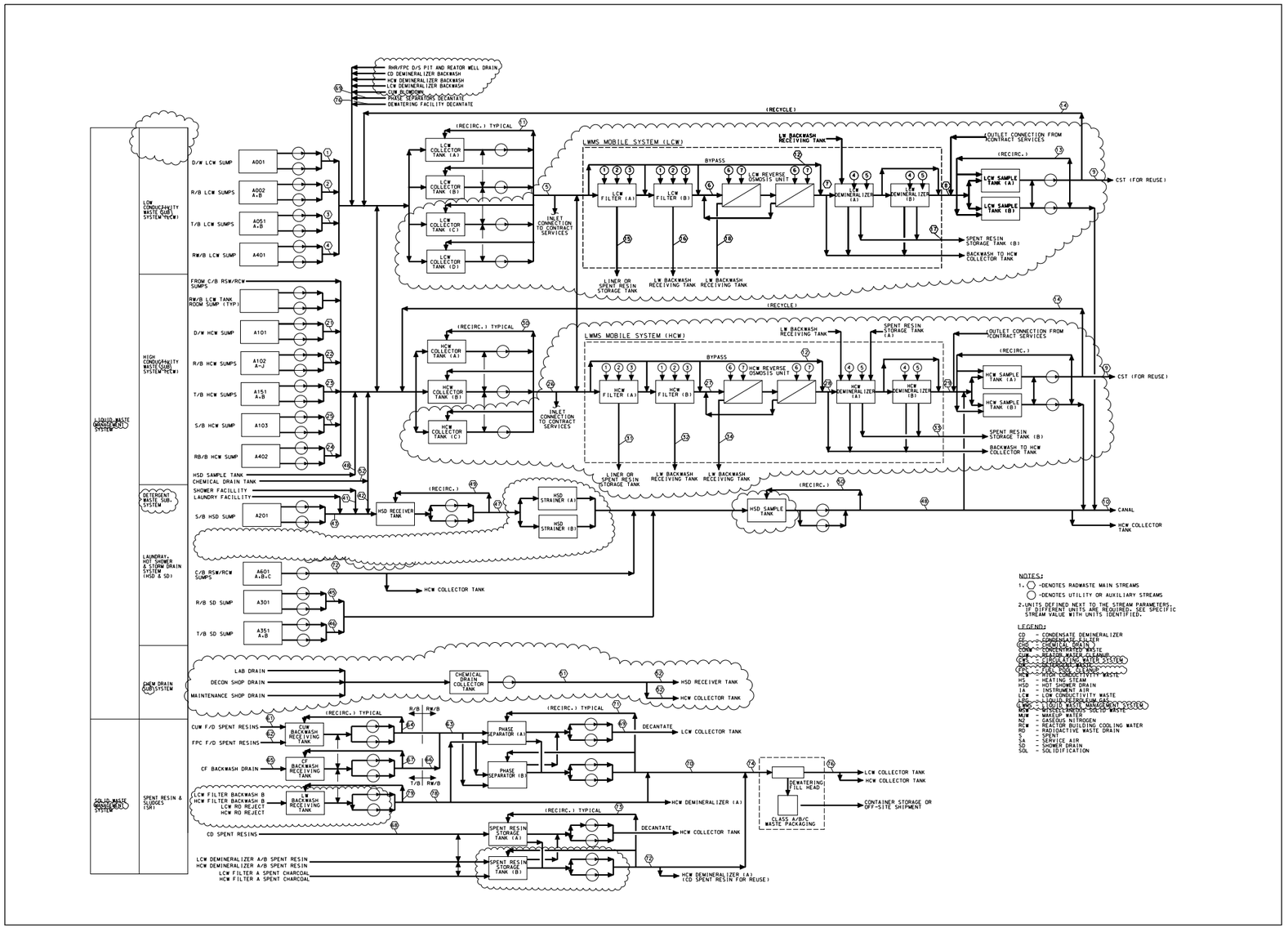


Figure 11.2-1 Radwaste System (Sheet 1 of 2)

