				
* 23A :2				
* 23AK2				
* 23BB11/4				
* 23BF11/4				
* 23BK11/4				
24AA1/2				
24AB1/2				

DRYWELL PNEUMATIC (IN) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
11N24AC1/2	M-040-02	C	304 ss	
24AD1/2				
24B1				
24C1				
* 24D1				
* 24EC1/2				
* 24EG1/2				
* 24EL1/2				
24F1				
* 25AC2				
* 25AG2				
* 25AL2				
* 25BC11/4				
* 25BG11/4				
* 25BL11/4				
49AA1				
49ABD				
50AA1				
50AB1				
* 61AA3/4				
* 61AB3/4				
* 61AC3/4				
* 61AD3/4				
* 61AE3/4				
* 61AF3/4				
* 61AG3/4				
* 61AH3/4				
* 61AK3/4				
* 61AL3/4				
* 61AP3/4				
* 61AR3/4				
* 61AS3/4				
* 62AA3/4				

DRYWELL PNEUMATIC (IN)(Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1IN62AB3/4	M-040-02	C	304 ss	
* 62AC3/4				
* 62AD3/4				
* 63AB3/4				
* 63AC3/4				
* 63AF3/4				
* 63AG3/4				
* 63AK3/4				
* 63AL3/4				
* 64AB3/4				
* 64AC3/4				
* 64AF3/4				
* 64AG3/4				
* 64AK3/4				
* 64AL3/4				
69A11/2	M-040-01			
79A1/2	M-040-02			
80A1/2				
* 84AA3/4				
* 84AB3/4				
* 84AC3/4				
* 84AD3/4				
* 85AA1/2				
* 85AB1/2				
* 85AC1/2				
* 85AD1/2				
* 86AA1/2				
* 86AB1/2				
* 86AC1/2				
* 86AD1/2				
* 86AE1/2				
* 86AF1/2				
* 86AG1/2				

DRYWELL PNEUMATIC (IN) (Cont'd.)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1IN86AH1/2	M-040-02	C	304 ss	
* 86AK1/2	↓	↓	↓	
* 86AL1/2				
* 86AP1/2				
* 86AR1/2				
* 86AS1/2	↓	↓		
92A3/4	M-040-01	B		
96A3/4	↓			
111A1/2	M-040-02			
112A1/2	↓			
114C1/2	M-040-03			
120A1/2	↓		↓	

*Indicates those system(s) for which any or all of the system lies inside Primary Containment.

MSIV LEAKAGE CONTROL SYSTEM (LC)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
1LCA1AA3/4	M-773-01	B	304 ss	
A2AA3/4	M-773-02			
A3AA3/4	M-773-03			
A4AA3/4	M-773-04			
A5AA3/4	M-773-06			
A5BA3/4	↓			
A6AA3/4				
A6BA3/4	↓	✓		
A7AA3/4	M-773-09	D		
02AA2	M-073-01	B		
02AB2	M-073-02			
02AC2	↓	↓	↓	
02AD2		↓	↓	

PRIMARY CONTAINMENT & REACTOR VESSEL ISOLATION (PC)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1PC01AA1/2	M-048	B	304 ss	
* 01AB11/2	↓	↓	↓	
* 01BA1/2	↓	↓	↓	
* 01BB11/2	↓	↓	↓	
* 01CA1/2	↓	↓	↓	
* 01CB11/2	↓	↓	↓	
* 01DA1/2	↓	↓	↓	
* 01DB11/2	↓	↓	↓	
* 02AA20	↓	↓	↓	
* 02AB20	↓	↓	↓	
* 02AC20	↓	↓	↓	
* 02AD20	↓	↓	↓	
* 02BA25	↓	↓	↓	
* 02BB25	↓	↓	↓	
* 02BC25	↓	↓	↓	
* 02BD25	↓	↓	↓	

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REACTOR BUILDING &
CONTAINMENT EQUIPMENT DRAINS TO RADWASTE (RE)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
* 1RE40B21/2	M-062-01	B	304 ss	
40C3/4	↓	↓	↓	
127A3/4				

*Indicates those system(s) for which any or all of the system lies inside Primary Containment.

TRANSVERSING IN-OUT CORE PROBES (TP)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
IPA1AA3/4	M-040-03	B	304 ss	

REACTOR BUILDING CLOSED COOLING WATER (WR)

<u>Line No.</u>	<u>P&I Diagram</u>	<u>Class</u>	<u>Material</u>	<u>Comments</u>
1WR132A	M-058-01	C	304 ss	