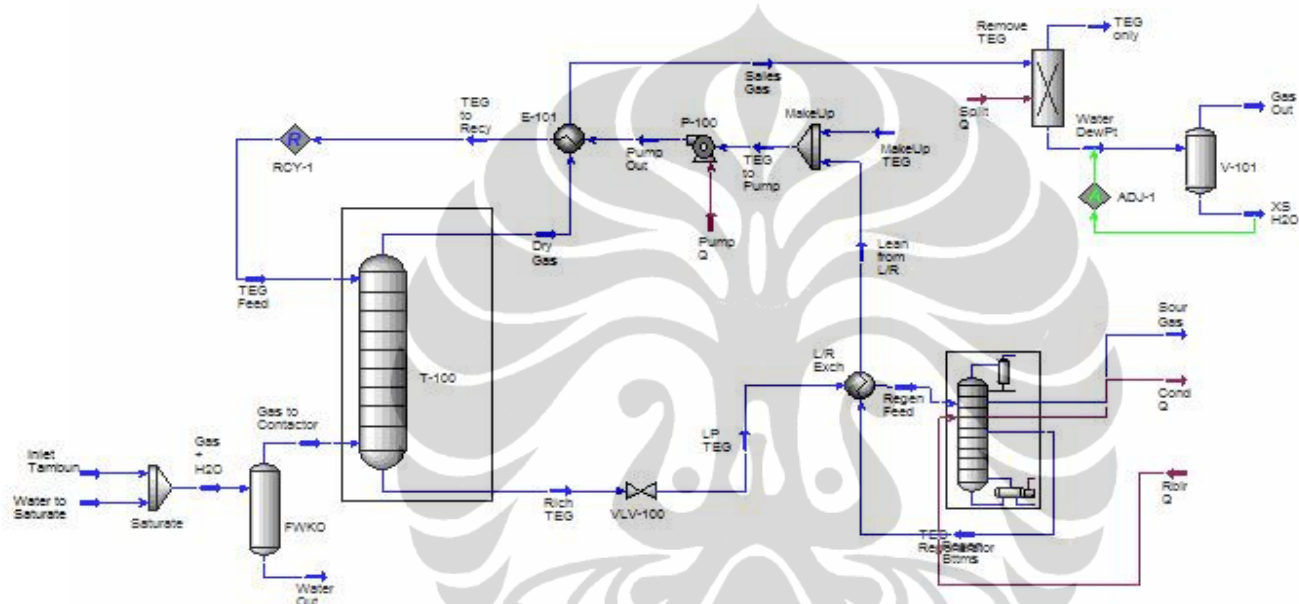


LAMPIRAN 1A

Kondisi Operasi Unit Dehidrasi LPG Plant Tambun



Material Streams												
		Inlet Tambun	TEG Feed	Water to Saturate	Gas + H ₂ O	Gas to Contactor	Water Out	Dry Gas	Rich TEG	LR TEG	Regen Strms	Lean from L/R
Vapour Fraction		1.0000	0.0000	0.0000	1.0000	1.0000	0.0000	1.0000	0.0000	0.0382	0.0000	0.0000
Temperature	F	417.0	120.0	468.5	85.00	85.00	85.00	110.1	109.3	118.8	400.0	311.9
Pressure	psia	500.0	900.0	500.0	500.0	500.0	500.0	900.0	900.0	26.00	15.00	14.90
Molar Flow	MMSCFD	10.00	7.328e-002	1.002e-002	10.01	10.01	0.0000	9.997	8.649e-002	8.649e-002	7.325e-002	7.325e-002
Mass Flow	tonne/d	220.4	12.29	0.2157	220.6	220.6	0.0000	220.3	12.62	12.62	12.28	12.28
Liquid Volume Flow	barrel/day	4164	68.57	1.360	4165	4165	0.0000	4162	71.47	71.47	68.56	68.56
Heat Flow	kJ/h	-3.816e+007	-2.746e+006	-1.334e+005	-4.243e+007	-4.243e+007	0.0000	-4.227e+007	-2.903e+006	-2.903e+006	-2.540e+006	-2.614e+006
		Regen Feed	Sour Gas	MakeUp TEG	TEG to Pump	Pump Out	TEG to Recy	Sales Gas	TEG only	Water DewPt	Gas Out	XS H ₂ O
Vapour Fraction		0.0531	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000
Temperature	F	220.0	215.0	60.00	311.8	310.1	120.0	120.5	7.000	24.40	24.40	24.40
Pressure	psia	16.00	14.70	14.90	14.90	910.0	900.0	895.0	895.0	895.0	895.0	895.0
Molar Flow	MMSCFD	8.649e-002	1.324e-002	1.349e-005	7.328e-002	7.328e-002	7.328e-002	9.997	6.123e-006	9.997	9.997	1.133e-005
Mass Flow	tonne/d	12.62	0.3401	2.400e-003	12.29	12.29	12.29	220.3	1.099e-003	220.3	220.3	2.448e-004
Liquid Volume Flow	barrel/day	71.47	2.912	1.338e-002	68.57	68.57	68.57	4162	6.126e-003	4162	4162	1.545e-003
Heat Flow	kJ/h	-2.830e+006	-1.291e+005	-535.9	-2.614e+006	-2.610e+006	-2.746e+006	-4.214e+007	-246.8	-4.341e+007	-4.341e+007	-162.1