Stream No. ●	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	68	76
Sub System	LCW - RD	LCW - RD	LCW - RD	LCW - RD	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW	LCW - Resin	LCW	LCW - SR	LCW - SR
Liquid/Slurry	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Slurry	Slurry	Slurry	Slurry	Liquid	Liquid
Normal Batch/day	4	8	3	2	--	--	--	--	--	--	--	--	--	--	--	1/30	1/365	--	--	--
Maximum Batch/day	44	8	3	2	--	--	--	--	--	--	--	--	--	--		1	1		--	--
Batch Volume m^3 (a)	2.6	2.6	2.6	2.6	140	140	140	110	140	--	--	--	--	--	min	0.26	14.4	min	60	--
Normal Volume m^3/day	10	15	15	5	55	55	55	55	55	47.3	--	--	--	--	min	0.26	14.4	min	--	--
Normal Average Volume m^3/day	10	15	15	5	80	80	30	60	80	--	--	--	--	--	--	--	--	--	--	--
Maximum Volume m^3/day	110	15	15	5	815	815	815	815	815	145.3	--	--	--	--	min	0.26	14.4	min	--	--
Flow m^3/hour	10	10	10	10	34	34	34	34	150	46	85	34	150	150	--	--	--	--	10	10
Temperature °C	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
Pressure kg/cm^2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Conductivity µS/cm	~5	~5	~5	~5	~5	~5	~5	<1	<1	<1	~5	>1	<1	>1	--	--	--	--	--	--
Undissolved Solid ppm	~2	~2	~2	~2	~2	<0.1	<0.1	<0.1	<0.1	<0.1	~2	<0.1	<0.1	<0.1	18 wt%	~1700	18 wt%	~500	--	--

Stream No. ●	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Sub System	HCW - RD	HCW - RD	HCW - RD	HCW - RD	HCW - RD	HCW	HCW	HCW	HCW	HCW	HCW	HCW	HCW - Resin	HCW	HCW	HCW	HCW	HCW
Liquid/Slurry	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Liquid	Slurry	Slurry	Slurry	Slurry	Liquid	Liquid	Liquid	Liquid
Normal Batch/day	--	2	2	1.2	0.8	--	--	--	--	--	1/365	12/365	1/365	12/365	--	--	--	--
Maximum Batch/day	--	22	2	1.2	0.8	--	--	--	--	--	--	--	--	--	--	--	--	--
Batch Volume m^3 (a)	2.6	2.6	2.6	2.6	2.6	140	140	140	140	140	1.4	1	14.4	12	--	--	--	140
Normal Volume m^3/day	--	5	5	3	2	15	15	15	15	--	1.4	1	14.4	12	--	--	--	15
Normal Average Volume m^3/day	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum Volume m^3/day	--	55	5	3	2	93	93	93	93	--	1.4	1	14.4	12	--	--	--	93
Flow m^3/hour	10	10	10	10	10	34	34	34	34	88	--	--	--	--	34	150	150	150
Temperature °C	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88	88
Pressure kg/cm^2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Conductivity µS/cm	~5	~1000	~1000	~10000	~10000	1000~10000	<10	<10	<1	1000~10000	--	--	--	--	1000~10000	1000~10000	<1	<1
Undissolved Solid ppm	~2	0.05 wt%	0.05 wt%	0.05 wt%	1.25 wt%	0.05~2.00 wt%	<0.5	<0.5	<0.1	0.05~2.00 wt%	18 wt%	~1700	18 wt%	~500	0.05~2.00 wt%	0.05~2.00 wt%	<0.1	<0.1

Stream No. ●	41	42	43	44	45	46	47	48	49	50
Sub System	DW	DW	DW	Not used	DW	DW	DW	DW	DW	DW
Liquid/Slurry	Liquid	Liquid	Liquid		Liquid	Liquid	Liquid	Liquid	Liquid	Liquid
Normal Batch/day	--	--	--	--	8	8	--	--	--	--
Maximum Batch/day	--	--	--	--	12	12	--	--	--	--
Batch Volume m^3	--	--	2.6	--	7.5	7.5	30	30	30	--
Normal Volume m^3/day	7.5	3.5	--	--	20	20	4	4	--	--
Normal Average Volume m^3/day	--	--	--	--	--	--	--	--	--	--
Maximum Volume m^3/day	32.5	16.5	--	--	30	30	12	12	--	--
Flow m^3/hour	--	10	10	--	10	20	34	50	68	88
Temperature °C	66	66	66	--	66	66	66	66	66	66
Pressure kg/cm^2	10	10	10	--	10	10	10	10	10	10
Conductivity µS/cm	--	--	--	--	--	--	--	--	--	--
Undissolved Solid ppm	--	--	--	--	--	--	--	--	--	--

