DRAWING NUMBER 1998-G-213 Sh 4 of 4

DRAWING NUMBER

DRAWING NUMBER

LIST OF PIPE SLEEVES THROUGH SHIELD WALL

PENETRATION No.	SLEEVE DETAIL	LINE DESCRIPTION SYSTEM	LINE No.	NOM. DIA. (IN.)	STEEL CONTAINMENT PENETRATION TYPE
1	DET. B	MAIN STEAM (SG-2A)	I-34-MS-28	54	I
2	DET. A	MAIN STEAM (SG-2B)	I-34-MS-29	54	I
3	DET. A	FEEDWATER (SG-2A)	I-20-BF-14	70	I
4	DET. A	FEEDWATER (SG-2B)	I-20-BF-19	70	I
5	DET. B	BLOWDOWN (SG-2B)	I-2-B-2	20	II
6		BLOWDOWN (SG-2A)	I-2-B-1	20	II
7		PRIM. MAKE-UP WATER	I-2-PMW-7	12	II
8		STATION AIR SUPPLY	I-2-SA-12		II
9		INSTRUMENT AIR SUPPLY	I-2-IA-14		II
10	DET. J	H&V CONTAINMENT PURGE	—	58	II
14	DET. B	NITROGEN SUPPLY	I-1-WN-841	10	II
15		CCW RETURN FAN COOLER 2C	I-8-CC-43	18	II
16		SUPPLY 2C	I-8-CC-39		II
17		RETURN 2D	I-8-CC-44		II
18		SUPPLY 2D	I-8-CC-40		II
19		RETURN 2A	I-8-CC-41		II
20		SUPPLY 2A	I-8-CC-37		II
21		RETURN 2B	I-8-CC-42		II
22		SUPPLY 2B	I-8-CC-38		II
23		WATER SUPPLY REACTOR COOLANT PUMPS	I-8-CC-138		II
24		WATER RETURN REACTOR COOLANT PUMPS	I-8-CC-168		II
25	DET. C&E&B	FUEL TRANSFER TUBE	—	DET.	X
26	DET. B	LETDOWN LINE	I-2-CH-103	22	II
27		CHARGING LINE	I-2-CH-331	20	II
28		SAMPLING - HOT LEG	I-½-SS-[illegible]	16	II
29	-	- PRESSURIZER STEAM SPACE	I-¾-SS-[illegible]		II
30	-	BLOWDOWN (SG-2A)	I-½-B-9		II
31		CONTAINMENT VENT HDR.	I-1-WN-855	10	II
32	NOT REQ'D	CONTAINMENT SUMP SUCT.	I-24-CS-4	34	IV
33		CONTAINMENT SUMP SUCT.	I-24-CS-5	34	IV
11	DET. J	H&V CONTAINMENT PURGE	—	58	II
12B	DET. B	SPARE		8	—
34B	DET. B	CONTAINMENT SPRAY	I-12-CS-18	22	II
35B	DET. B	CONTAINMENT SPRAY	I-12-CS-19	22	II
36		SAFETY INJECTION - LOOP 2A2	I-6-SI-113	26	II
37		2A1	I-6-SI-112		II
38		2B1	I-6-SI-111		II
39		2B2	I-6-SI-110		II
40		SHUTDOWN COOLING	I-10-SI-422	32	III
41		SAFETY INJECTION - ANS TEST	I-2-SI-479	18	II
42		CONTAINMENT SUMP PUMP DISCH.	I-3-CS-63	14	II
43	NOT REQ'D	REACTOR DRAIN PUMP SUCT.	I-3-WN-510	8	X
44	DET. B	REACTOR COOLANT PUMPS CONTROLLED BLEED OFF	I-¾-CH-129	16	II
45		DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & ANNULUS	—	12	X
46	-	REFUEL CAVITY PURIF. INLET	I-3-CS-52	14	II
47	-	REFUEL CAVITY PURIF. OUTLET	I-3-CS-56	14	II
48	-	MULTIPURPOSE (SEE NOTE 16 ON DWG 2998-G-213 SH. 3)	(4) ⅜ O.D. TUBES	16	II
49	-	BLOWDOWN (SG-2B)	I-½-B-10	16	II
50	-	SPARE	—	26	—
51	-	MULTIPURPOSE (SEE NOTE 16 ON DWG 2998-G-213 SH. 3)	(4) ⅜ O.D. TUBES	26	II
52		RESERVED FOR FUTURE USE	—	22	II
53	-	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & ANNULUS	(2) ⅜ O.D. TUBES	12	II
54		INTEGRATED LEAK RATE TESTING		26	II
55	DET. M	DIFF. PRESS. BETWEEN INSIDE & OUTSIDE OF CONTAINMENT & RAB	(1) ⅜ x .534 SS TUBE	8	II
56	DET. K	H&V H2 PURGE INLET	I-8-CV-3	10	II
57	DET. K	H&V H2 PURGE OUTLET	I-8-CV-38	10	II
58	DET. M	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & RAB	(1) ⅜ x .534 SS TUBE	8	II
59	DET. G	SHIELD BLDG. VENT	—	31	—
60	DET. G	SHIELD BLDG. VENT	—	31	—
161	DET. H	SPARE	—	6	—
62	DET. A	INSTR. AID TO CONST. MATCH	¾" I.A.-73	6	—
64	DET. B	SHUTDOWN COOLING	I-10-SI-420	32	III
65	DET. F	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & ANNULUS	(1) ⅜ O.D. TUBE	6	—
66	DET. F	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & ANNULUS	(1) ⅜ O.D. TUBE	6	—
69	DET. B	HOT LEG 2A INJECTION	—	20	III
70	DET. B	HOT LEG 2B INJECTION	—	20	III
71	DET. B	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & RAB	(1) ⅜ x .534 SS TUBE	18	II
72	DET. B	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & RAB	(1) ⅜ x .534 SS PIPE	18	II
45B	DET. F	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & ANNULUS	(3) ⅜ O.D. TUBES	6	—
53B	DET. F	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & ANNULUS	(3) ⅜ O.D. TUBES	6	—

