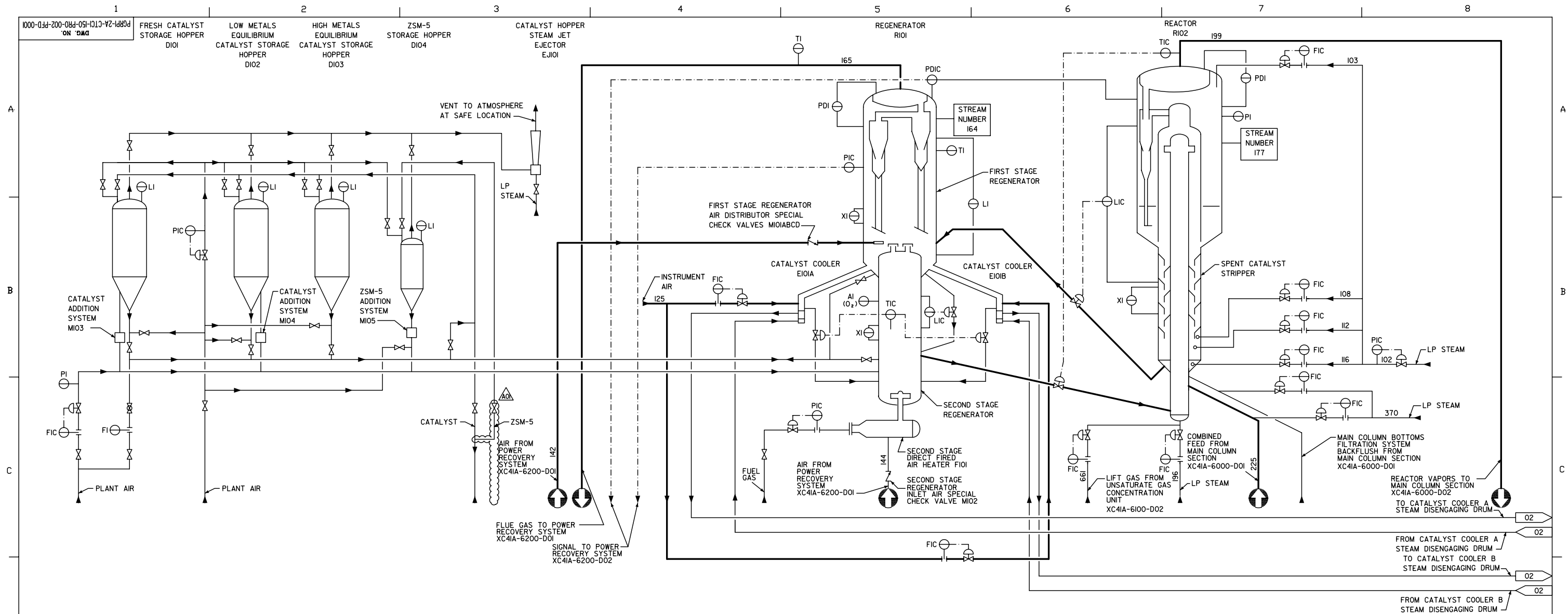


THESE PROCESS SPECIFICATIONS ARE FOR DESIGN PURPOSES ONLY, AND WHILE USEFUL AS A GUIDE IN OPERATIONS, DO NOT NECESSARILY REPRESENT EXACT OPERATING CONDITIONS OR GUARANTEES.



STREAM DATA SUMMARY																
PHASE 1																
STREAM NUMBER	102	103	108	112	116	125	142	144	164	165	177	196	199	225	370	661
TEMPERATURE DEG C	243	243	243	243	243	40	196	196	700	700	516	250	516	242	250	42
PRESSURE MPA (G)	0.621	0.621	0.621	0.621	0.621	0.7	0.252	0.266	0.179	0.165	0.138	1	0.13	0.277	1	1.607
WEIGHT FLOW KG/H	10394	3402	4605	1194	1194	5790	372216	126002	-----	543728	-----	9000	491086	487682	19521	4209
ENTHALPY MW	8.29	2.71	3.67	0.95	0.95	0.04	29.35	9.94	-----	160.58	-----	7.18	222.05	65.28	15.58	0.31

STREAM DATA SUMMARY																
PHASE 2																
STREAM NUMBER	102	103	108	112	116	125	142	144	164	165	177	196	199	225	370	661
TEMPERATURE DEG C	243	243	243	243	243	40	195	195	700	700	516	250	516	242	250	43
PRESSURE MPA (G)	0.621	0.621	0.621	0.621	0.621	0.7	0.252	0.266	0.179	0.165	0.138	1	0.13	0.278	1	1.619
WEIGHT FLOW KG/H	10393	3402	4603	1194	1194	5790	318025	107938	-----	465781	-----	9001	463678	454850	19539	3923
ENTHALPY MW	8.29	2.71	3.67	0.95	0.95	0.04	24.95	8.47	-----	137.77	-----	7.18	207.72	58.63	15.59	0.29

NOTE: ALL EQUIPMENT TAGS TO BE PRECEDED BY '150-'

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-'07
O	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-'07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHD	APPD	DATE
uop A Honeywell Company CEI CTCI TITLE PROCESS FLOW DIAGRAM REACTOR-REGENERATOR-STORAGE HOPPERS REACTOR REGENERATOR SECTION UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT 會 簽 REVIEWED GXPC DWG. No. PGRPI-2A-CTCI-150-PRO-002-PFD-000I CTCI DWG. No. XC41A-5900-DO1 WORK PACKAGE No. SYSTEM CLASS STATUS DIST CODE LAST REV. DATE: FILESPEC: SCALE :						

SIR:
FILE:
SIZE:A1
DATE:

BY:

1

2

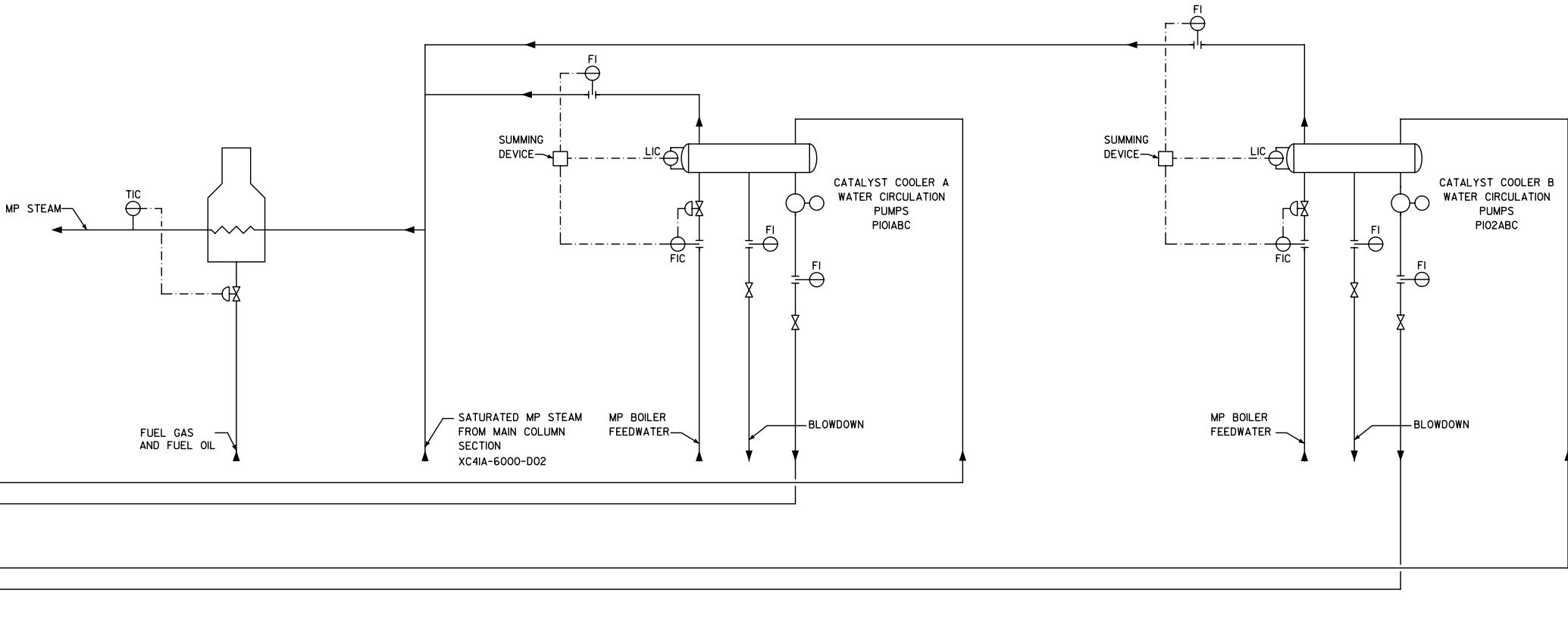
3

4

5

6

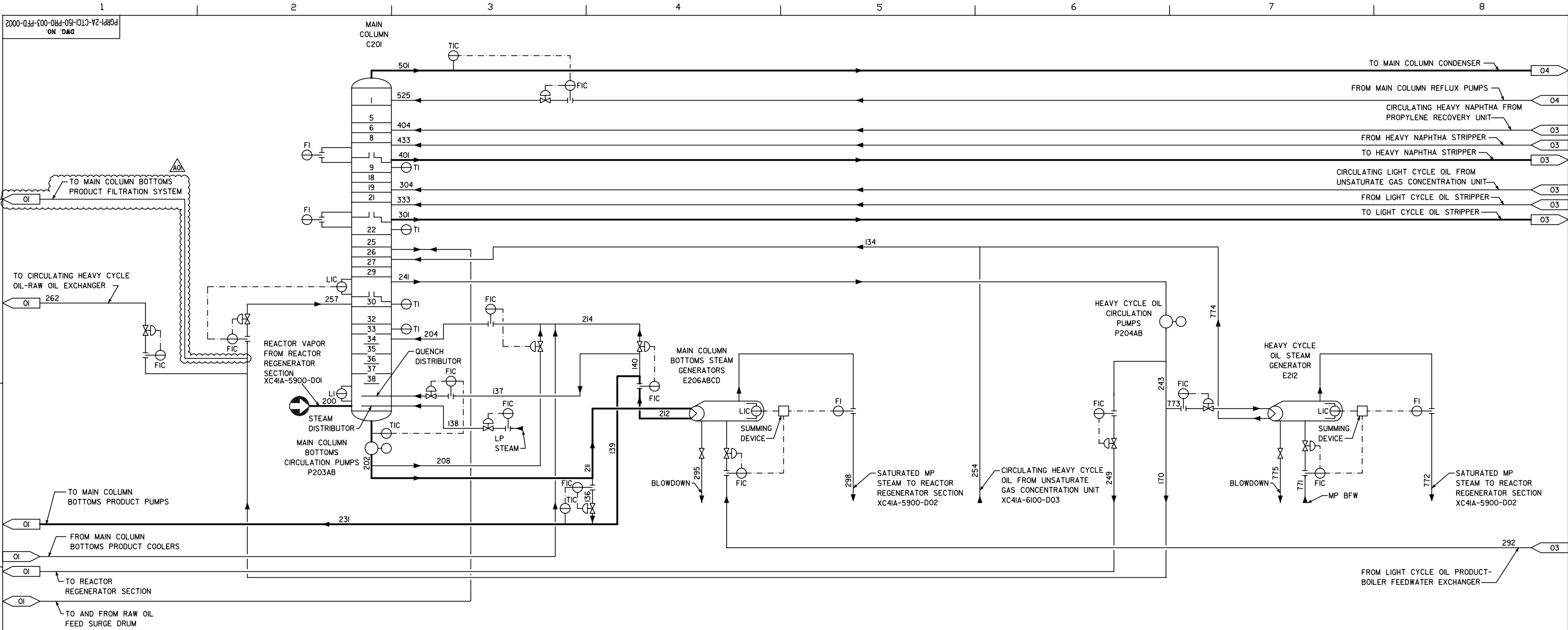
7



MATERIAL BALANCE, KG MOL / HR							
PHASE 1							
STREAM	125	142	144	165	199	225	661
H2O	0.04	795.25	269.21	2612.95	2023.62	0.72	1.61
O2	42.14	2605.05	881.86	16.50	---	---	---
N2	158.53	9799.95	3317.47	13158.29	141.02	0.02	29.42
CO	---	---	---	789.98	8.51	0.06	1.76
CO2	---	---	---	2391.20	25.63	TRACE	5.35
SO2	---	---	---	2.09	---	---	---
SO3	---	---	---	0.23	---	---	---
H2S	---	---	---	---	4.55	TRACE	0.87
H2	---	---	---	---	552.56	0.05	116.19
C1	---	---	---	---	278.42	0.05	58.08
=C2	---	---	---	---	177.82	0.03	37.11
C2	---	---	---	---	110.27	0.02	22.67
=C3	---	---	---	---	617.25	0.21	1.92
C3	---	---	---	---	121.42	0.05	0.27
=IC4	---	---	---	---	117.74	0.07	0.08
=N1C4	---	---	---	---	100.30	0.06	0.08
=T2C4	---	---	---	---	126.46	0.08	0.09
=C2C4	---	---	---	---	91.59	0.06	0.08
IC4	---	---	---	---	177.75	0.11	0.14
NC4	---	---	---	---	55.23	0.04	0.05
=IC5	---	---	---	---	285.05	0.29	0.14
IC5	---	---	---	---	159.04	0.16	0.10
NC5	---	---	---	---	35.49	0.04	0.01
C6+ PROD	---	---	---	---	2017.93	224.37	0.12
RAW OIL	---	---	---	---	---	912.08	---
MOLE FLOW, KG MOLE/H	200.71	13200.25	4468.53	18971.25	7227.65	1138.58	276.15
WEIGHT FLOW, KG/H	5790	372216	126002	543728	491086	487682	4209
MOLE WEIGHT, KG/KG MOLE	28.85	28.20	28.20	28.66	67.95	428.32	15.24
LIQ VOL FLOW, STD M3/H	0	0	0	0	0	530.76	0
LIQ DENSITY, KG/STD M3	0	0	0	0	0	919	0
VAP VOL FLOW, NRML M3/H	4499	295873	100158	425225	162002	0	6190
VAP DENSITY, KG/STD M3	1.2	1.2	1.2	1.2	2.9	0	0.6

MATERIAL BALANCE, KG MOL / HR							
PHASE 2							
STREAM	125	142	144	165	199	225	661
H2O	0.04	679.47	230.61	2251.95	2034.75	0.78	1.29
O2	42.14	2225.78	755.43	14.13	---	---	---
N2	158.53	8373.17	2841.87	11264.10	129.09	0.02	25.69
CO	---	---	---	673.31	7.76	0.05	1.52
CO2	---	---	---	2038.11	23.36	TRACE	4.65
SO2	---	---	---	8.99	---	---	---
SO3	---	---	---	1.00	---	---	---
H2S	---	---	---	---	19.56	0.01	3.53
H2	---	---	---	---	195.24	0.02	39.73
C1	---	---	---	---	287.63	0.05	57.25
=C2	---	---	---	---	183.97	0.03	36.64
C2	---	---	---	---	113.66	0.02	22.51
=C3	---	---	---	---	617.91	0.22	1.28
C3	---	---	---	---	112.45	0.05	0.18
=IC4	---	---	---	---	110.57	0.07	0.07
=N1C4	---	---	---	---	94.20	0.06	0.06
=T2C4	---	---	---	---	118.77	0.08	0.08
=C2C4	---	---	---	---	86.02	0.06	0.07
IC4	---	---	---	---	146.45	0.09	0.10
NC4	---	---	---	---	45.44	0.03	0.04
=IC5	---	---	---	---	253.87	0.27	0.13
IC5	---	---	---	---	122.71	0.13	0.08
NC5	---	---	---	---	27.06	0.03	0.01
C6+ PROD	---	---	---	---	1869.82	216.89	0.09
RAW OIL	---	---	---	---	---	1024.95	---
MOLE FLOW, KG MOLE/H	200.71	11278.41	3827.92	16251.59	6600.29	1243.93	194.99
WEIGHT FLOW, KG/H	5790	318025	107938	465781	463678	454850	3923
MOLE WEIGHT, KG/KG MOLE	28.85	28.20	28.20	28.66	70.25	365.66	20.12
LIQ VOL FLOW, STD M3/H	0	0	0	0	0	484.60	0
LIQ DENSITY, KG/STD M3	0	0	0	0	0	939	0
VAP VOL FLOW, NRML M3/H	4499	252796	85800	364266	147940	0	4370
VAP DENSITY, KG/STD M3	1.2	1.2	1.2	1.2	3.0	0	0.8

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHEK'D	APP'D	DATE
 A Honeywell Company  						
TITLE PROCESS FLOW DIAGRAM STEAM DISENGAGING DRUMS-STEAM SUPERHEATER- MATERIAL BALANCES REACTOR REGENERATOR SECTION UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT						
						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-002-PFD-0002						
CTCI DWG. No. XC4IA-5900-DO2						
WORK PACKAGE No.		SYSTEM	CLASS	STATUS		
		DRFT CODE				
LAST REV. DATE:		SCALE :				
FILESPEC:						



STREAM DATA SUMMARY

PHASE 1

STREAM NUMBER	134	136	137	138	139	140	170	200	202	204	208	211	212	214	231	241	243	245	249	254	257	262	292	295	298	301	304	333	401	404	433	501	525	771	772	773	774	775
TEMPERATURE DEG C	236	350	274	230	274	274	304	513	350	287	350	350	274	274	288	304	304	234	304	227	304	304	154	253	253	208	172	205	144	124	140	108	40	104	253	304	274	253
PRESSURE MPA (G)	0.361	0.546	0.494	0.903	0.494	0.494	0.669	0.122	0.552	0.339	0.546	0.546	0.494	0.299	0.494	0.114	0.669	0.337	1.05	0.38	0.293	0.605	5.764	4.097	4.097	0.107	0.349	0.11	0.096	0.455	0.099	0.089	0.472	5.799	4.097	0.669	0.361	4.097
WEIGHT FLOW KG/H	627197	4406	260911	811	19735	821251	693145	491074	960760	675673	115291	840986	840986	560364	24140	882523	812849	633151	69673	507492	185653	507492	76918	4078	72840	1143827	1043300	11431	758541	709315	6514	511101	238723	3944	3735	119705	119705	209
ENTHALPY MW	70.5	0.83	35.38	0.64	2.68	111.37	109.17	220.93	180.55	97.66	21.67	158.04	114.05	75.99	3.5	139	128.03	70.61	10.97	54.14	29.24	79.93	12.5	1.17	55.32	121.44	86.51	3.93	53.2	40.95	1.86	97	3.2	0.41	2.84	18.85	16.36	0.06