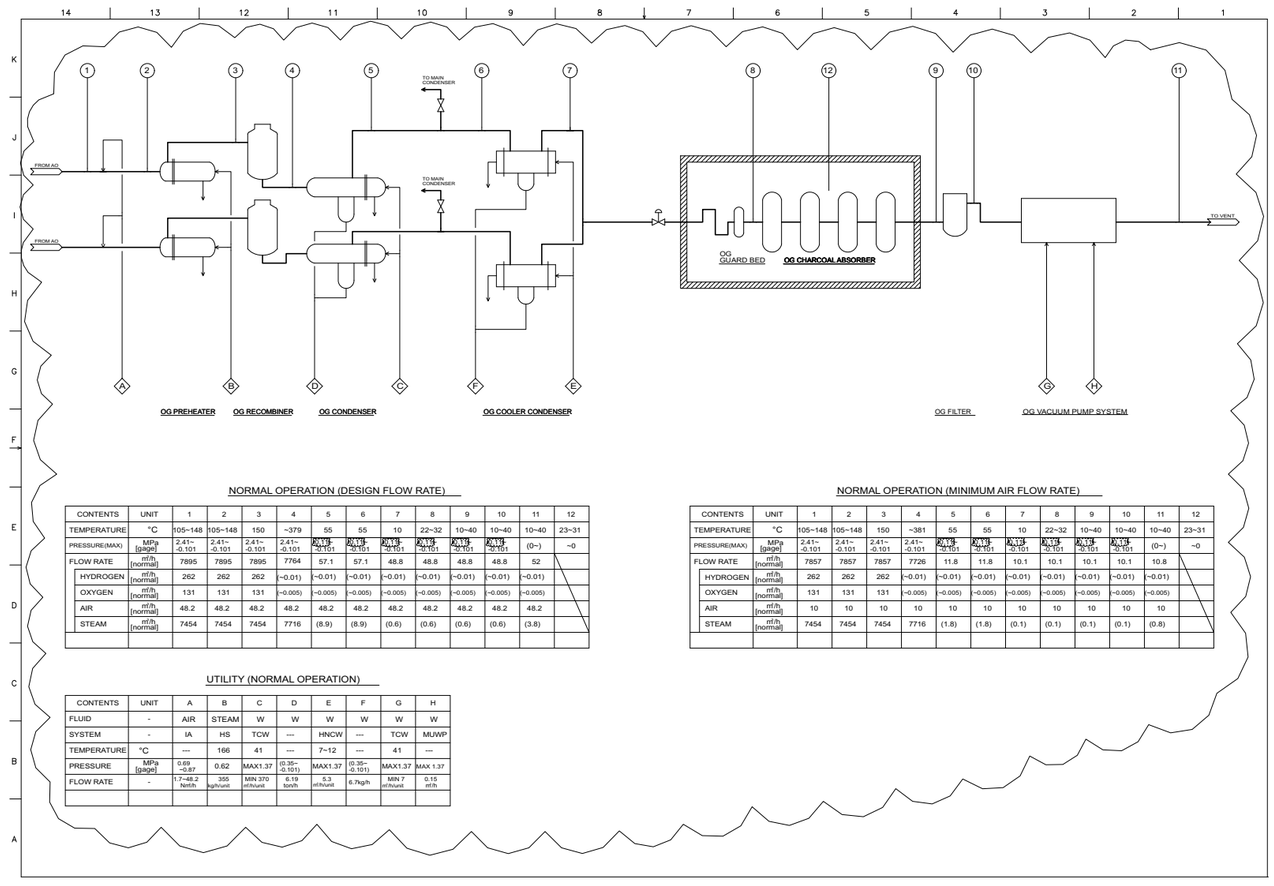
51	52	53	54	55
CHD	CHD	CHD	CHD	CHD
Liquid	Liquid	Liquid	Liquid	Liquid
--	--	--	--	--
--	--	--	--	--
4	4	4	4	4
2	2	2	2	2
--	--	--	--	--
2	2	2	2	2
4	4	10	4	4
66	66	66	66	66
10	10	10	10	10
--	--	--	--	--
--	--	--	--	--