DETAIL G
TYPICAL FOR P-53 & P-60
PIPE SLEEVE EMBEDDED IN CONC. WALL
SCALE: NONE

DETAIL F
SCALE: NONE
TYP. FOR P-65A, P-53B AND P-65, P-66
THESE PENETRATIONS ARE ASME III CLASS 3

DETAIL H
TYPICAL FOR P-61 & P-62
PIPE SLEEVE EMBEDDED IN CONC. WALL
SCALE: NONE

DETAIL D
SCALE ½" = 1'-0

VIEW B-B (P6)
SCALE: NONE
(P-61 ONLY)

VIEW A-A
(FOR PEN 46B & 53B ONLY)

VIEW GG (B5)
SCALE: NONE
P-53 & P-60

DETAIL C
SCALE: ½" = 1'-0

DETAIL A
SCALE ½" = 1'-0

DETAIL E
SCALE 1" = 1'-0

DETAIL B
SCALE: ½" = 1'-0

DETAIL J
TYPICAL FOR P-11 & P-11
PIPE THRU CONC. WALL
SCALE: NONE

DETAIL K
SCALE: NONE

VIEW L-L (F15)
SCALE: NONE
(P-57 ONLY, SEE NOTE #3)

DETAIL M
SCALE: NONE
P-55 & P-38 ONLY

VIEW E-E (J5)
SCALE: NONE
(P-55 ONLY)

MAIN STEAM & FEEDWATER SECONDARY SHIELD WALL SLEEVE DETAIL - SCALE: NONE (REF. DWG 2998-G-521)