STREAM DATA SUMMARY

PHASE 2

STREAM NUMBER	134	136	137	138	139	140	170	200	202	204	208	211	212	214	231	241	243	245	249	254	257	262	292	295	298	301	304	333	401	404	433	501	525	771	772	773	774	775
TEMPERATURE DEG C	237	350	274	230	274	274	304	513	350	281	350	350	274	274	288	304	304	235	304	227	304	304	152	253	253	205	171	202	143	124	139	108	40	104	253	304	274	253
PRESSURE MPA (G)	0.361	0.534	0.481	0.903	0.481	0.481	0.653	0.123	0.57	0.326	0.534	0.534	0.481	0.299	0.481	0.115	0.653	0.339	1.023	0.382	0.299	0.612	5.764	4.097	4.097	0.108	0.351	0.111	0.097	0.459	0.099	0.09	0.471	5.799	4.097	0.653	0.361	4.097
WEIGHT FLOW KG/H	581632	5611	213830	811	25136	850555	619087	463677	945286	700698	63939	875691	875691	636742	30748	808206	743356	587614	64849	457363	161724	457363	77053	4128	72926	1150459	1048735	11278	794412	753814	5150	445691	196547	3945	3734	124269	124269	211
ENTHALPY MW	63.92	1.02	27.91	0.64	3.28	111.02	94.71	206.69	171.15	94.69	11.58	158.55	114.3	83.11	4.3	123.64	113.72	63.99	9.92	47.4	24.74	69.97	12.33	1.19	55.39	119.18	86.31	3.88	54.82	43.23	1.5	87.63	2.6	0.41	2.84	19.01	16.52	0.06

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-'07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-'07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE
 A Honeywell Company  						
TITLE PROCESS FLOW DIAGRAM MAIN COLUMN AND BOTTOMS HEAT EXCHANGE MAIN COLUMN SECTION UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-003-PFD-0002						
CTCI DWG. No. XC4IA-6000-D02						
WORK PACKAGE No.	SYSTEM	CLASS	STATUS			
	DIST CODE					
LAST REV. DATE: _____ FILESPEC: _____						
SCALE : _____						



5

1

CA

		DIST CODE		
LAST REV. DATE:			SCALE :	

THESE PROCESS SPECIFICATIONS ARE FOR DESIGN PURPOSES ONLY, AND WHILE USEFUL AS A GUIDE IN OPERATIONS, DO NOT NECESSARILY REPRESENT EXACT OPERATING CONDITIONS OR GUARANTEES.

A

B

D

E

F

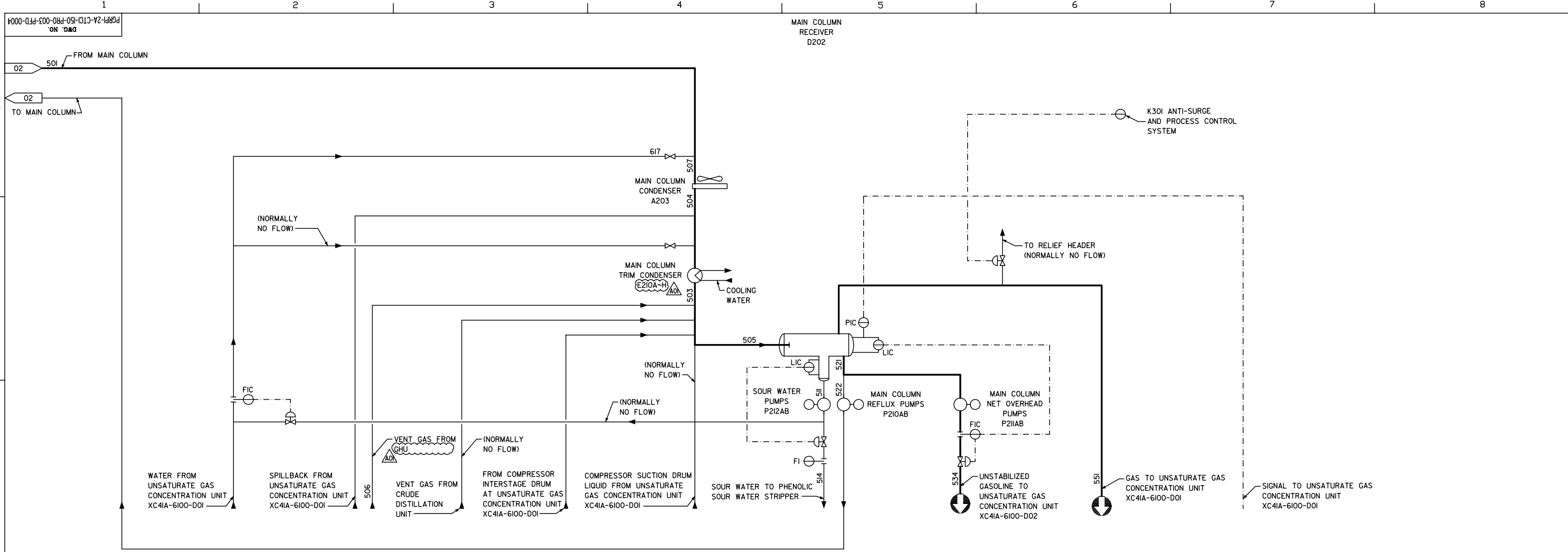
A

B

C

D

E



STREAM DATA SUMMARY														
PHASE 1														
STREAM NUMBER		501	503	504	505	506	507	511	514	521	522	534	551	617
TEMPERATURE	DEG C	108	40	50	40	40	89	40	40	40	40	40	40	40
PRESSURE	MPA (G)	0.089	0.058	0.075	0.058	0.076	0.087	0.056	0.357	0.056	0.066	1.894	0.056	0.211
WEIGHT FLOW	KG/H	511101	545518	545517	545908	390	545517	73185	73185	333389	238723	94771	139333	34417
ENTHALPY	MW	97	23.2	30.11	23.25	0.05	97.97	2.07	2.07	4.47	3.2	1.27	16.71	0.97

STREAM DATA SUMMARY														
PHASE 2														
STREAM NUMBER		501	503	504	505	506	507	511	514	521	522	534	551	617
TEMPERATURE	DEG C	108	40	50	40	40	91	40	40	40	40	40	40	40
PRESSURE	MPA (G)	0.09	0.059	0.076	0.059	0.078	0.088	0.058	0.356	0.058	0.068	1.894	0.058	0.222
WEIGHT FLOW	KG/H	445691	476892	476892	477283	390	476892	70411	70411	281970	196547	85419	124901	31202
ENTHALPY	MW	87.63	20.54	26.44	20.59	0.05	88.5	1.99	1.99	3.73	2.6	1.13	14.87	0.88

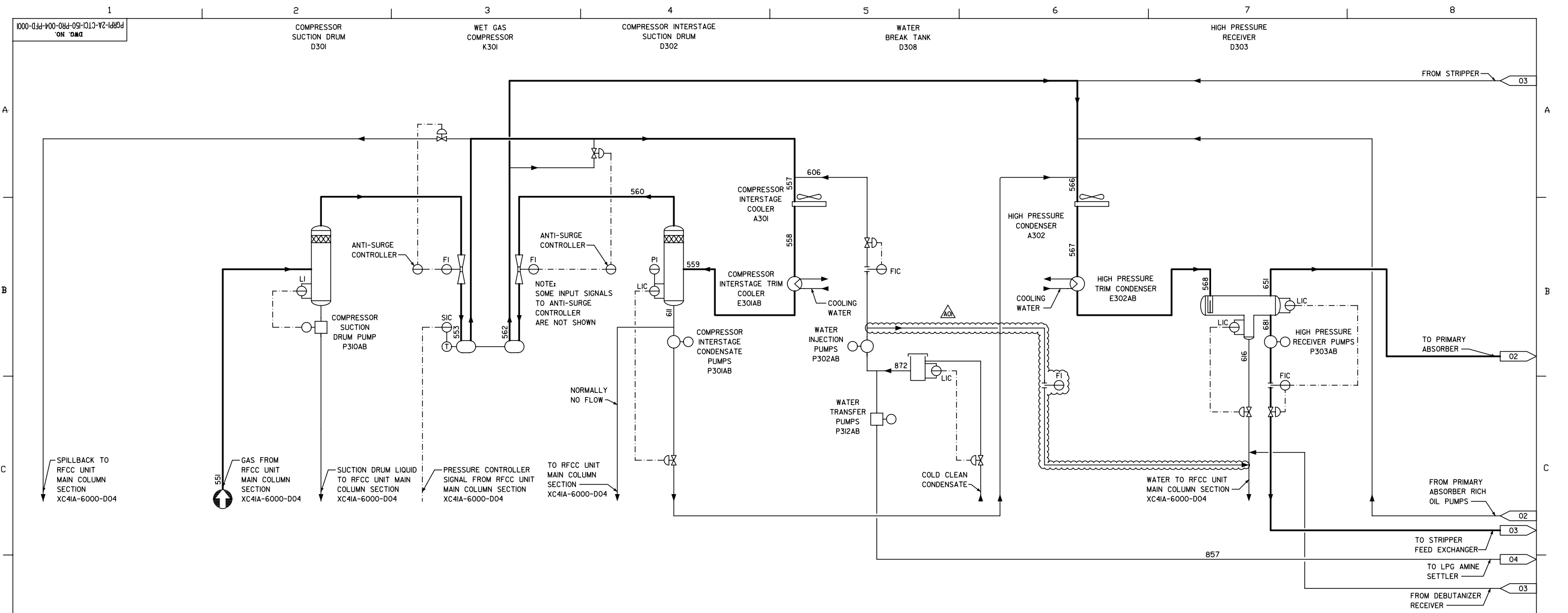
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE
AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5/07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29/07

Uop A Honeywell Company		CEI		CTCI	
TITLE PROCESS FLOW DIAGRAM MAIN COLUMN RECEIVER MAIN COLUMN SECTION UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT					
會 簽					
REVIEWED					
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-003-PFD-0004					
CTCI DWG. No. XC41A-6000-D04					
WORK PACKAGE No.		SYSTEM	CLASS	STATUS	
		DEPT CODE			
LAST REV. DATE:				SCALE :	
FILESPEC:					

MATERIAL BALANCE, KG MOL / HR																
PHASE 1																
STREAM	151	200	236	249	254	262	271	276	307	347	443	514	534	551	617	691
H2O	----	2022.93	0.17	0.72	5.24	5.24	12.55	10.11	13.28	5.58	4.53	4062.41	1.35	161.73	1910.42	1.70
N2	----	141.02	0.01	0.02	0.16	0.16	0.20	TRACE	1.22	TRACE	----	----	0.09	141.90	----	0.03
CO	----	8.51	0.04	0.06	0.41	0.41	0.19	TRACE	0.55	TRACE	TRACE	----	0.02	8.73	----	0.03
CO2	----	25.63	TRACE	TRACE	0.03	0.03	0.09	TRACE	3.07	TRACE	TRACE	----	0.25	28.35	----	0.01
H2S	----	4.55	TRACE	TRACE	0.01	0.01	0.03	TRACE	1.14	TRACE	TRACE	----	0.10	5.56	----	TRACE
H2	----	552.56	0.02	0.05	0.39	0.39	0.50	TRACE	2.61	TRACE	----	----	0.15	558.67	----	0.07
C1	----	278.42	0.02	0.05	0.34	0.34	0.58	TRACE	7.65	TRACE	TRACE	----	0.63	284.73	----	0.08
=C2	----	177.82	0.01	0.03	0.22	0.22	0.58	TRACE	15.88	TRACE	TRACE	----	1.46	191.55	----	0.08
C2	----	110.27	TRACE	0.02	0.13	0.13	0.40	TRACE	12.86	TRACE	TRACE	----	1.23	121.43	----	0.05
=C3	----	617.25	0.04	0.21	1.55	1.55	5.34	0.01	8.74	TRACE	0.01	----	18.96	600.73	----	0.72
C3	----	121.42	0.01	0.05	0.34	0.34	1.18	TRACE	1.71	TRACE	TRACE	----	4.28	117.46	----	0.16
=IC4	----	117.74	0.01	0.07	0.54	0.54	2.04	0.02	2.47	TRACE	0.01	----	10.53	108.32	----	0.28
=N1C4	----	100.30	0.01	0.06	0.47	0.47	1.77	0.02	2.19	TRACE	0.01	----	9.03	91.36	----	0.24
=T2C4	----	126.46	0.02	0.08	0.60	0.60	2.34	0.03	3.38	TRACE	0.02	----	14.05	114.62	----	0.32
=C2C4	----	91.59	0.01	0.06	0.46	0.46	1.81	0.02	3.21	TRACE	0.02	----	11.19	83.01	----	0.24
IC4	----	177.75	0.02	0.11	0.78	0.78	2.94	0.02	3.50	TRACE	0.02	----	13.86	164.15	----	0.40
NC4	----	55.23	0.01	0.04	0.27	0.27	1.05	0.01	1.57	TRACE	0.01	----	5.82	50.33	----	0.14
=IC5	----	285.05	0.05	0.29	2.12	2.12	9.32	0.31	43.92	0.04	0.27	----	73.81	244.78	----	1.26
IC5	----	159.04	0.03	0.16	1.20	1.20	5.16	0.16	25.58	0.02	0.14	----	38.89	140.14	----	0.70
NC5	----	35.49	0.01	0.04	0.29	0.29	1.24	0.05	5.06	0.01	0.04	----	10.27	28.78	----	0.17
C6+ PROD	----	2017.93	60.47	224.37	1634.29	1634.29	3128.08	766.96	3567.34	442.86	324.10	----	751.99	228.55	----	423.54
RAW OIL	912.08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MOLE FLOW, KG MOLE/H	912.08	7226.96	60.97	226.51	1649.84	1649.84	3177.37	777.72	3726.92	448.53	329.18	4062.41	967.95	3474.87	1910.42	430.22
WEIGHT FLOW, KG/H	418009	491074	24140	69673	507492	507492	642490	137371	736394	93146	44225	73185	94771	139333	34417	86993
MOLE WEIGHT, KG/KG MOLE	458.30	67.95	395.95	307.60	307.60	307.60	202.21	176.63	197.59	207.67	134.35	18.02	97.91	40.10	18.02	202.21
LIQ VOL FLOW, STD M3/H	461.52	0	23.15	69.24	504.34	504.34	719.30	156.73	828.43	103.65	53.08	73.26	129.65	0	34.45	97.39
LIQ DENSITY, KG/STD M3	906	0	1043	1006	1006	1006	893	877	889	899	833	999	731	0	999	893
VAP VOL FLOW, NRML M3/H	0	161986	0	0	0	0	0	0	0	0	0	0	0	77886	0	0
VAP DENSITY, KG/STD M3	0	2.9	0	0	0	0	0	0	0	0	0	0	0	1.7	0	0

MATERIAL BALANCE, KG MOL / HR																
PHASE 2																
STREAM	151	200	236	249	254	262	271	276	307	347	443	514	534	551	617	691
H2O	----	2034.72	0.26	0.78	5.51	5.51	14.66	9.59	15.31	5.77	3.82	3908.40	1.23	134.79	1731.95	1.53
N2	----	129.09	0.01	0.02	0.13	0.13	0.20	TRACE	1.22	TRACE	----	----	0.08	130.00	----	0.02
CO	----	7.76	0.05	0.05	0.37	0.37	0.19	TRACE	0.56	TRACE	TRACE	----	0.02	7.98	----	0.02
CO2	----	23.36	TRACE	TRACE	0.03	0.03	0.09	TRACE	3.04	TRACE	TRACE	----	0.25	26.05	----	0.01
H2S	----	19.56	TRACE	0.01	0.04	0.04	0.14	TRACE	5.15	TRACE	TRACE	----	0.46	24.08	----	0.01
H2	----	195.24	0.01	0.02	0.13	0.13	0.20	TRACE	1.03	----	----	----	0.06	200.29	----	0.02
C1	----	287.63	0.02	0.05	0.35	0.35	0.68	TRACE	8.53	TRACE	TRACE	----	0.68	294.69	----	0.07
=C2	----	183.97	0.01	0.03	0.22	0.22	0.69	TRACE	17.46	TRACE	TRACE	----	1.59	199.06	----	0.07
C2	----	113.66	0.01	0.02	0.13	0.13	0.48	TRACE	14.16	TRACE	TRACE	----	1.34	125.94	----	0.05
=C3	----	617.91	0.06	0.22	1.57	1.57	6.21	0.01	8.59	TRACE	0.01	----	20.05	599.35	----	0.65
C3	----	112.45	0.01	0.05	0.32	0.32	1.27	TRACE	1.63	TRACE	TRACE	----	4.17	108.46	----	0.13
=IC4	----	110.57	0.02	0.07	0.51	0.51	2.23	0.02	2.56	TRACE	0.01	----	10.47	101.15	----	0.23
=N1C4	----	94.20	0.02	0.06	0.45	0.45	1.94	0.02	2.26	TRACE	0.01	----	8.97	85.26	----	0.20
=T2C4	----	118.77	0.02	0.08	0.57	0.57	2.57	0.02	3.43	TRACE	0.02	----	13.95	106.89	----	0.27
=C2C4	----	86.02	0.02	0.06	0.44	0.44	1.98	0.02	3.19	TRACE	0.02	----	11.13	77.34	----	0.21
IC4	----	146.45	0.03	0.09	0.65	0.65	2.82	0.02	3.17	TRACE	0.01	----	12.04	134.57	----	0.29
NC4	----	45.44	0.01	0.03	0.23	0.23	1.00	0.01	1.38	TRACE	0.01	----	5.05	41.19	----	0.10
=IC5	----	253.87	0.07	0.27	1.93	1.93	9.60	0.27	40.14	0.04	0.23	----	68.98	214.61	----	1.00
IC5	----	122.71	0.03	0.13	0.94	0.94	4.60	0.12	20.22	0.02	0.10	----	31.46	106.70	----	0.48
NC5	----	27.06	0.01	0.03	0.23	0.23	1.10	0.04	4.01	0.01	0.03	----	8.19	21.60	----	0.11
C6+ PROD	----	1869.82	81.49	216.89	1529.63	1529.63	3230.03	721.78	3579.46	451.80	269.99	----	679.88	181.20	----	336.20
RAW OIL	1024.95	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MOLE FLOW, KG MOLE/H	1024.95	6600.26	82.16	218.98	1544.40	1544.40	3282.67	731.92	3736.50	457.66	274.26	3908.40	880.06	2921.20	1731.95	341.68
WEIGHT FLOW, KG/H	390001	463677	30748	64849	457363	457363	654269	130381	728483	93686	36696	70411	85419	124901	31202	68100
MOLE WEIGHT, KG/KG MOLE	380.51	70.25	374.23	296.14	296.14	296.14	199.31	178.14	194.96	204.71	133.80	18.02	97.06	42.76	18.02	199.31
LIQ VOL FLOW, STD M3/H	421.38	0	28.81	63.22	445.88	445.88	729.29	147.60	815.73	103.80	43.79	70.48	115.28	0	31.23	75.91
LIQ DENSITY, KG/STD M3	926	0	1067	1026	1026	1026	897	883	893	903	838	999	741	0	999	897
VAP VOL FLOW, NRML M3/H	0	147939	0	0	0	0	0	0	0	0	0	0	0	65476	0	0
VAP DENSITY, KG/STD M3	0	3.0	0	0	0	0	0	0	0	0	0	0	0	1.8	0	0