Stream No. ●	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81
Sub System	SR	SR	SR	SR	SR	SR	SR	SR	LCW - SR	SR	SR	SR	SR	SR	Not used	LCW - SR	Not used	SR	SR	SR	SR
Liquid/Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Slurry	Liquid	Liquid	Slurry	Slurry	Slurry	Slurry	--	Liquid	--	Slurry	Slurry	Slurry	Liquid
Normal Batch/day	0.08	0.02	0.08	--	0.088	0.088	--	0.5 yr	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum Batch/day	2	1	1	--	3	3	--	2	--	--	--	--	--	--	--	--	--	--	--	--	--
Batch Volume m^3	15	20	30.35	--	35	35	--	30	60	--	--	--	--	--	--	--	--	--	--	--	--
Normal Volume m^3/day	15	20	30.35	--	35	35	--	30	--	--	--	--	--	--	--	--	--	--	--	--	--
Normal Average Volume m^3/day	1.2	0.4	1.8	--	3.1	3.1	--	2.13	--	--	--	--	--	--	--	--	--	--	--	--	--
Maximum Volume m^3/day	30	20	35	--	105	105	--	60	--	--	--	--	--	--	--	--	--	--	--	--	--
Flow m^3/hour	--	--	30	90	--	30	30	--	10	10	100	10	60	10	--	10	--	30	90	30	10
Temperature °C	66	66	66	66	66	66	66	66	66	66	66	66	66	66	--	66	--	66	66	66	66
Pressure kg/cm^2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	--	10	--	10	10	10	10
Conductivity µS/cm	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Undissolved Solid ppm	2200	2600	2200~2600	2200~2600	850	850	850	10 wt%	--	10~15 wt%	10 wt%	15 wt%	15 wt%	10~15 wt%	--	--	--	>2000	>2000	>2000	--

Stream No. ○	1	2	3	4	5	6	7
Utility	MUW	IA	SA	MUW	SA	MUW	SA
Pressure kg/cm^2	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Flow m^3/hour	10	38 Nm^3/hr	22 Nm^3/hr	10	112 Nm^3/hr	10	112 Nm^3/hr
Heat kcal/hr	--	--	--	--	--	--	--
Temperature °C	540	540	540	540	540	540	540

Notes:
(a) Based on one collector tank batch

Figure 11.2-1 Radwaste System (Sheet 2 of 2)



NORMAL OPERATION (DESIGN FLOW RATE)

CONTENTS	UNIT	1	2	3	4	5	6	7	8	9	10	11	12
TEMPERATURE	°C	105~148	105~148	150	~379	55	55	10	22~32	10~40	10~40	10~40	23~31
PRESSURE(MAX)	MPa [gage]	2.41~ -0.101	2.41~ -0.101	2.41~ -0.101	2.41~ -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	(0~)	~0
FLOW RATE	mf/h [normal]	7895	7895	7895	7764	57.1	57.1	48.8	48.8	48.8	48.8	52	
HYDROGEN	mf/h [normal]	262	262	262	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	
OXYGEN	mf/h [normal]	131	131	131	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	
AIR	mf/h [normal]	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	
STEAM	mf/h [normal]	7454	7454	7454	7716	(8.9)	(8.9)	(0.6)	(0.6)	(0.6)	(0.6)	(3.8)	

NORMAL OPERATION (MINIMUM AIR FLOW RATE)