LINE	OUTSIDE DIA	No. REQ'D
MAIN STEAM	34-8	2
FEEDWATER	2'-6	2

SEE SHEET 3 OF 4 FOR ADDITIONAL PENETRATIONS

PENETRATION NO.	TYPE	LINE DESCRIPTION SYSTEM	LINE NO.	FLOW DIAG.	PROCESS LINE NOM. SIZE (IN.)	WALL THKN. (IN.)	MATERIAL	DESIGN PRESS. (PSIG)	DESIGN TEMP. (F)	MAX. OPER. PRESS. (PSIG)	MAX. OPER. TEMP. (F)	INSUL. THKN. (IN.)	PENETRATION DESIGN PRESS. (PSIG)	PENETRATION DESIGN TEMP. (F)	STEEL CONTAINMENT NOM. SIZE (IN.)	WALL THKN. (IN.)	MATERIAL	WELD PREP. DIM.	NOZZLE DESIGN DIMENSION MAT.	"B"	CONC. NOM. OPENING (IN.)	THERMAL AXIAL & TRANS. KIPS	THERMAL MOMENT & TORSION IN-KIPS	SEISMIC SSE AXIAL & TRANS. KIPS	SEISMIC SSE MOMENT & TORSION IN-KIPS	PIPE RUPTURE AXIAL & TRANS. KIPS	PIPE RUPTURE BEND MOMENT IN-KIPS	PIPE RUPTURE TORSION IN-KIPS	IMPINGEMENT IMPING. FORCE ON GUARD PIPE-KIPS	IMPINGEMENT MOMENT ON PROCESS PIPE IN-KIPS	IMPINGEMENT TRANS. LOAD ON PROCESS PIPE-KIPS	PIPE WEIGHT KIPS	BELLOWS MOVEMENT TOTAL AXIAL INCHES	BELLOWS MOVEMENT LATERAL INCHES	BELLOWS MOVEMENT VERTICAL INCHES	CBAI NOZZLE EMBRAC. NO.	TUBE TURNS PENETRATION EMBRACE NO.
11	II	H&V CONTAINMENT PURGE	—	2998-G-878	36	.500	C.S.	½-15	265	½-15	120	-	44	265	48	2.50	C.S.	—	771-03	2'-9¾	58	—	—	—	—	—	—	—	15.0	2.3	±0.75	±0.75	2998-833	2998-2002
64	III	SHUTDOWN COOLING	I-10-SI-363	2998-G-878 SH 1B	10	.500	SS	350	350	300	350	2	350	350	24	1.25	C.S.	22.125	714-6	2'-0	32	9.0	450.0	9.0	450.0	30.0	2510.0	1607.0	30.0	2520.0	30.0	3.3	2.91	±0.75	±0.75	2998-824	2998-2025
67	II	H&V VACUUM RELIEF	—	2998-G-878	24	5/40	C.S.	44	265	½	120	-	44	265	24	.730	C.S.	—	—	—	—														2998-806	—
68	II	H&V VACUUM RELIEF	—	2998-G-878	24	5/40	C.S.	44	265	½	120	-	44	*265	24	.730	C.S.	—	—	—	—														2998-806	—
69	III	HOT LEG 2A INJECTION	E3-SI-179	2998-G-878 SH 1B1	3	5/40	S.S.	2485	350	2400	300	-	2485	350	10	5/160	C.S.	—	771-10	16	20	2.88	43.2	2.88	43.2	7.5	270.2	236.9	7.5	270.2	7.5	1.5	2.3	0.75		2998-824	2998-2928
70	III	HOT LEG 2B INJECTION	E3-SI-181	2998-G-878 SH 1B1	3	5/40	S.S.	2485	350	2400	300	-	2485	350	10	5/160	C.S.	—	771-10	16	20	2.88	43.2	2.88	43.2	7.5	270.2	236.9	7.5	270.2	7.5	1.5	2.3	0.79		2998-824	2998-2928
71	II	DIFF. PRESS. BETWEEN INSIDE & OUTSIDE OF CONTAINMENT & RAB	—	2998-G-878	1¼	⅝₀₀₀	S.S.	44	420	43.1	420	-	44	265	8	5/160	C.S.	1.981	70-10	16	18	A 64	252.0	64	252.0										2998-824	2998-3466
72	II	DIFF. PRESS. BETWEEN INSIDE OF CONTAINMENT & RAB	—	2998-G-878	1¼	⅝₀₀₀	S.S.	44	420	43.1	420	-	44	265	18	5/160	C.S.	1.981	70-10	16	18	A 64	252.0	64	252.0										2998-824	2998-3467

NOTES:

DOCUMENTS REVIEWED
NO INFORMATION REQUIRED
FCR 2-1350, FCR 2-1351, FCR 2-2018 R1, FCR 2-5396, FCR 2-3308, FCR 2-2018 R3, FCR 2-8350, FCR 2-10135, FCR 2-14501

INFORMATION ONLY
VERIFY WITH A CONTROLLED COPY BEFORE USE.

8	11-13-84	PSAR UPDATE (REV. 13) DUE TO ADDITION OF NOZZLES, SLEEVES, DELETION OF WELD INFORMATION		
7	12/8/83	[illegible]	DKH	AS
6	3-18-82	[illegible]	NA	
5	8-3-80	[illegible]		
4	2-6-79	[illegible]		
3	[illegible]	[illegible]		
2	[illegible]	[illegible]		
1	[illegible]	[illegible]		
INC.	DATE	DESCRIPTION OF REVISION		

NUCLEAR SAFETY RELATED

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