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-07	
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECK	APP'D	DATE	
Uop A Honeywell Company CEI CTCI							
TITLE PROCESS FLOW DIAGRAM MATERIAL BALANCE MAIN COLUMN SECTION UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT							
會 簽							
REVIEWED							
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-003-PFD-0005							
CTCI DWG. No. XC4IA-6000-D05							
WORK PACKAGE No.	SYSTEM		CLASS		STATUS		
	DEPT CODE						
LAST REV. DATE:		FILESPEC:		SCALE :			



STREAM DATA SUMMARY																		
PHASE 1																		
STREAM NUMBER		551	553	557	558	559	560	562	566	567	568	606	611	616	651	681	857	872
TEMPERATURE	DEG C	40	40	77	51	40	40	114	73	51	40	49	40	40	40	40	49	49
PRESSURE	MPA (G)	0.056	0.053	0.479	0.455	0.417	0.407	1.852	1.826	1.799	1.747	0.602	0.407	1.714	1.714	1.714	1.877	0.016
WEIGHT FLOW	KG/H	139333	139300	170902	170902	170902	104744	104744	428972	428972	428972	31601	66158	34417	56536	338019	494	32095
ENTHALPY	MW	16.71	16.71	22.45	15.49	12.84	11.4	15.18	25.47	15.43	11.39	1.23	1.44	0.97	5.2	5.22	0.02	1.25

STREAM DATA SUMMARY																		
PHASE 2																		
STREAM NUMBER		551	553	557	558	559	560	562	566	567	568	606	611	616	651	681	857	872
TEMPERATURE	DEG C	40	40	76	51	40	40	111	72	51	40	49	40	40	40	40	49	49
PRESSURE	MPA (G)	0.058	0.055	0.481	0.458	0.42	0.407	1.844	1.824	1.798	1.746	0.603	0.407	1.711	1.711	1.711	1.871	0.016
WEIGHT FLOW	KG/H	124901	124893	153746	153746	153746	96271	96271	424743	424743	424743	28853	57475	31202	59571	333970	472	29280
ENTHALPY	MW	14.87	14.87	19.73	13.97	11.67	10.41	13.52	25.45	15.75	11.57	1.12	1.26	0.88	5.5	5.2	0.02	1.14

NOTE: ALL EQUIPMENT TAGS TO BE PRECEDED BY '150-'

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5/07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE
Uop A Honeywell Company						
TITLE PROCESS FLOW DIAGRAM COMPRESSOR SECTION UOP UNSATURATE GAS CONCENTRATION PROCESS UNIT						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-150-PRO-004-PFD-0001						
CTCI DWG. No. XC4IA-6100-DOI						
WORK PACKAGE No.	SYSTEM	CLASS	STATUS			
	DEPT CODE					
LAST REV. DATE: FILESPEC: SCALE :						

1
PGRPI-2A-CTCI-ISO-PRO-004-PFD-0002
DWG. NO.

2
PRIMARY ABSORBER
C301

4
SPONGE ABSORBER
C302

6
LEAN GAS
KNOCKOUT DRUM
D304

A

B

C

D

E

F

A

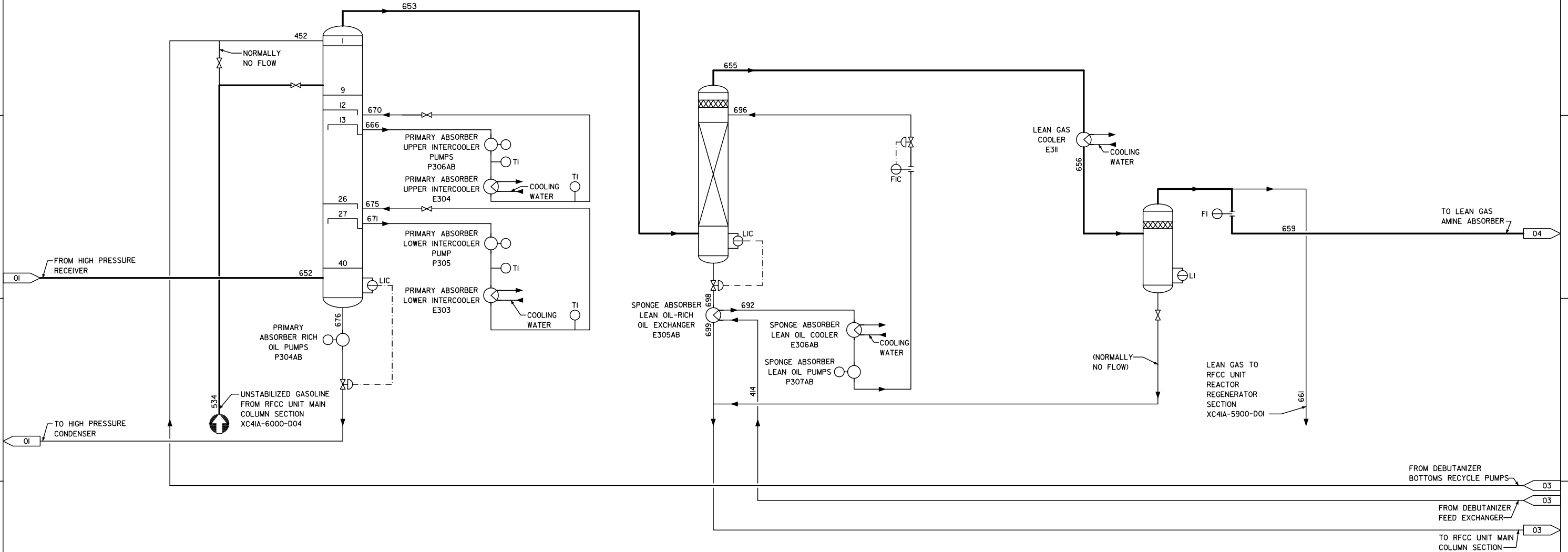
B

C

D

E

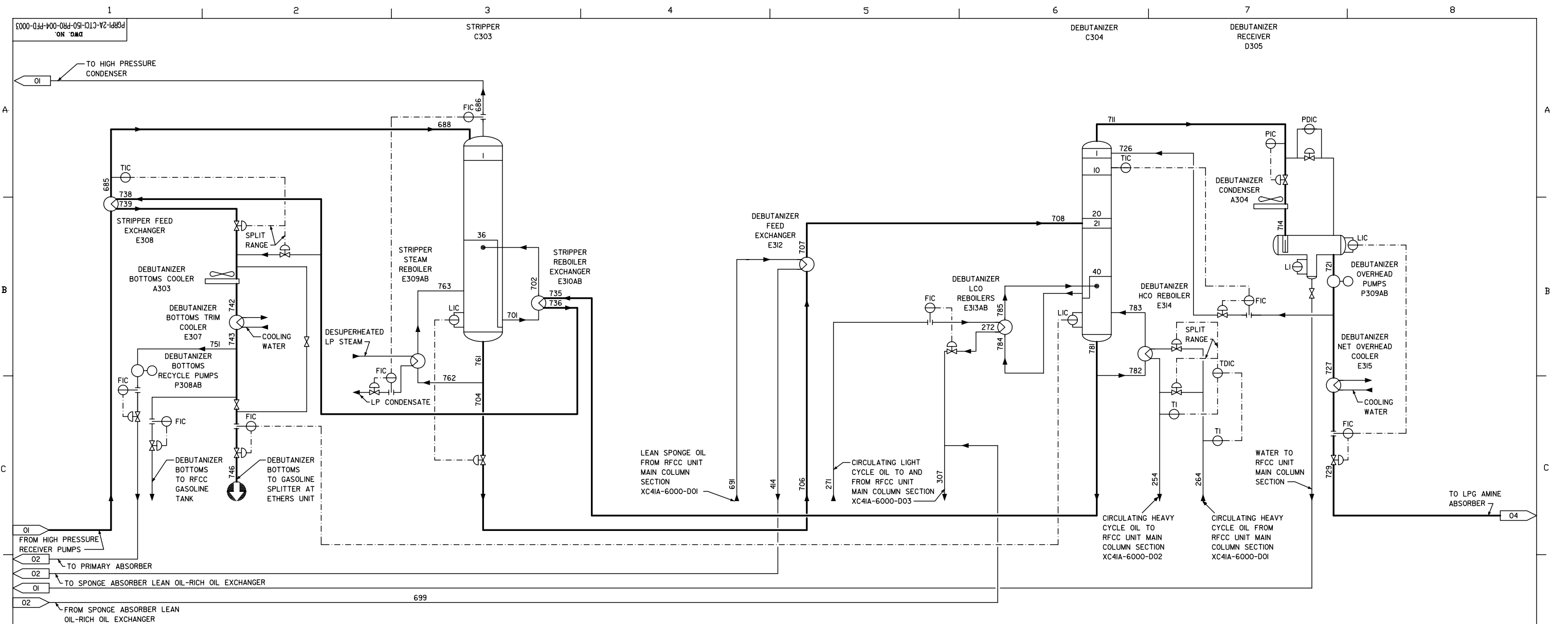
F



STREAM DATA SUMMARY																			
PHASE 1																			
STREAM NUMBER		414	452	534	652	653	655	656	659	661	666	670	671	675	676	692	696	698	699
TEMPERATURE	DEG C	163	40	40	40	46	42	40	40	40	45	40	44	40	50	93	40	54	121
PRESSURE	MPA (G)	0.781	1.919	1.894	1.694	1.655	1.615	1.581	1.574	1.574	1.663	1.865	1.672	1.82	1.682	0.712	1.73	0.416	0.372
WEIGHT FLOW	KG/H	86993	94623	94771	56536	27020	20159	20159	15923	4208	198897	198897	203538	203538	218888	86993	87043	93904	93904
ENTHALPY	MW	6.73	1.32	1.27	5.2	2.28	1.5	1.45	1.15	0.3	3.38	2.83	3.36	2.93	4.54	3.26	0.96	1.74	5.21

STREAM DATA SUMMARY																			
PHASE 2																			
STREAM NUMBER		414	452	534	652	653	655	656	659	661	666	670	671	675	676	692	696	698	699
TEMPERATURE	DEG C	156	40	40	40	48	43	40	40	40	47	40	44	40	50	90	40	55	116
PRESSURE	MPA (G)	0.781	1.924	1.894	1.692	1.655	1.625	1.59	1.583	1.583	1.663	1.865	1.672	1.82	1.682	0.712	1.736	0.429	0.369
WEIGHT FLOW	KG/H	68100	96126	85419	59571	25794	19691	19691	15735	3924	194420	194420	199586	199586	215308	68100	68111	74214	74214
ENTHALPY	MW	4.95	1.31	1.13	5.5	2.18	1.48	1.42	1.13	0.28	3.57	2.77	3.35	2.88	4.5	2.44	0.75	1.45	3.96

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE
Uop A Honeywell Company CEI CTCI						
TITLE PROCESS FLOW DIAGRAM ABSORBER SECTION UOP UNSATURATE GAS CONCENTRATION PROCESS UNIT						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-004-PFD-0002						
CTCI DWG. No. XC4IA-6100-D02						
WORK PACKAGE No.	SYSTEM	CLASS	STATUS			
	DEPT CODE					
LAST REV. DATE:		FILESPEC:		SCALE :		



STREAM DATA SUMMARY																																									
PHASE 1																																									
STREAM NUMBER		254	264	271	272	307	414	685	686	688	691	699	701	702	704	706	707	708	711	714	721	726	727	729	735	736	738	739	742	743	746	751	761	762	763	774	781	782	783	784	785
TEMPERATURE	DEG C	227	265	208	180	173	163	61	67	61	183	121	108	122	135	127	129	127	66	50	50	50	40	182	128	128	99	51	40	40	40	135	135	162	274	182	182	193	165	173	
PRESSURE	MPA (G)	0.38	0.44	0.885	0.74	0.416	0.781	2.08	1.852	1.852	0.857	0.372	1.877	1.891	1.876	1.353	1.316	1.236	1.22	1.165	1.163	1.387	1.68	1.625	1.27	1.227	1.233	1.197	1.069	1.081	0.755	1.079	1.876	1.876	0.361	1.249	1.249	1.249	1.249	1.249	
WEIGHT FLOW	KG/H	507492	507492	642490	642490	736394	86993	338019	39139	338019	86993	93904	472957	472957	298880	299164	299164	298880	239542	239542	239542	170306	69237	69237	229643	229643	229643	229643	229643	135020	94623	552248	253368	253368	119705	680240	450597	450597	519087	519087	
ENTHALPY	MW	54.14	66.6	68.21	56.34	61.55	6.73	9.92	4.31	9.92	7.85	5.21	32.25	42.13	24.97	24.99	26.1	26.08	28.43	6.14	6.14	4.36	1.77	1.23	26.33	16.45	16.45	11.75	4.62	3.19	1.88	1.32	46.14	21.17	30.65	16.36	78	51.67	64.12	54.25	66.11

STREAM DATA SUMMARY																																									
PHASE 2																																									
STREAM NUMBER		254	264	271	272	307	414	685	686	688	691	699	701	702	704	706	707	708	711	714	721	726	727	729	735	736	738	739	742	743	746	751	761	762	763	774	781	782	783	784	785
TEMPERATURE	DEG C	227	269	205	180	174	156	61	64	60	187	116	105	119	133	125	128	126	65	49	49	49	40	184	128	128	95	51	40	40	40	133	133	162	274	184	184	196	166	174	
PRESSURE	MPA (G)	0.382	0.446	0.885	0.74	0.416	0.781	2.075	1.845	1.846	0.869	0.369	1.871	1.885	1.87	1.357	1.32	1.242	1.228	1.163	1.161	1.39	1.677	1.622	1.278	1.235	1.241	1.206	1.077	1.09	0.754	1.088	1.87	1.87	0.361	1.256	1.256	1.256	1.256	1.256	
WEIGHT FLOW	KG/H	457363	457363	654269	654269	728483	68100	333970	55681	333970	68100	74214	446906	446906	278289	278609	278609	278289	216620	216620	216620	151399	65221	65221	213067	213067	213067	213067	213067	116941	96126	518394	240106	124269	637121	424053	424053	475754	475754	475754	
ENTHALPY	MW	47.4	59.27	67.78	57.14	61.1	4.95	10.01	6.16	10.01	6.25	3.96	29.51	38.91	22.55	22.57	23.87	23.85	25.64	5.32	5.32	3.72	1.6	1.16	24.42	15.03	15.03	10.21	4.22	2.91	1.6	1.31	42	19.45	28.76	16.52	73.03	48.61	60.48	49.58	60.21

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHEK	APPD	DATE


A Honeywell Company





TITLE PROCESS FLOW DIAGRAM
STRIPPER AND DEBUTANIZER
UOP UNSATURATE GAS CONCENTRATION PROCESS UNIT

會 簽				
REVIEWED				

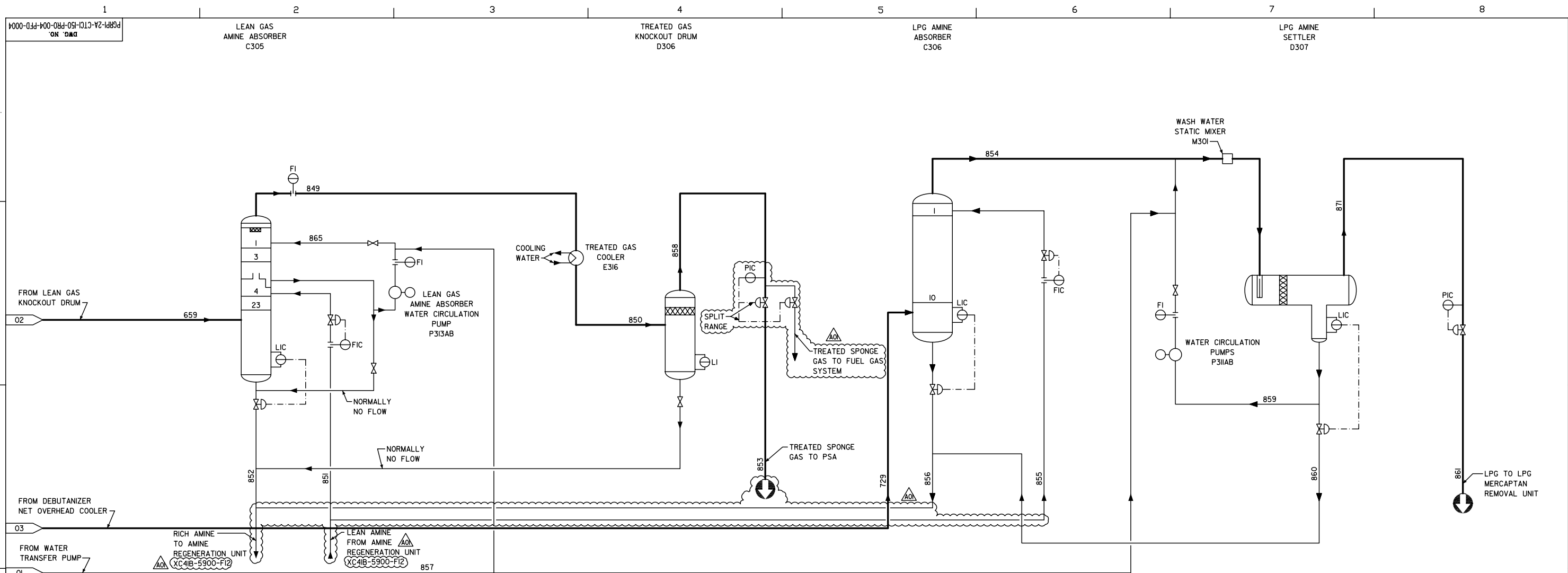
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-004-PFD-0003

CTCI DWG. No. XC4IA-6100-D03

WORK PACKAGE No.	SYSTEM	CLASS	STATUS
	DEPT CODE		

LAST REV. DATE: FILESPEC: SCALE :

THESE PROCESS SPECIFICATIONS ARE FOR DESIGN PURPOSES ONLY, AND WHILE USEFUL AS A GUIDE IN OPERATIONS, DO NOT NECESSARILY REPRESENT EXACT OPERATING CONDITIONS OR GUARANTEES.