CONTENTS	UNIT	1	2	3	4	5	6	7	8	9	10	11	12
TEMPERATURE	°C	105~148	105~148	150	~381	55	55	10	22~32	10~40	10~40	10~40	23~31
PRESSURE(MAX)	MPa [gage]	2.41~ -0.101	2.41~ -0.101	2.41~ -0.101	2.41~ -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	外圧 -0.101	(0~)	~0
FLOW RATE	mf/h [normal]	7857	7857	7857	7726	11.8	11.8	10.1	10.1	10.1	10.1	10.8	
HYDROGEN	mf/h [normal]	262	262	262	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	(~0.01)	
OXYGEN	mf/h [normal]	131	131	131	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	(~0.005)	
AIR	mf/h [normal]	10	10	10	10	10	10	10	10	10	10	10	
STEAM	mf/h [normal]	7454	7454	7454	7716	(1.8)	(1.8)	(0.1)	(0.1)	(0.1)	(0.1)	(0.8)	

UTILITY (NORMAL OPERATION)

CONTENTS	UNIT	A	B	C	D	E	F	G	H
FLUID	-	AIR	STEAM	W	W	W	W	W	W
SYSTEM	-	IA	HS	TCW	---	HNCW	---	TCW	MUWP
TEMPERATURE	°C	---	166	41	---	7~12	---	41	---
PRESSURE	MPa [gage]	0.69 ~0.87	0.62	MAX1.37	(0.35~ -0.101)	MAX1.37	(0.35~ -0.101)	MAX1.37	MAX 1.37
FLOW RATE	-	1.7~48.2 Nm³/h	355 kg/h/unit	MIN 370 nf/h/unit	6.19 ton/h	8.3 nf/h/unit	6.7kg/h	MIN 7 nf/h/unit	0.15 nf/h

Figure 11.3-1 Offgas System PFD (Sheet 1)