STREAM DATA SUMMARY																	
PHASE 1																	
STREAM NUMBER		659	729	849	850	851	852	853	854	855	856	857	858	859	860	861	865
TEMPERATURE	DEG C	40	40	46	40	45	48	38	40	45	40	49	40	40	40	40	49
PRESSURE	MPA (G)	1.574	1.625	1.54	1.505	1.983	0.08	0.7	1.418	1.983	0.08	1.871	1.5	1.612	0.08	1.245	1.535
WEIGHT FLOW	KG/H	15923	69237	15368	15368	57574	58136	15368	69204	3651	4155	494	15368	21576	508	69226	19593
ENTHALPY	MW	1.15	1.23	1.16	1.10	1.56	1.73	1.10	1.23	0.10	0.11	0.02	1.10	1.00	0	1.23	0.76

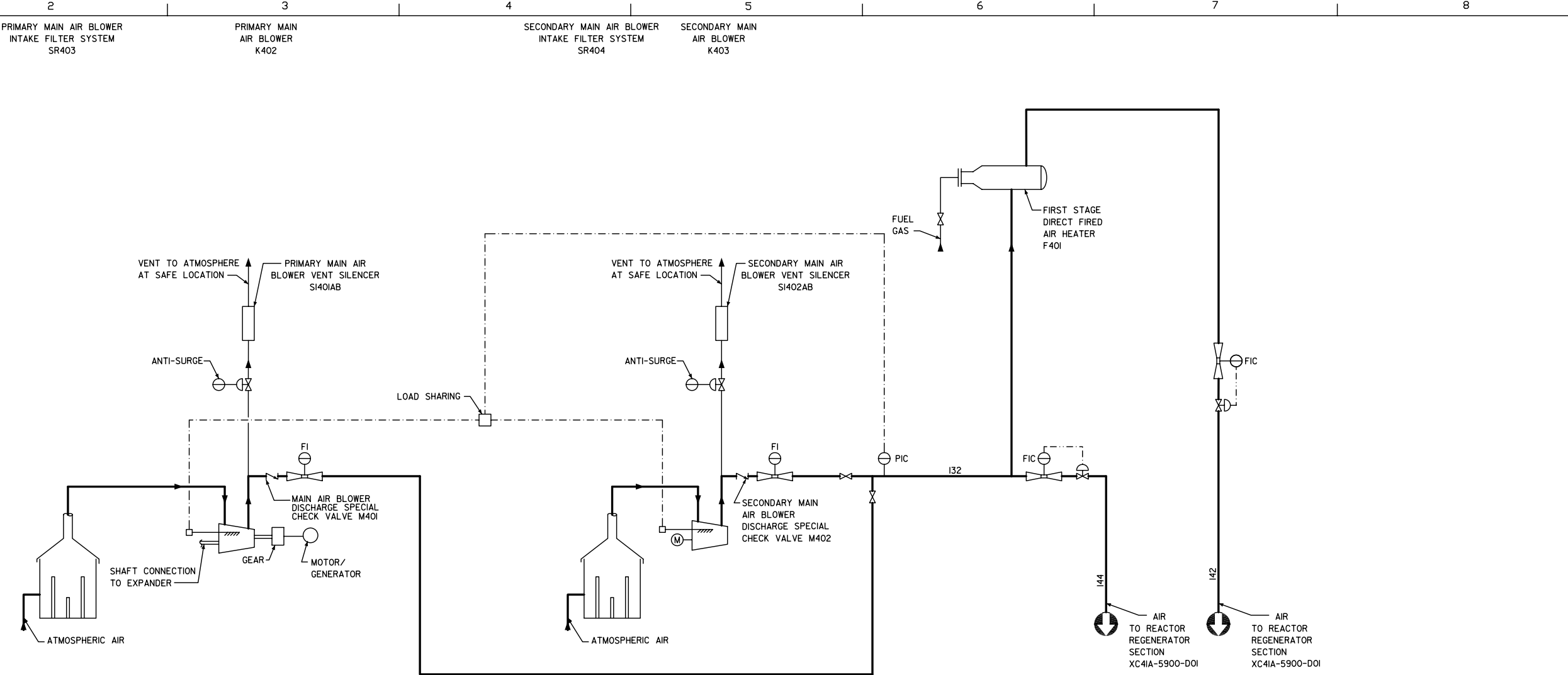
STREAM DATA SUMMARY																	
PHASE 2																	
STREAM NUMBER		659	729	849	850	851	852	853	854	855	856	857	858	859	860	861	865
TEMPERATURE	DEG C	40	40	46	40	45	50	40	40	45	40	49	40	40	40	40	49
PRESSURE	MPA (G)	1.583	1.622	1.549	1.514	1.983	0.08	0.7	1.588	1.983	0.08	1.871	1.59	1.612	0.08	1.415	1.535
WEIGHT FLOW	KG/H	15735	65221	14729	14729	58067	59112	14729	65149	4243	4772	472	14729	20419	485	65163	19593
ENTHALPY	MW	1.13	1.16	1.08	1.03	1.58	1.91	1.03	1.16	0.12	0.13	0.02	1.03	0.95	0	1.16	0.76

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-'07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-'07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECK	APPRO	DATE
UOP A Honeywell Company PROCESS FLOW DIAGRAM AMINE TREATING UOP UNSATURATE GAS CONCENTRATION PROCESS UNIT						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-004-PFD-0004						
CTCI DWG. No. XC4IA-6100-D04						
WORK PACKAGE No.	SYSTEM	CLASS		STATUS		
	DIST CODE					
LAST REV. DATE:		SCALE :				
FILESPEC:						

MATERIAL BALANCE, KG MOL / HR																						
PHASE 1																						
STREAM	254	264	271	307	534	551	616	661	691	746	851	852	853	854	855	856	857	858	859	860	861	872
H2O	5.24	5.24	12.55	13.28	1.35	161.73	1910.42	1.22	1.70	----	2235.19	2235.03	4.61	----	141.74	168.25	27.42	4.61	1197.32	27.42	TRACE	1781.56
N2	0.16	0.16	0.20	1.22	0.09	141.90	----	29.46	0.03	----	----	0.04	111.49	----	----	----	----	111.49	----	----	----	----
CO	0.41	0.41	0.19	0.55	0.02	8.73	----	1.76	0.03	----	----	----	6.65	----	----	----	----	6.65	----	----	----	----
CO2	0.03	0.03	0.09	3.07	0.25	28.35	----	5.36	0.01	----	----	9.76	10.24	----	----	----	----	10.24	----	----	----	----
H2S	0.01	0.01	0.03	1.14	0.10	5.56	----	0.88	TRACE	----	1.45	4.73	0.01	----	0.09	0.47	----	TRACE	----	----	0.05	----
H2	0.39	0.39	0.50	2.61	0.15	558.67	----	116.36	0.07	----	----	0.22	440.28	----	----	----	----	440.28	----	----	----	----
C1	0.34	0.34	0.58	7.65	0.63	284.73	----	58.16	0.08	----	----	0.21	220.08	----	----	----	----	220.08	----	----	----	----
=C2	0.22	0.22	0.58	15.88	1.46	191.55	----	37.17	0.08	----	----	0.46	140.63	----	----	----	----	140.63	----	----	0.02	----
C2	0.13	0.13	0.40	12.86	1.23	121.43	----	22.70	0.05	----	----	0.12	85.89	1.68	----	----	----	85.89	----	----	1.69	----
=C3	1.55	1.55	5.34	8.74	18.96	600.73	----	1.92	0.72	TRACE	----	0.03	7.26	607.47	----	0.10	----	7.26	----	----	607.82	----
C3	0.34	0.34	1.18	1.71	4.28	117.46	----	0.27	0.16	TRACE	----	----	1.02	120.03	----	----	----	1.02	----	----	120.11	----
=IC4	0.54	0.54	2.04	2.47	10.53	108.32	----	0.09	0.28	0.96	----	----	0.32	117.31	----	----	----	0.32	----	----	117.32	----
=N1C4	0.47	0.47	1.77	2.19	9.03	91.36	----	0.08	0.24	1.04	----	----	0.29	98.81	----	----	----	0.29	----	----	98.82	----
=T2C4	0.60	0.60	2.34	3.38	14.05	114.62	----	0.09	0.32	3.80	----	----	0.36	123.69	----	0.01	----	0.36	----	----	123.70	----
=C2C4	0.46	0.46	1.81	3.21	11.19	83.01	----	0.08	0.24	5.83	----	----	0.29	86.84	----	0.01	----	0.29	----	----	86.84	----
IC4	0.78	0.78	2.94	3.50	13.86	164.15	----	0.14	0.40	0.85	----	----	0.54	176.32	----	----	----	0.54	----	----	176.34	----
NC4	0.27	0.27	1.05	1.57	5.82	50.33	----	0.05	0.14	1.95	----	----	0.20	53.57	----	----	----	0.20	----	----	53.56	----
=IC5	2.12	2.12	9.32	43.92	73.81	244.78	----	0.14	1.26	277.40	----	----	0.55	6.74	----	----	----	0.55	----	----	6.74	----
IC5	1.20	1.20	5.16	25.58	38.89	140.14	----	0.10	0.70	151.48	----	----	0.39	7.11	----	----	----	0.39	----	----	7.11	----
NC5	0.29	0.29	1.24	5.06	10.27	28.78	----	0.01	0.17	35.13	----	----	0.06	0.16	----	----	----	0.06	----	----	0.16	----
C6+ PROD	1634.29	1634.29	3128.08	3567.34	751.99	228.55	----	0.12	423.54	964.36	----	----	0.44	----	----	----	----	0.44	----	----	TRACE	----
MDEA	----	----	----	----	----	----	----	----	----	----	144.82	144.82	----	----	9.18	9.25	----	----	----	0.12	----	----
MOLE FLOW, KG MOLE/H	1649.84	1649.84	3177.37	3726.92	967.95	3474.87	1910.42	276.15	430.22	1442.79	2381.46	2395.42	1031.58	1399.73	151.01	178.09	27.42	1031.58	1197.32	27.54	1400.27	1781.56
WEIGHT FLOW, KG/H	507492	507492	642490	736394	94771	139333	34417	4208	86993	135020	57574	58136	15368	69204	3651	4155	494	15368	21576	508	69226	32095
MOLE WEIGHT, KG/KG MOLE	307.60	307.60	202.21	197.59	97.91	40.10	18.02	15.24	202.21	93.58	24.18	24.27	14.90	49.44	24.18	23.33	18.02	14.90	18.02	18.45	49.44	18.02
LIQ VOL FLOW, STD M3/H	504.34	504.34	719.30	828.43	129.65	0	34.45	0	97.39	189.05	57.00	57.75	0	124.2	3.61	4.13	0.49	0	21.60	0.51	124.21	32.13
LIQ DENSITY, KG/STD M3	1006	1006	893	889	731	0	999	0	893	714	1010	1009	0	557.4	1011	1006	999	0	999	1000	557	999
VAP VOL FLOW, NRML M3/H	0	0	0	0	0	77886	0	6190	0	0	0	0	23122	0	0	0	0	23120	0	0	0	0
VAP DENSITY, KG/STD M3	0	0	0	0	0	1.7	0	0.6	0	0	0	0	0.6	0	0	0	0	0.629	0	0	0	0

MATERIAL BALANCE, KG MOL / HR																						
PHASE 2																						
STREAM	254	264	271	307	534	551	616	661	691	746	851	852	853	854	855	856	857	858	859	860	861	872
H2O	5.51	5.51	14.66	15.31	1.23	134.79	1731.95	0.85	1.53	----	2254.32	2254.97	3.41	0.88	164.71	190.00	26.17	3.41	1133.11	26.17	TRACE	1625.30
N2	0.13	0.13	0.20	1.22	0.08	130.00	----	25.75	0.02	----	----	0.05	103.27	----	----	----	----	103.27	----	----	----	----
CO	0.37	0.37	0.19	0.56	0.02	7.98	----	1.53	0.02	----	----	----	6.13	----	----	----	----	6.13	----	----	----	----
CO2	0.03	0.03	0.09	3.04	0.25	26.05	----	4.66	0.01	----	----	11.75	6.81	----	----	----	----	6.81	----	----	----	----
H2S	0.04	0.04	0.14	5.15	0.46	24.08	----	3.54	0.01	----	1.46	15.71	TRACE	0.05	0.11	1.81	----	TRACE	----	----	0.05	----
H2	0.13	0.13	0.20	1.03	0.06	200.29	----	39.82	0.02	----	----	0.11	159.68	----	----	----	----	159.68	----	----	----	----
C1	0.35	0.35	0.68	8.53	0.68	294.69	----	57.38	0.07	----	----	0.30	230.07	----	----	----	----	230.07	----	----	----	----
=C2	0.22	0.22	0.69	17.46	1.59	199.06	----	36.72	0.07	----	----	0.63	147.25	----	----	----	----	147.25	----	----	0.01	----
C2	0.13	0.13	0.48	14.16	1.34	125.94	----	22.56	0.05	----	----	0.16	90.47	0.53	----	----	----	90.47	----	----	0.58	----
=C3	1.57	1.57	6.21	8.59	20.05	599.35	----	1.28	0.65	TRACE	----	0.02	5.14	610.77	----	0.13	----	5.14	----	----	611.11	----
C3	0.32	0.32	1.27	1.63	4.17	108.46	----	0.18	0.13	TRACE	----	----	0.71	111.46	----	----	----	0.71	----	----	111.50	----
=IC4	0.51	0.51	2.23	2.56	10.47	101.15	----	0.07	0.23	0.85	----	----	0.27	110.31	----	----	----	0.27	----	----	110.35	----
=N1C4	0.45	0.45	1.94	2.26	8.97	85.26	----	0.06	0.20	0.92	----	----	0.24	92.87	----	----	----	0.24	----	----	92.89	----
=T2C4	0.57	0.57	2.57	3.43	13.95	106.89	----	0.08	0.27	3.36	----	----	0.31	116.46	----	0.01	----	0.31	----	----	116.50	----
=C2C4	0.44	0.44	1.98	3.19	11.13	77.34	----	0.07	0.21	5.27	----	----	0.26	81.83	----	0.02	----	0.26	----	----	81.87	----
IC4	0.65	0.65	2.82	3.17	12.04	134.57	----	0.10	0.29	0.63	----	----	0.39	145.43	----	----	----	0.39	----	----	145.48	----
NC4	0.23	0.23	1.00	1.38	5.05	41.19	----	0.04	0.10	1.47	----	----	0.15	44.31	----	----	----	0.15	----	----	44.32	----
=IC5	1.93	1.93	9.60	40.14	68.98	214.61	----	0.13	1.00	246.15	----	----	0.50	6.86	----	----	----	0.50	----	----	6.86	----
IC5	0.94	0.94	4.60	20.22	31.46	106.70	----	0.08	0.48	116.12	----	----	0.32	6.29	----	----	----	0.32	----	----	6.30	----
NC5	0.23	0.23	1.10	4.01	8.19	21.60	----	0.01	0.11	26.75	----	----	0.04	0.14	----	----	----	0.04	----	----	0.14	----
C6+ PROD	1529.63	1529.63	3230.03	3579.46	679.88	181.20	----	0.09	336.20	847.58	----	----	0.36	----	----	----	----	0.36	----	----	TRACE	----
MDEA	----	----	----	----	----	----	----	----	----	----	146.06	146.06	----	----	10.67	10.74	----	----	----	0.11	----	----
MOLE FLOW, KG MOLE/H	1544.40	1544.40	3282.67	3736.50	880.06	2921.20	1731.95	194.99	341.68	1249.10	2401.84	2429.76	755.79	1328.19	175.49	202.71	26.17	755.79	1133.11	26.28	1327.95	1625.30
WEIGHT FLOW, KG/H	457363	457363	654269	728483	85419	124901	31202	3924	68100	116941	58067	59112	14729	65149	4243	4772	472	14729	20419	485	65163	29280
MOLE WEIGHT, KG/KG MOLE	296.14	296.14	199.31	194.96	97.06	42.76	18.02	20.13	199.31	93.62	24.18	24.33	19.49	49.05	24.18	23.54	18.02	19.49	18.02	18.45	49.07	18.02
LIQ VOL FLOW, STD M3/H	445.88	445.88	729.29	815.73	115.28	0	31.23	0	75.91	161.18	57.49	58.84	0	117.1	4.20	4.75	0.47	0	20.44	0.48	117.12	29.31
LIQ DENSITY, KG/STD M3	1026	1026	897	893	741	0	999	0	897	726	1010	1005	0	556.4	1010	1005	999	0	999	1000	556	999
VAP VOL FLOW, NRML M3/H	0	0	0	0	0	65476	0	4370	0	0	0	0	16940	0	0	0	0	16938	0	0	0	0
VAP DENSITY, KG/STD M3	0	0	0	0	0	1.8	0	0.8	0	0	0	0	0.8	0	0	0	0	0.823	0	0	0	0

1000-01d-500-08-05-101-1889d
ON 'DMD



STREAM DATA SUMMARY				
PHASE 1				
STREAM NUMBER		132	142	144
TEMPERATURE	DEG C	196	196	196
PRESSURE	MPA (G)	0.283	0.252	0.266
WEIGHT FLOW	KG/H	498218	372216	126002
ENTHALPY	MW	39.29	29.35	9.94

STREAM DATA SUMMARY				
PHASE 2				
STREAM NUMBER		132	142	144
TEMPERATURE	DEG C	195	195	195
PRESSURE	MPA (G)	0.283	0.252	0.266
WEIGHT FLOW	KG/H	428203	320265	107938
ENTHALPY	MW	33.59	25.12	8.47

NOTE: ALL EQUIPMENT TAGS TO BE PRECEDED BY '150-'

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5-07	
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29-07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE	
Uop A Honeywell Company CEI CTCI TITLE PROCESS FLOW DIAGRAM MAIN AIR BLOWERS POWER RECOVERY SYSTEM UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT 會 簽 REVIEWED GXPC DWG. No. PGRPI-2A-CTCI-150-PRO-005-PFD-0001 CTCI DWG. No. XC4IA-6200-DOI WORK PACKAGE No. SYSTEM DBT CODE CLASSSTATUS LAST REV. DATE: FILESPEC:SCALE :							

SER: FILE: SIZE: AL DATE: BY: 1 2 3 4 5 6 7

A

B

C

D

E

F

A

B

C

D

E

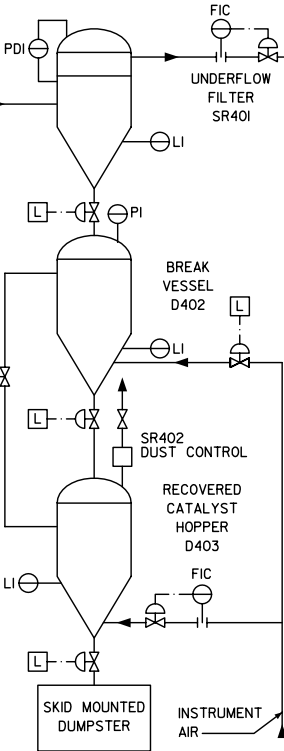
F

SIGNAL FROM PDIC
REACTOR REGENERATOR
SECTION
XC4IA-5900-DOI

SIGNAL FROM PIC
REACTOR REGENERATOR
SECTION
XC4IA-5900-DOI

165
FLUE GAS FROM
REACTOR REGENERATOR
SECTION
XC4IA-5900-DOI

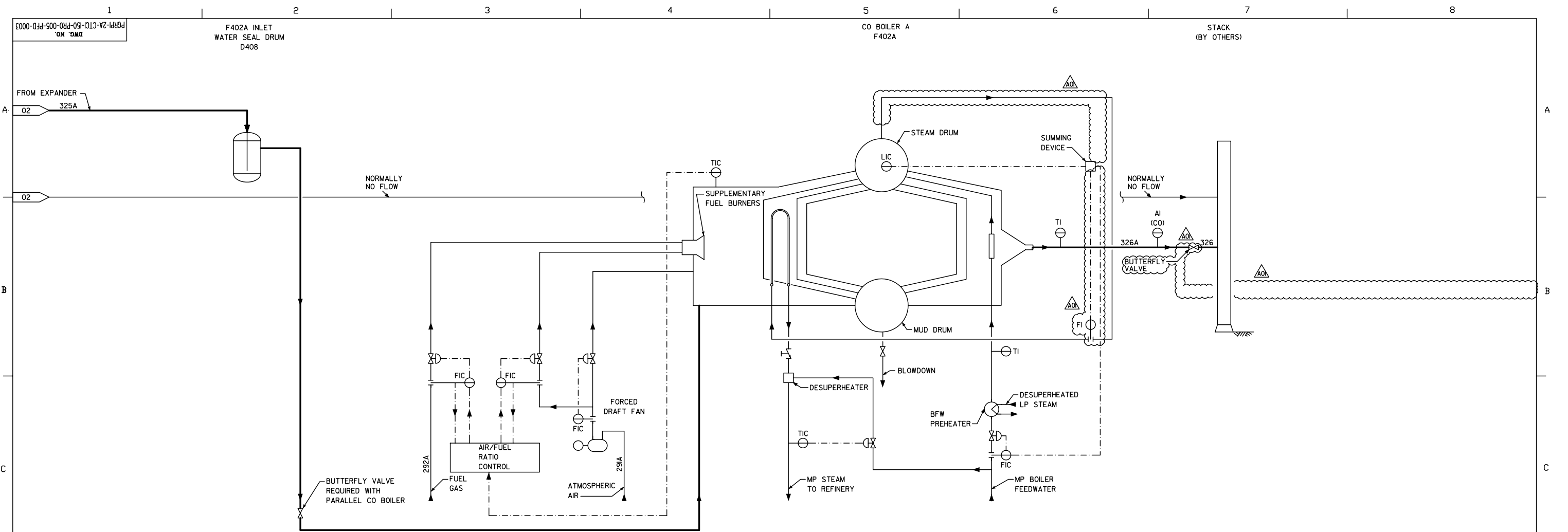
POWER
RECOVERY
CONTROL SYSTEM



STREAM DATA SUMMARY								
PHASE 1								
STREAM NUMBER	165	273	281	282	322	325	325A	325B
TEMPERATURE DEG C	700	686	686	550	686	565	565	565
PRESSURE MPA (G)	0.165	0.01	0.141	0.01	0.152	0.01	0.01	0.01
WEIGHT FLOW KG/H	543728	16312	485548	485548	41868	543728	271864	271864
ENTHALPY MW	160.58	4.74	141.02	118.14	12.16	135.04	135.04	135.04

STREAM DATA SUMMARY								
PHASE 2								
STREAM NUMBER	165	273	281	282	322	325	325A	325B
TEMPERATURE DEG C	700	686	686	547	686	554	554	554
PRESSURE MPA (G)	0.165	0.01	0.141	0.01	0.152	0.01	0.01	0.01
WEIGHT FLOW KG/H	465781	13973	442492	442492	9316	465781	232891	232891
ENTHALPY MW	137.77	4.06	128.71	107.44	2.71	114.21	114.21	114.21

AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5/07
0	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE
Uop A Honeywell Company CEI CTCI						
TITLE PROCESS FLOW DIAGRAM EXPANDER TRAIN POWER RECOVERY SYSTEM UOP FLUID CATALYTIC CRACKING PROCESS (RESID) UNIT						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-005-PFD-0002						
CTCI DWG. No. XC4IA-6200-D02						
WORK PACKAGE No.		SYSTEM	CLASS	STATUS		
		DEPT CODE				
LAST REV. DATE:		SCALE :				
FILESPEC:						



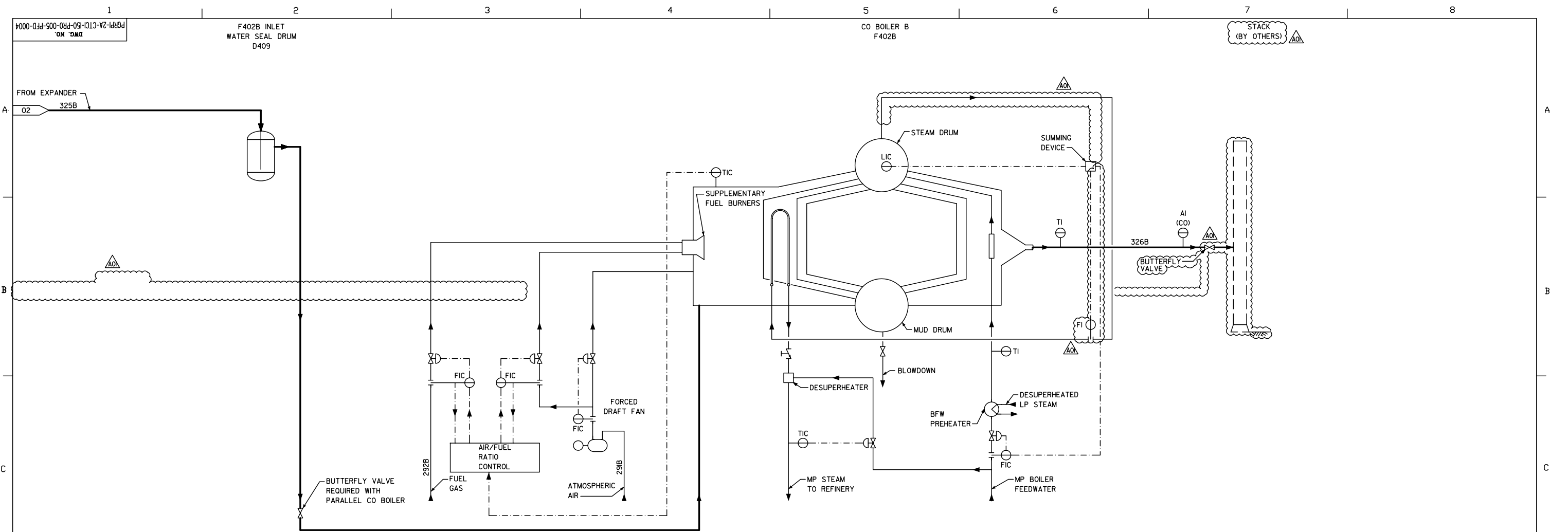
STREAM DATA SUMMARY					
PHASE 1					
STREAM NUMBER		291A	292A	325A	326A
TEMPERATURE	DEG C	36	40	565	260
PRESSURE	MPA (G)	-----	0.4	0.01	0.002
WEIGHT FLOW	KG/H	95162	2291	271864	369317
ENTHALPY	MW	6.13	0.42	135.04	109.03

STREAM DATA SUMMARY					
PHASE 2					
STREAM NUMBER		291A	292A	325A	326A
TEMPERATURE	DEG C	36	40	554	260
PRESSURE	MPA (G)	-----	0.4	0.01	0.002
WEIGHT FLOW	KG/H	81961	2087	232891	316938
ENTHALPY	MW	5.28	0.38	114.21	94.07

MATERIAL BALANCE, KG MOL / HR					
PHASE 1 (NOTE 1)					
STREAM	132	165	291	292	326
H2O	1064.46	2612.95	406.63	-----	3485.01
O2	3486.91	16.50	1332.03	0.68	463.46
N2	13117.42	13158.29	5010.96	15.81	18185.06
CO	-----	789.98	-----	-----	-----
CO2	-----	2391.20	-----	1.80	3441.03
SO2	-----	2.09	-----	-----	2.10
SO3	-----	0.23	-----	-----	0.23
H2S	-----	-----	-----	TRACE	-----
H2	-----	-----	-----	93.50	-----
C1	-----	-----	-----	48.68	-----
=C2	-----	-----	-----	14.62	-----
C2	-----	-----	-----	34.93	-----
=C3	-----	-----	-----	1.31	-----
C3	-----	-----	-----	19.58	-----
=IC4	-----	-----	-----	0.17	-----
IC4	-----	-----	-----	0.07	-----
NC4	-----	-----	-----	7.14	-----
NC5	-----	-----	-----	2.79	-----
NC6	-----	-----	-----	0.68	-----
MOLE FLOW, KG MOLE/H	17668.78	18971.25	6749.62	241.77	25576.88
WEIGHT FLOW, KG/H	498218	543728	190324	4582	738633
MOLE WEIGHT, KG/KG MOLE	28.20	28.66	28.20	18.95	28.88
LIQ VOL FLOW, STD M3/H	0	0	0	0	0
LIQ DENSITY, KG/STD M3	0	0	0	0	0
VAP VOL FLOW, NRML M3/H	396031	425225	151287	5419	573285
VAP DENSITY, KG/STD M3	1.2	1.2	1.2	0.8	1.2

MATERIAL BALANCE, KG MOL / HR					
PHASE 2 (NOTE 1)					
STREAM	132	165	291	292	326
H2O	914.87	2251.95	350.22	-----	3026.12
O2	2996.89	14.13	1147.24	0.62	378.31
N2	11274.00	11264.10	4315.81	14.40	15594.31
CO	-----	673.31	-----	-----	-----
CO2	-----	2038.11	-----	1.64	2948.10
SO2	-----	8.99	-----	-----	9.00
SO3	-----	1.00	-----	-----	1.00
H2S	-----	-----	-----	TRACE	-----
H2	-----	-----	-----	85.16	-----
C1	-----	-----	-----	44.34	-----
=C2	-----	-----	-----	13.32	-----
C2	-----	-----	-----	31.82	-----
=C3	-----	-----	-----	1.19	-----
C3	-----	-----	-----	17.83	-----
=IC4	-----	-----	-----	0.15	-----
IC4	-----	-----	-----	0.07	-----
NC4	-----	-----	-----	6.51	-----
NC5	-----	-----	-----	2.54	-----
NC6	-----	-----	-----	0.62	-----
MOLE FLOW, KG MOLE/H	15185.76	16251.59	5813.27	220.23	21956.84
WEIGHT FLOW, KG/H	428203	465781	163921	4173	633875
MOLE WEIGHT, KG/KG MOLE	28.20	28.66	28.20	18.95	28.87
LIQ VOL FLOW, STD M3/H	0	0	0	0	0
LIQ DENSITY, KG/STD M3	0	0	0	0	0
VAP VOL FLOW, NRML M3/H	340376	364266	130300	4936	492144
VAP DENSITY, KG/STD M3	1.2	1.2	1.2	0.8	1.2

NOTE: 1. FOR STREAM FLOWRATE,
STREAM 291 = STREAM 291A + STREAM 291B
STREAM 292 = STREAM 292A + STREAM 292B



STREAM DATA SUMMARY					
PHASE 1					
STREAM NUMBER		291B	292B	325B	326B
TEMPERATURE	DEG C	36	40	565	260
PRESSURE	MPA (G)	----	0.4	0.01	0.002
WEIGHT FLOW	KG/H	95162	2291	271864	369317
ENTHALPY	MW	6.13	0.42	135.04	109.03

STREAM DATA SUMMARY					
PHASE 2					
STREAM NUMBER		291B	292B	325B	326B
TEMPERATURE	DEG C	36	40	554	260
PRESSURE	MPA (G)	----	0.4	0.01	0.002
WEIGHT FLOW	KG/H	81961	2087	232891	316938
ENTHALPY	MW	5.28	0.38	114.21	94.07

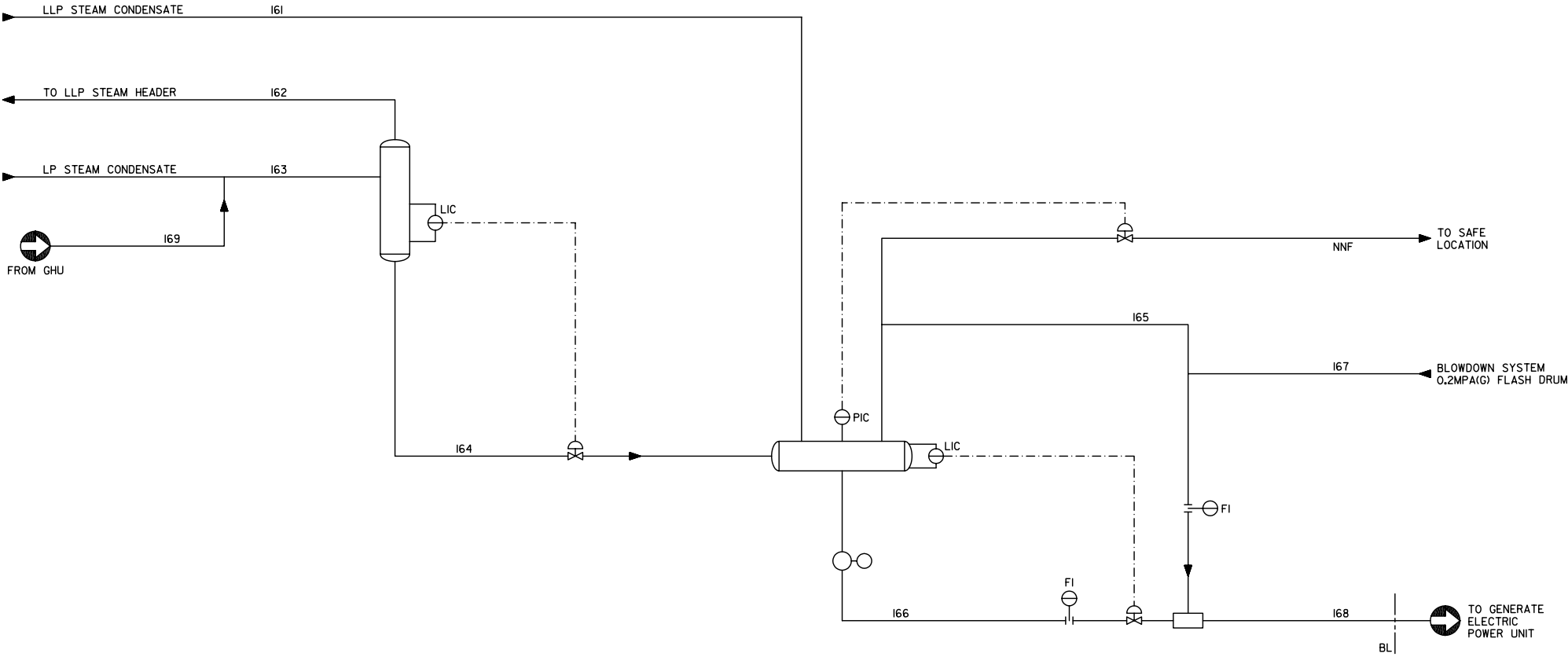
AOI	ISSUE FOR FEED	LSW	CYH	MHC	WHC	10/5/07	
O	ISSUE FOR APPROVAL	SFL	CK	MHC	WHC	6/29/07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHEKD	APPD	DATE	
							
TITLE PROCESS FLOW DIAGRAM CO BOILER B POWER RECOVERY SYSTEM UOP FLUID CATALYTIC CRACKING PRCSS (RESID) UNIT							
會 簽							
REVIEWED							
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-005-PFD-0004							
CTCI DWG. No. XC4IA-6200-D04							
WORK PACKAGE No.		SYSTEM	CLASS		STATUS		
		DIST CODE					
LAST REV. DATE:					SCALE :		
FILESPEC:							