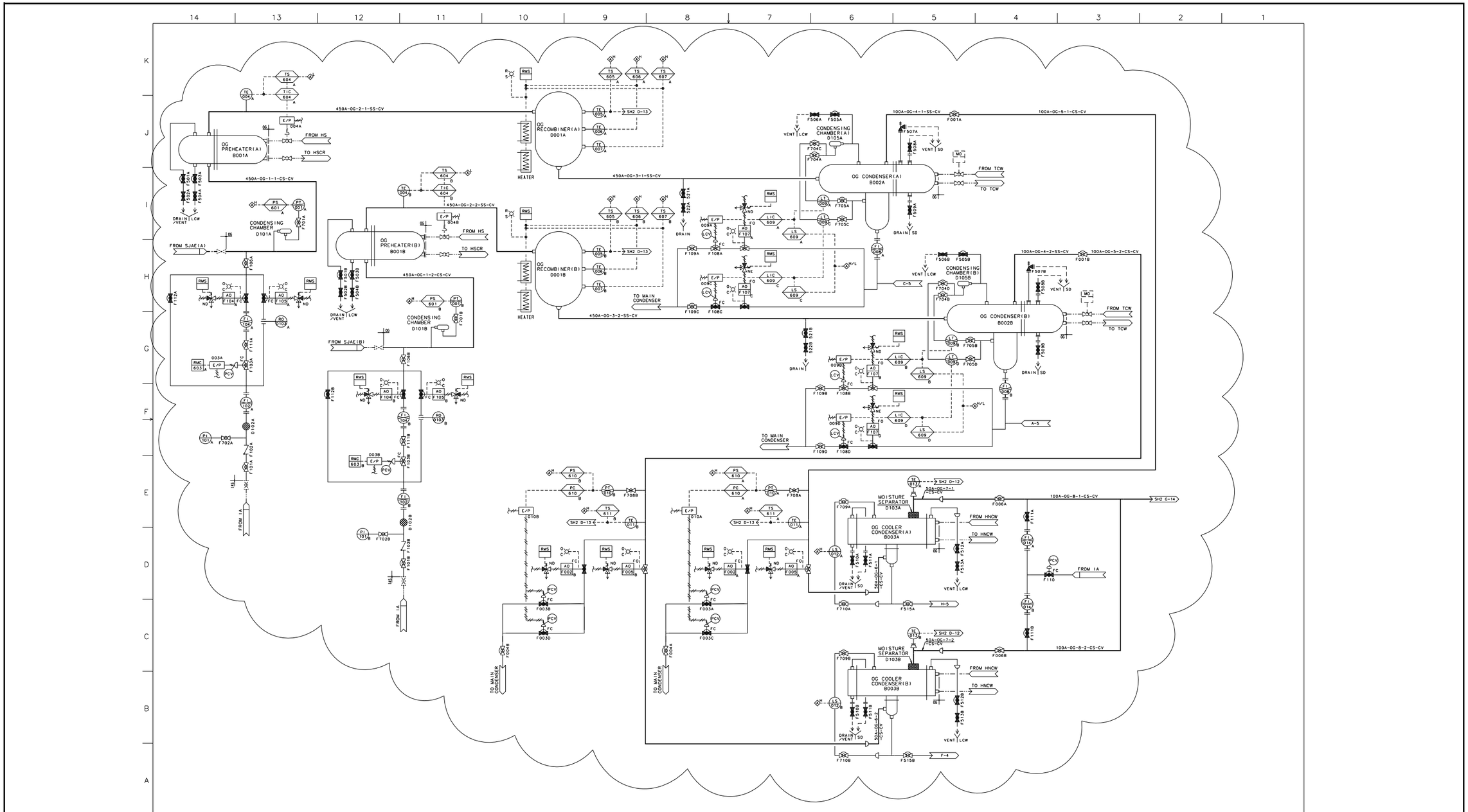


Figure 11.3-2 Offgas System P&ID (Sheet 1 of 3)

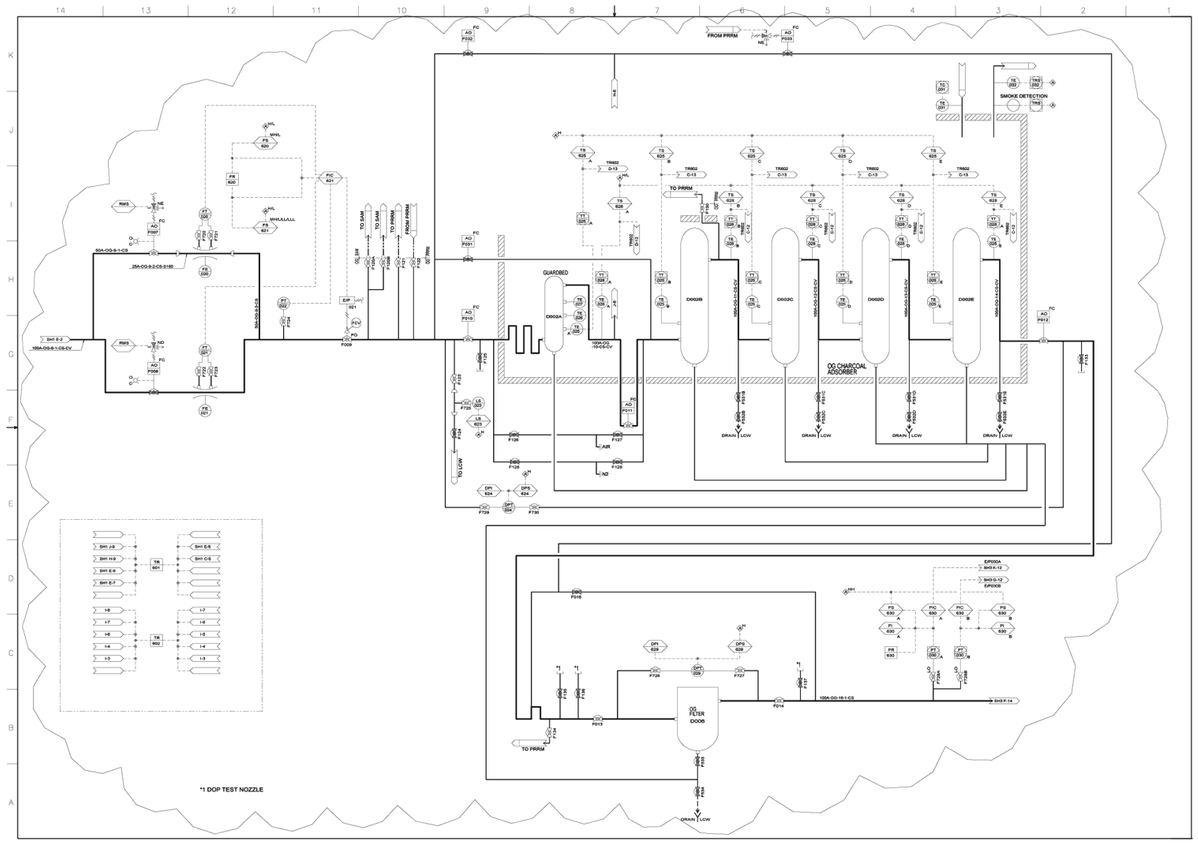


Figure 11.3-2 Offgas System P&ID (Sheet 2 of 3)