1
PGRPI-2A-CTCI-ISO-PRO-006-PFD-0002
DWG. NO.

2
LP CONDENSATE
COLLECTION DRUM
D504

3
LLP CONDENSATE
COLLECTION DRUM
D505

4
CONDENSATE
PUMPS
(P505AB) A0



STREAM DATA SUMMARY									
PHASE 1									
STREAM NO.	I61	I62	I63	I64	I65	I66	I67	I68	I69
FLOW RATE	KG/H	26530	4120	63720	59590	5570	80540	660	86770
PRESSURE	MPA(G)	0.2	0.4	0.4	0.4	0.2	0.9	0.2	0.5
TEMPERATURE	DEG C	134	152	152	152	134	134	134	152

STREAM DATA SUMMARY									
PHASE 2									
STREAM NO.	I61	I62	I63	I64	I65	I66	I67	I68	I69
FLOW RATE	KG/H	26210	3850	59510	55650	5300	76560	540	82400
PRESSURE	MPA(G)	0.2	0.4	0.4	0.4	0.2	0.9	0.2	0.5
TEMPERATURE	DEG C	134	152	152	152	134	134	134	152

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECK	APPD	DATE
						
TITLE						
UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM STEAM AND CONDENSATE SYSTEM						2 2
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PR0-006-PFD-0002						
CTCI DWG. No.		XC4IB-5900-F02				
WORK PACKAGE No.		SYSTEM	CLASS		STATUS	
		DSMT CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						

SER: 1
FILE: 2
DATE: 3
BY: 4

5

6

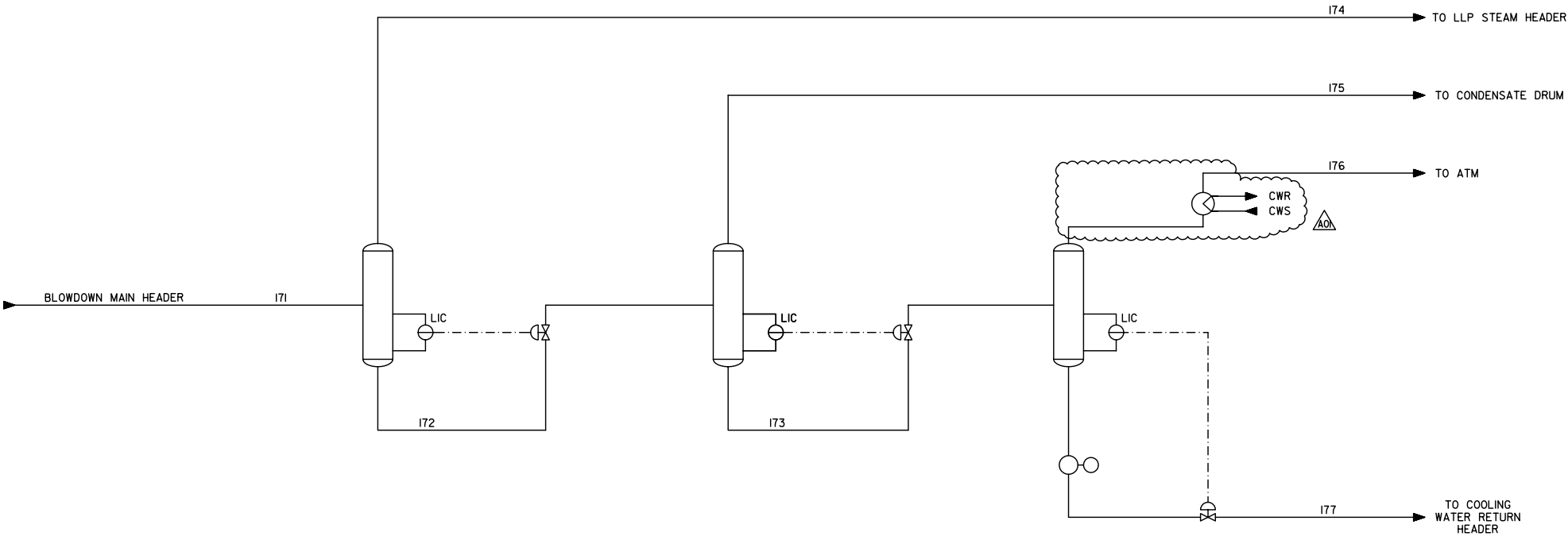
7

8

9

10

11



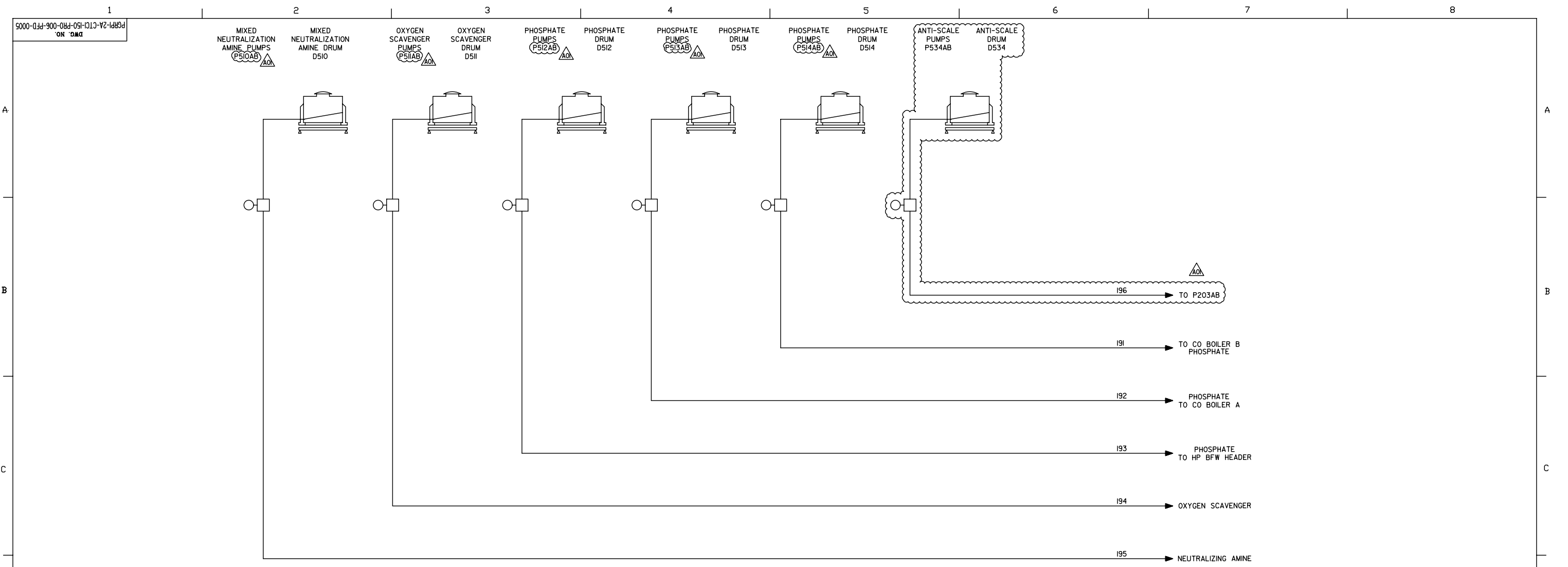
STREAM DATA SUMMARY
PHASE 1

STREAM NO.	I71	I72	I73	I74	I75	I76	I77
FLOW RATE	KG/H	23060	18350	17694	4710	656	1119
PRESSURE	MPA(G)	0.4	0.4	0.2	0.4	0.2	0
TEMPERATURE	DEG C	152	152	134	152	134	100

STREAM DATA SUMMARY
PHASE 2

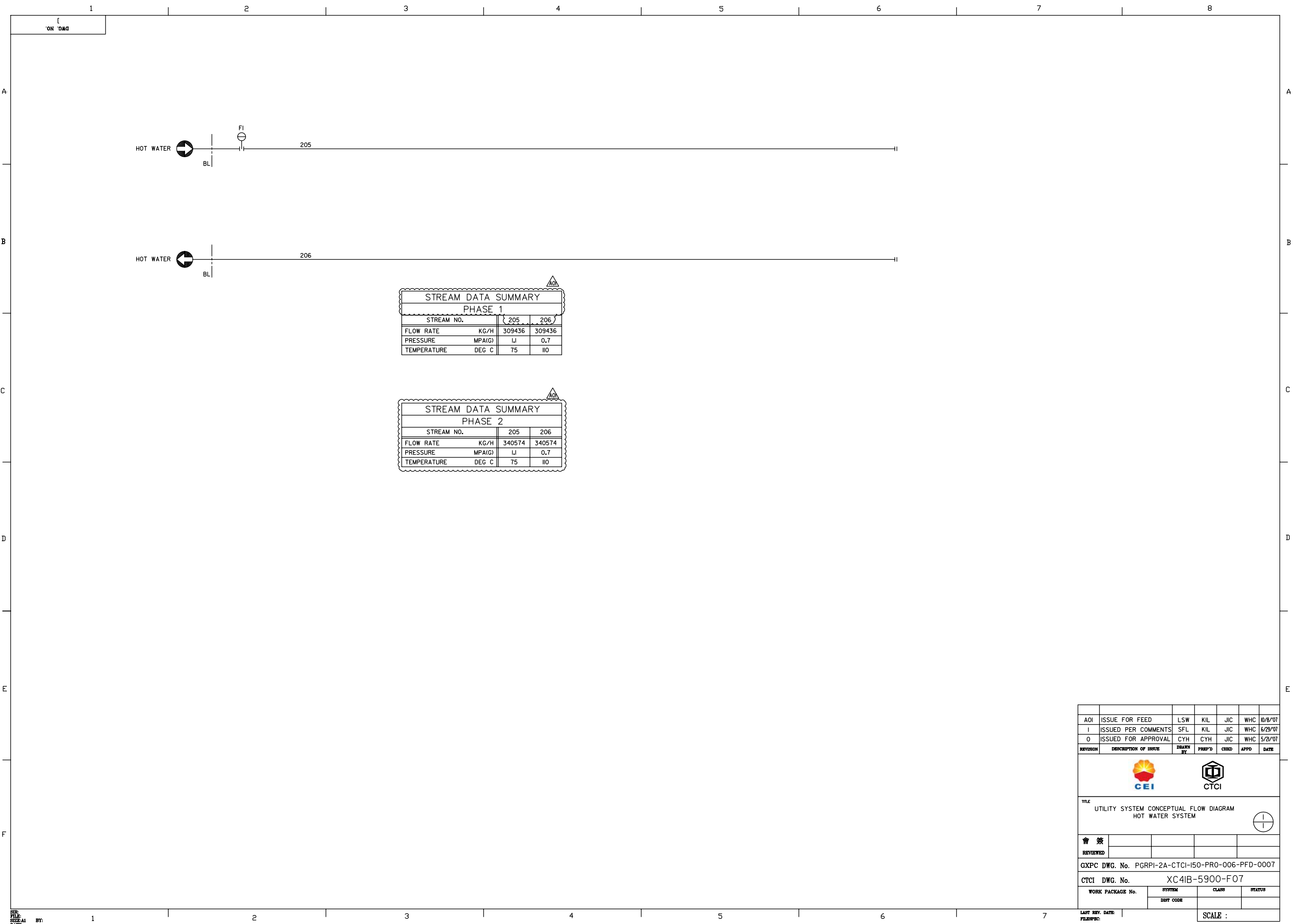
STREAM NO.	I71	I72	I73	I74	I75	I76	I77
FLOW RATE	KG/H	19000	15120	14580	3880	540	920
PRESSURE	MPA(G)	0.4	0.4	0.2	0.4	0.2	0
TEMPERATURE	DEG C	152	152	134	152	134	100

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07	
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07	
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHKD	APPD	DATE	
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM BLOWDOWN SYSTEM 會 簽 REVIEWED GXPC DWG. No. PGRPI-2A-CTCI-ISO-PRO-006-PFD-0003 CTCI DWG. No. XC4IB-5900-F03 WORK PACKAGE No. SYSTEM CLASS STATUS LAST REV. DATE: FILESPEC: SCALE :							

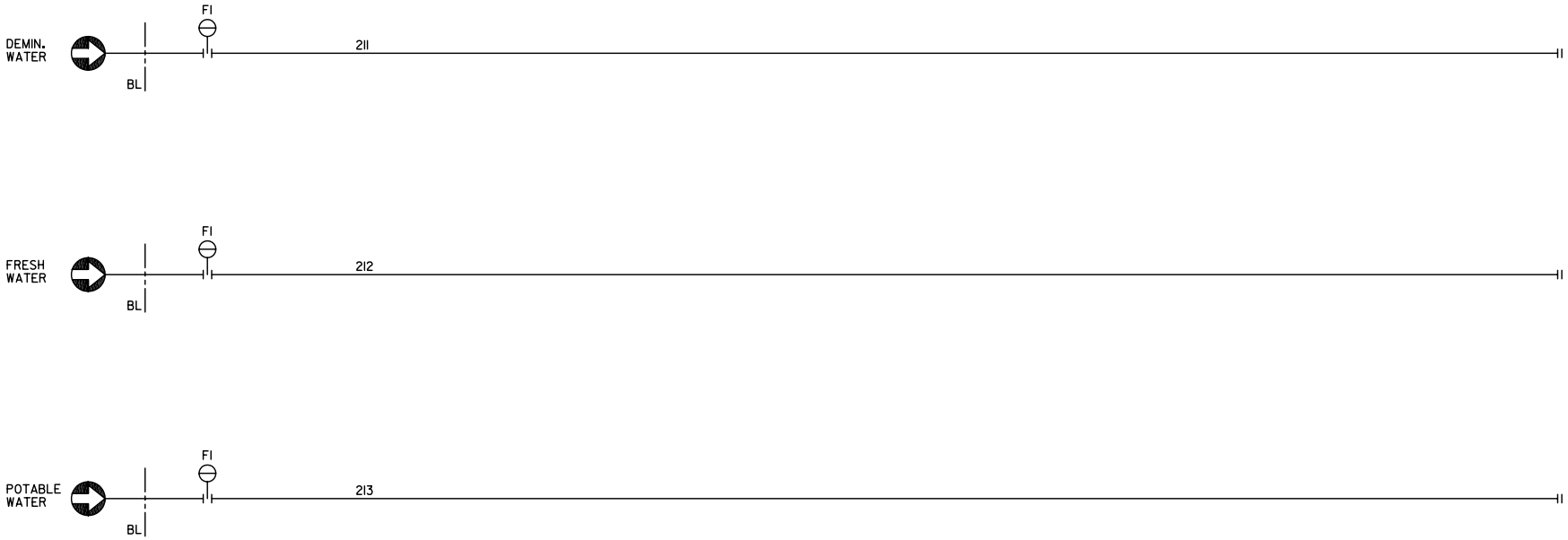


STREAM DATA SUMMARY						
PHASE 1/2						
STREAM NO.		I91	I92	I93	I94	I95
FLOW RATE	KG/H	16.2	16.2	16.2	5.1	5
PRESSURE	MPA(G)	4.33	4.33	5.49	0.19	0.18
TEMPERATURE	DEG C	37.5	37.5	37.5	37.5	37.5

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECK	APP'D	DATE
 						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM CHEMICAL FEED SYSTEM						
						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-150-PRO-006-PFD-0005						
CTCI DWG. No. XC4IB-5900-F05						
WORK PACKAGE No.		SYSTEM	CLASS		STATUS	
		DEPT CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						



PGRPI-2A-CTCI-I50-PRO-006-PFD-0008
DWG. NO.



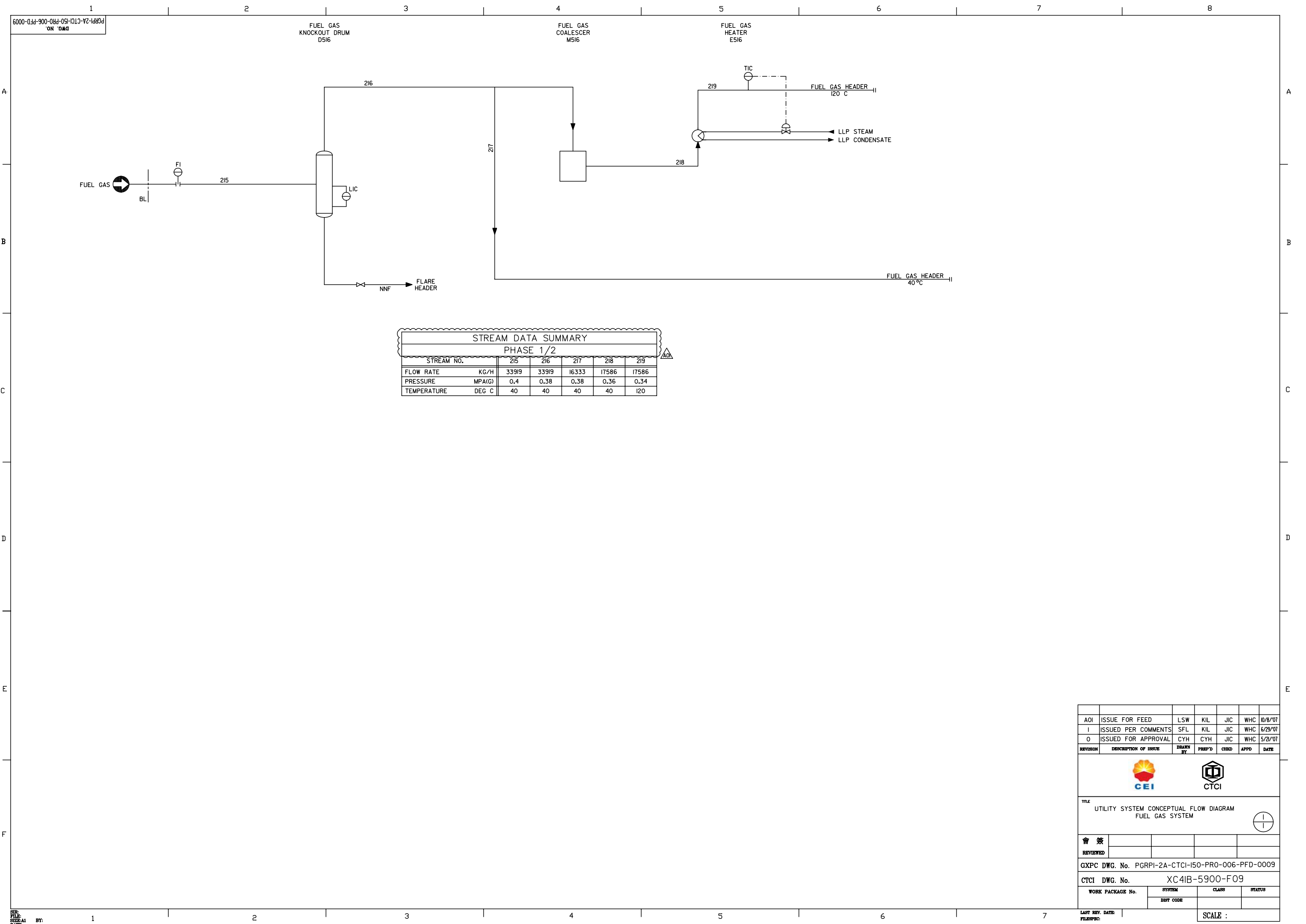
STREAM DATA SUMMARY				
PHASE 1 / 2				
STREAM NO.		211	212	213
FLOW RATE	KG/H	483894	60000	60000
PRESSURE	MPA(G)	0.5	0.4	0.3
TEMPERATURE	DEG C	55	37.5	37.5

△AO

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPD	DATE
 CEI  CTCI						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM DEMINERAL WATER , FRESH WATER AND POTABLE WATER SYSTEM						
						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0008						
CTCI DWG. No. XC4IB-5900-F08						
WORK PACKAGE No.		SYSTEM	CLASS	STATUS		
		DEPT CODE				
LAST REV. DATE:		SCALE :				
FILESPEC:						

SER:
FILE:
DATE:

BY:



STREAM DATA SUMMARY						
PHASE 1/2						
STREAM NO.		215	216	217	218	219
FLOW RATE	KG/H	33919	33919	16333	17586	17586
PRESSURE	MPA(G)	0.4	0.38	0.38	0.36	0.34
TEMPERATURE	DEG C	40	40	40	40	120

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07	
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07	
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPD	DATE	
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM FUEL GAS SYSTEM 會 簽 REVIEWED GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0009 CTCI DWG. No. XC4IB-5900-F09 WORK PACKAGE No. SYSTEM CLASS STATUS DBPT CODE LAST REV. DATE: FILESPEC: SCALE :							

0000-PFD-006-PR0-ISO-CTCI-2A-PGRPI
DWG. NO.

FUEL OIL
SURGE
DRUM
DS17

FUEL OIL
PUMPS
(F517AB) AO

FLARE
HEADER

NITROGEN

FUEL OIL
SUPPLY

FUEL OIL
USERS

LLP STEAM
LLP CONDENSATE

STREAM DATA SUMMARY						
PHASE 1/2						
STREAM NO.		222	223	224	225	226
FLOW RATE	KG/H	9460	9460	NNF	9460	9460
PRESSURE	MPA(G)	1.1	0.08	0.08	0.9/4	0.7
TEMPERATURE	DEG C	150	150	150	150	150

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPD	DATE
 CEI  CTCI						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM FUEL OIL SYSTEM						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-ISO-PR0-006-PFD-0010						
CTCI DWG. No. XC4IB-5900-FIO						
WORK PACKAGE No.		SYSTEM	CLASS	STATUS		
		DSBT CODE				
LAST REV. DATE:		SCALE :				
FILESPEC:						

SER:
FILE:
DATE:

BY:

1

2

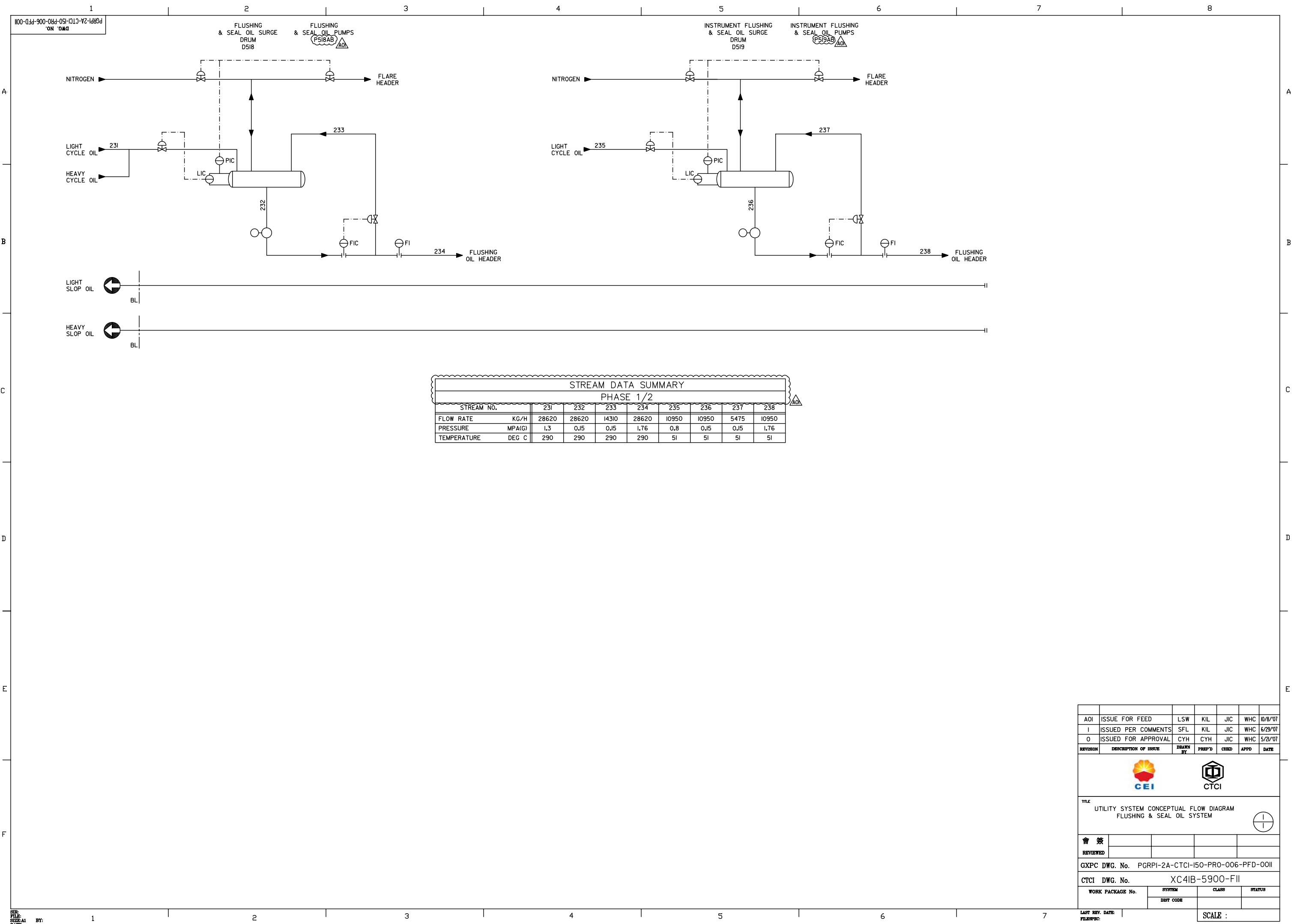
3

4

5

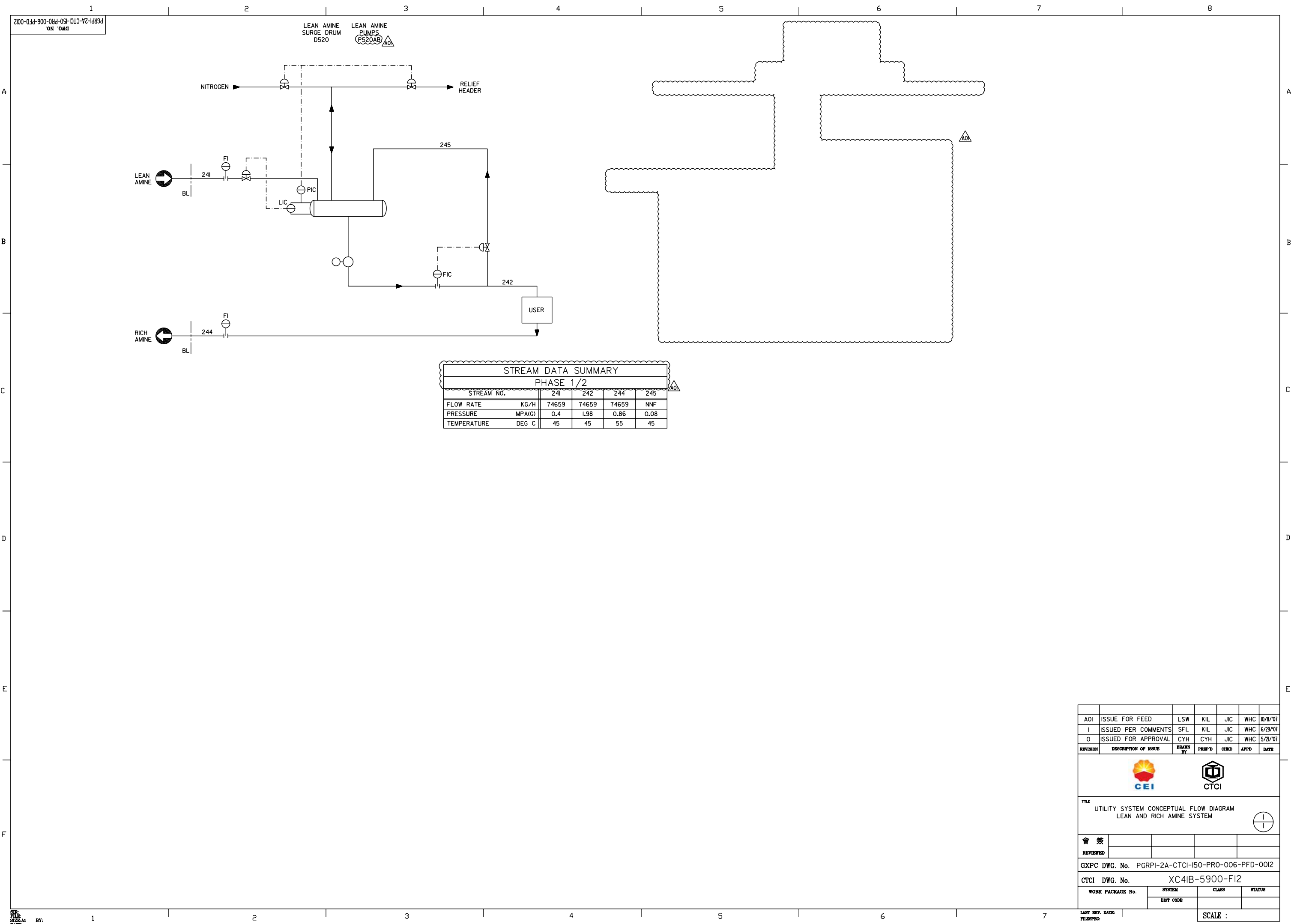
6

7



STREAM DATA SUMMARY								
PHASE 1/2								
STREAM NO.	231	232	233	234	235	236	237	238
FLOW RATE	KG/H	28620	28620	14310	28620	10950	10950	5475
PRESSURE	MPA(G)	1.3	0.15	0.15	1.76	0.8	0.15	0.15
TEMPERATURE	DEG C	290	290	290	290	51	51	51

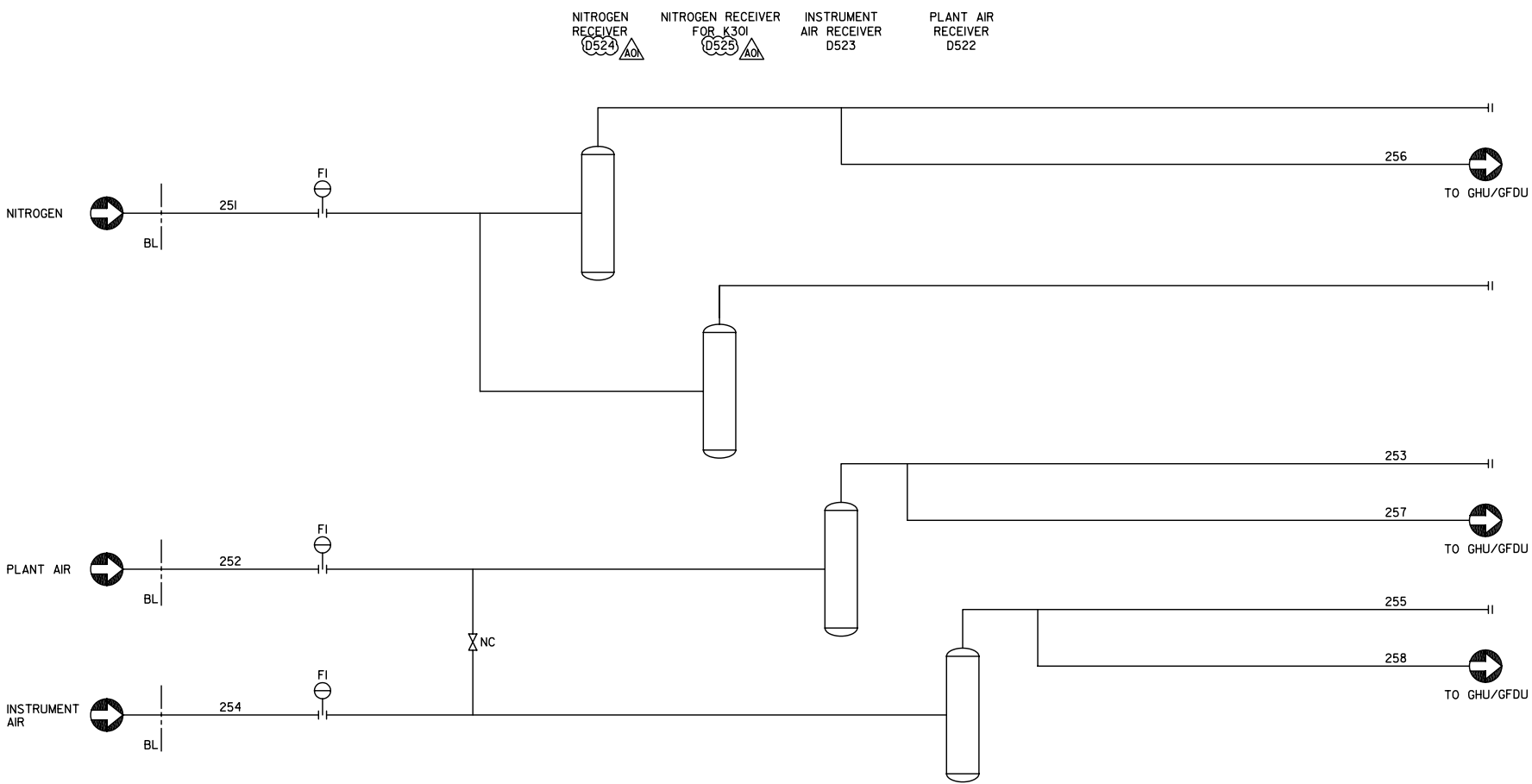
AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPR'D	DATE
 						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM FLUSHING & SEAL OIL SYSTEM						
						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-150-PRO-006-PFD-0011						
CTCI DWG. No. XC41B-5900-F11						
WORK PACKAGE No.		SYSTEM	CLASS	STATUS		
		DEPT CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						



AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPD	DATE
 CEI  CTCI						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM LEAN AND RICH AMINE SYSTEM						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0012						
CTCI DWG. No. XC4IB-5900-F12						
WORK PACKAGE No.		SYSTEM	CLASS	STATUS		
		DEPT CODE				
LAST REV. DATE:		SCALE :				
FILESPEC:						

PGRPI-2A-CTCI-I50-PRO-006-PFD-0013
DWG. NO.

NOTE:
1. FLOW RATE INCLUDES INTERMITTENT USERS.