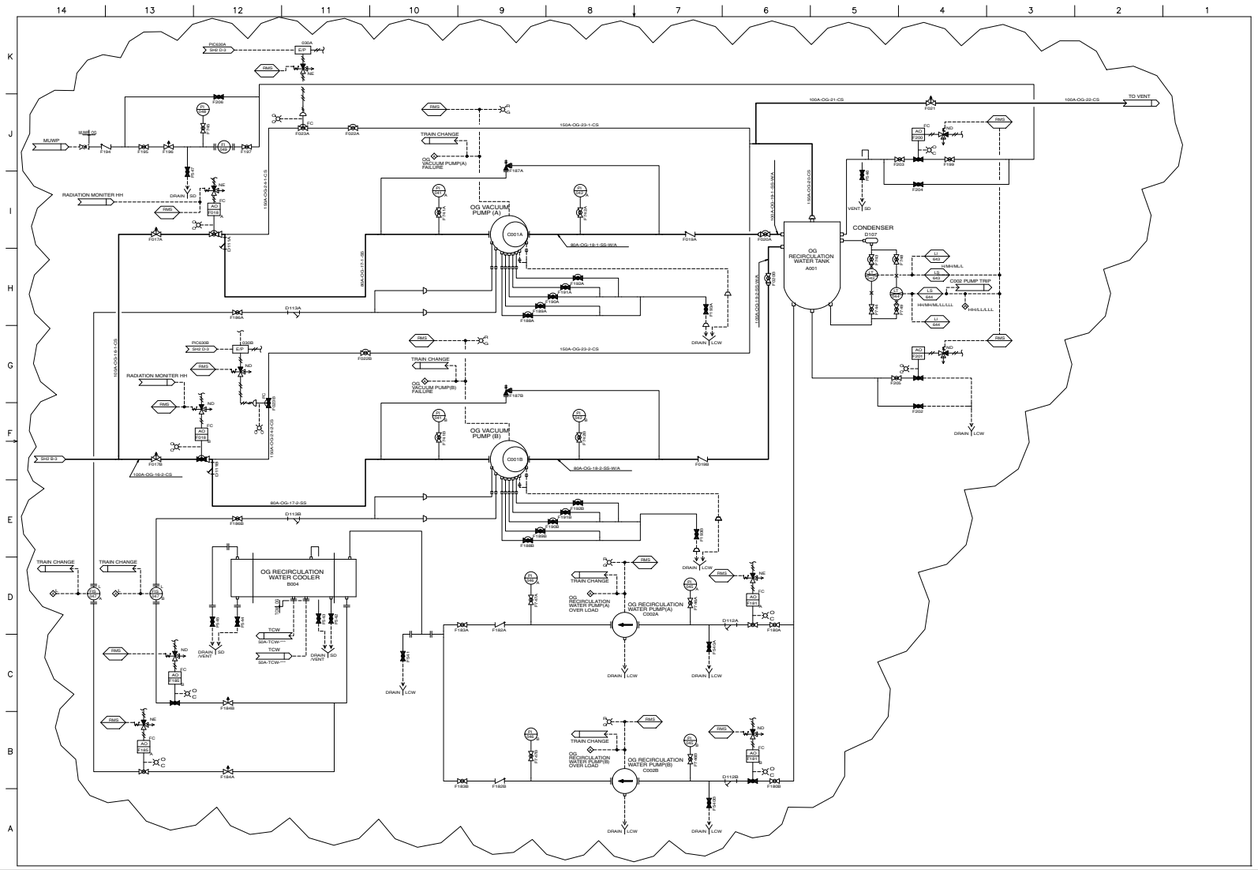


Figure 11.3-2 Offgas System P&ID (Sheet 3 of 3)