STREAM DATA SUMMARY									
PHASE 1/2									
STREAM NO.		251	252	253	254	255	256	257	258
FLOW RATE	KG/H	2500	5245 NOTE 1	5038 NOTE 1	4127 NOTE 1	3804 NOTE 1	200 AO	207	323
PRESSURE	MPA(G)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
TEMPERATURE	DEG C	37.5	40	40	40	40	37.5	40	40

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECK	APP'D	DATE
 						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM PLANT AIR, INSTRUMENT AIR AND NITROGEN SYSTEM						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0013						
CTCI DWG. No. XC41B-5900-F13						
WORK PACKAGE No.		SYSTEM		CLASS		STATUS
		DEPT CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						

SER:
FILE:
DATE:

BY:

1

2

3

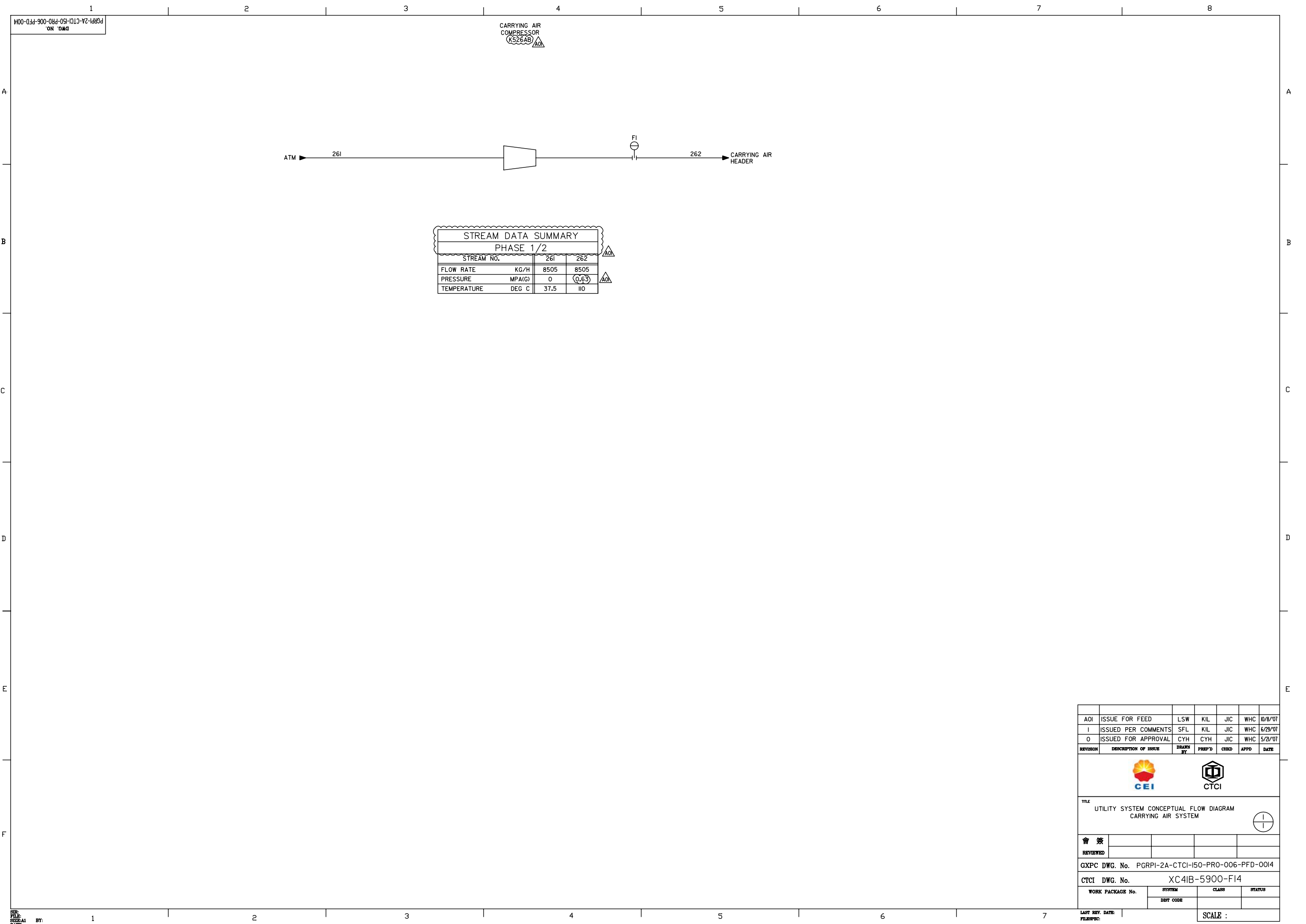
4

5

6

7

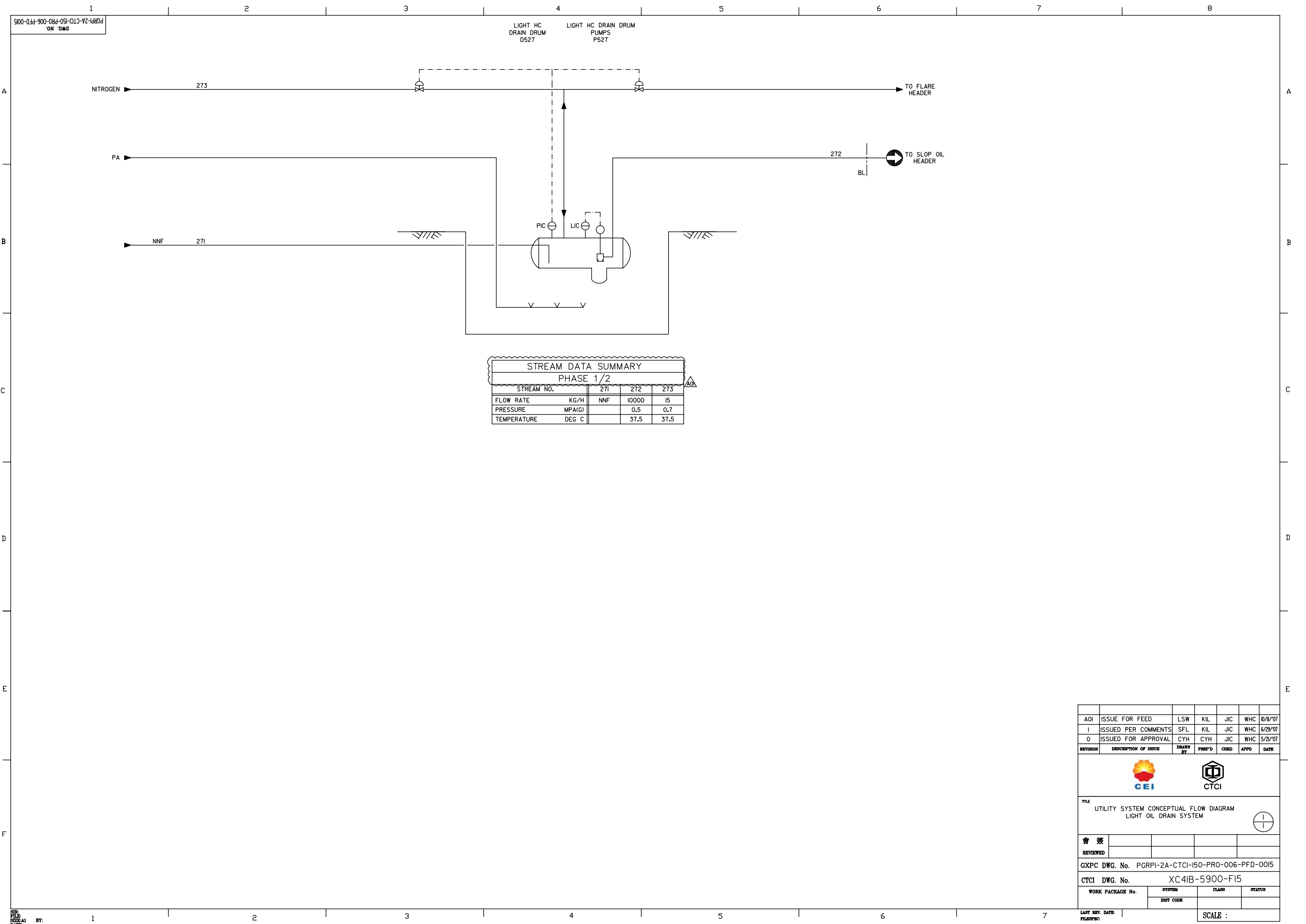
SCALE :



DWG. NO. PGRPI-2A-CTCI-I50-PRO-006-PFD-0014

STREAM DATA SUMMARY			
PHASE 1/2			
STREAM NO.		261	262
FLOW RATE	KG/H	8505	8505
PRESSURE	MPA(G)	0	0.63
TEMPERATURE	DEG C	37.5	110

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07	
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07	
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHEK'D	APPR'D	DATE	
 CEI  CTCI							
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM CARRYING AIR SYSTEM							1 1
會 簽							
REVIEWED							
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0014							
CTCI DWG. No.				XC41B-5900-F14			
WORK PACKAGE No.		SYSTEM		CLASS		STATUS	
		DEPT CODE					
LAST REV. DATE:		FILESPEC:		SCALE :			

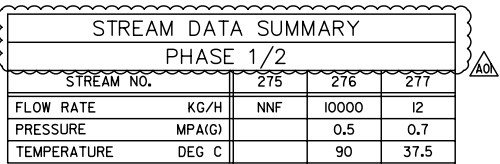


STREAM DATA SUMMARY				
PHASE 1/2				
STREAM NO.		271	272	273
FLOW RATE	KG/H	NNF	10000	I5
PRESSURE	MPA(G)		0.5	0.7
TEMPERATURE	DEG C		37.5	37.5

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHEK'D	APP'D	DATE
 CEI  CTCI						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM LIGHT OIL DRAIN SYSTEM						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0015						
CTCI DWG. No. XC41B-5900-FI5						
WORK PACKAGE No.		SYSTEM		CLASS		STATUS
		DIST CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						

SHEET:
FILE:
DATE:

BY:

[illegible]

1
PGRPI-2A-CTCI-I50-PRO-006-PFD-0017
DWG. NO.

4
AMINE
DRAIN DRUM
D530

AMINE DRUM DRAIN
PUMPS
P530

NITROGEN

283

TO FLARE
HEADER

PA

282

TO SLOP OIL
HEADER

BL

NNF

281

PIC

LIC

V V V

STREAM DATA SUMMARY

PHASE 1/2

STREAM NO.	281	282	283
FLOW RATE	KG/H	NNF	10000
PRESSURE	MPA(G)	0.5	0.7
TEMPERATURE	DEG C	37.5	37.5

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECK	APPD	DATE
 CEI  CTCI						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM AMINE DRAIN SYSTEM						
						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0017						
CTCI DWG. No. XC41B-5900-F17						
WORK PACKAGE No.		SYSTEM		CLASS		STATUS
		DIST CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						

SER:
FILE:
DATE:

BY:

1

2

3

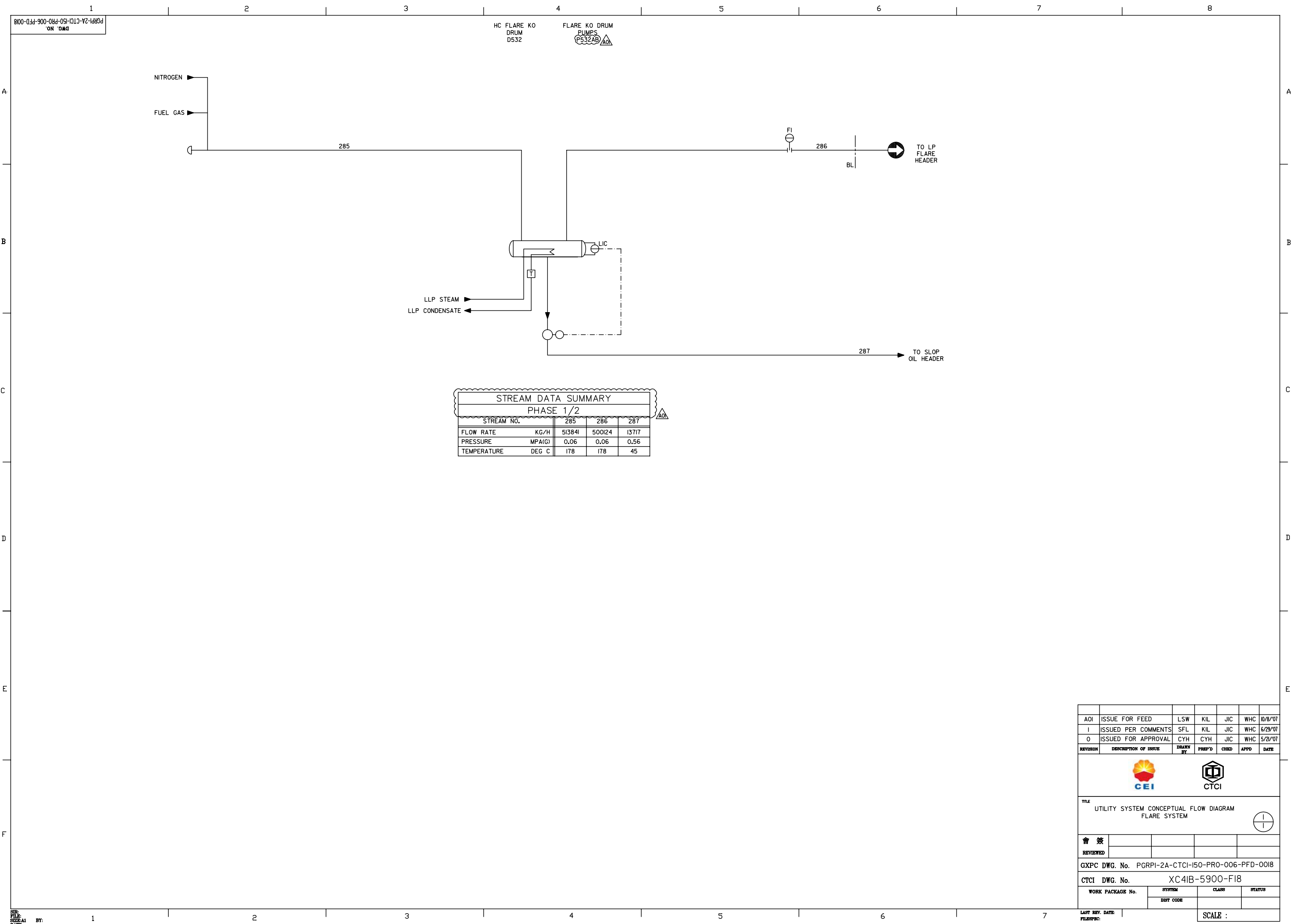
4

5

6

7

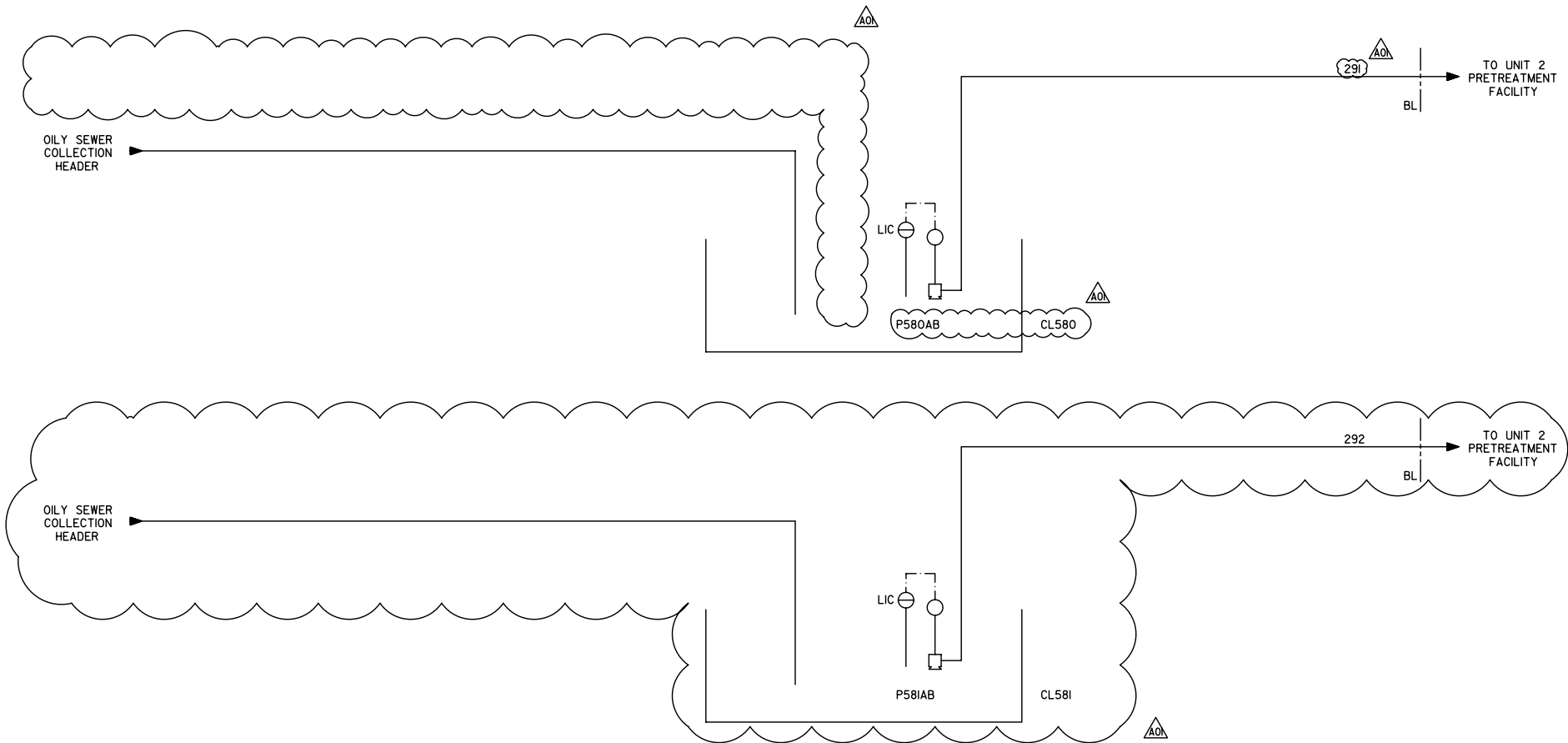
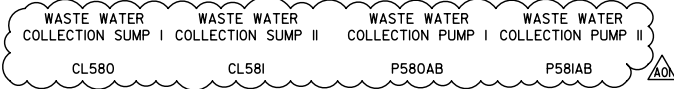
8



STREAM DATA SUMMARY				
PHASE 1/2				
STREAM NO.		285	286	287
FLOW RATE	KG/H	513841	500124	13717
PRESSURE	MPA(G)	0.06	0.06	0.56
TEMPERATURE	DEG C	178	178	45

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07
O	ISSUED FOR APPROVAL	CYH	CYH	JIC	WHC	5/21/07
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPD	DATE
 						
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM FLARE SYSTEM						
						
會 簽						
REVIEWED						
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-0018						
CTCI DWG. No. XC41B-5900-F18						
WORK PACKAGE No.		SYSTEM		CLASS		STATUS
		DIST CODE				
LAST REV. DATE:				SCALE :		
FILESPEC:						

1
DWG. NO. PGRPI-2A-CTCI-I50-PRO-006-PFD-003I



STREAM DATA SUMMARY			
PHASE 12			
STREAM NO.		291	292
FLOW RATE	KG/H	20000	15000
PRESSURE	MPA(G)	0.25	0.25
TEMPERATURE	DEG C	AMB	AMB

△A0△

AOI	ISSUE FOR FEED	LSW	KIL	JIC	WHC	10/8/07	
I	ISSUED PER COMMENTS	SFL	KIL	JIC	WHC	6/29/07	
O	ISSUED FOR APPROVAL	ILC	ILC	CTW	JHC	5/21/07	
REVISION	DESCRIPTION OF ISSUE	DRAWN BY	PREP'D	CHECKD	APPD	DATE	
 							
TITLE UTILITY SYSTEM CONCEPTUAL FLOW DIAGRAM WASTE WATER COLLECTION SYSTEM							
會 簽							
REVIEWED							
GXPC DWG. No. PGRPI-2A-CTCI-I50-PRO-006-PFD-003I							
CTCI DWG. No. XC4IB-5900-F3I							
WORK PACKAGE No.	SYSTEM		CLASS		STATUS		
	DEPT CODE						
LAST REV. DATE:				SCALE :			
FILESPEC:							

SER: 1
FILE: 2
DATE: 3
BY: 4
DATE: 5
DATE: 6
DATE: 7
DATE: 8