Lampiran 1B
Material Stream Kilang LPG Tambun

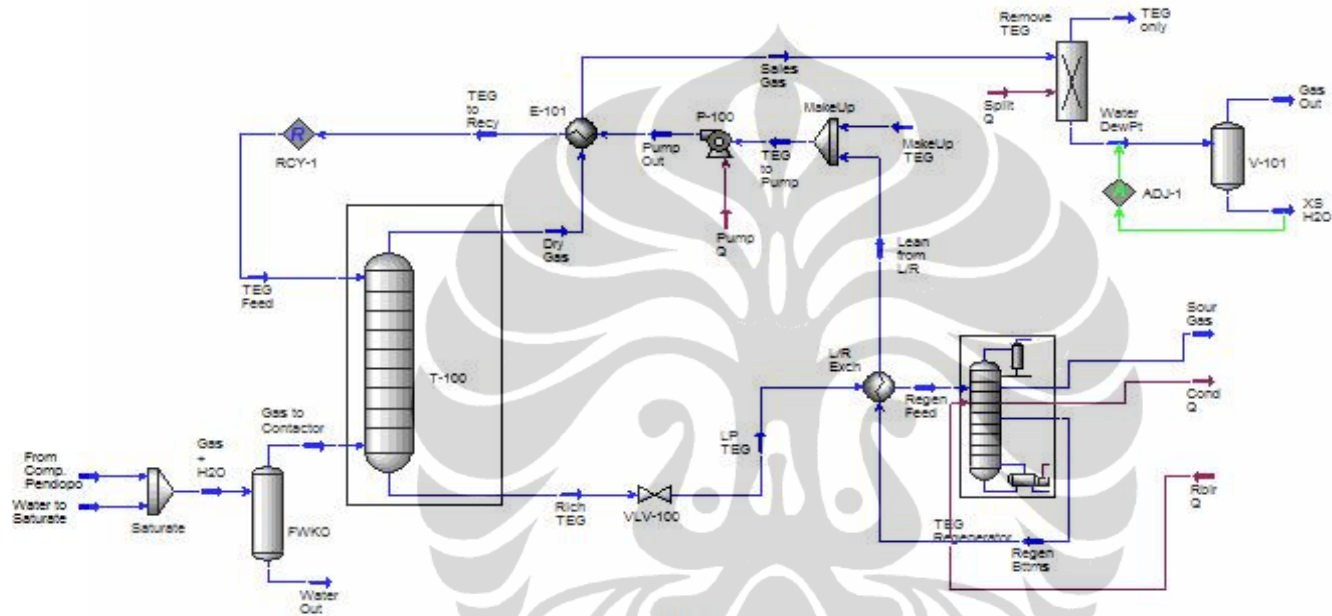
Name	1C	10C	8C	LEAN GAS	OVHD	BTMS	11C	LPG	12C	5C
Vapour fraction	0,870635	0,999545	0	1	0,999993028	0	0,494041126	0	4,61E-06	0,703552
Temperature (F)	75,00	-28,64	-38,46	142,90	14,99	225,20	149,90	95,96	269,91	-38,46
Pressure (psia)	890	395	400	390	395	405	155	120	125	400
Molar flow (MMSCFD)	9,481	8,052	2,811	8,052	1,382	1,429	1,429	1,209	0,220	9,481
Mass flow (tonne/day)	284,20	189,49	135,62	189,49	40,91	94,71	94,71	73,30	21,41	284,20
Std. Ideal liq vol flow (barrel/day)	4619,8	3559,7	1766,2	3559,7	706,0	1060,1	1060,1	852,9	207,2	4619,8
Heat flow (kJ/h)	-4,48E+07	-3,55E+07	-1,81E+07	-3,38E+07	-6,69E+06	-9,26E+06	-9,26E+06	-8,02E+06	-1,86E+06	-4,69E+07
Molar enthalpy (kJ/kgmole)	-9,48E+04	-8,86E+04	-1,29E+05	-8,44E+04	-9,72E+04	-1,30E+05	-1,30E+05	-1,33E+05	-1,69E+05	-9,94E+04

Name	7C	13C	14C	Vapor	Kondensat	ASD	From Comp/Dehyd	19	20	18
Vapour fraction	1	0	0	1	0	0	0,948118771	1	0	0,836114
Temperature (F)	-38,46	80,00	80,56	80,56	80,56	43,24	145,00	145,00	145,00	62,38
Pressure (psia)	400	123	12	12	12	395	895	895	895	885
Molar flow (MMSCFD)	6,671	0,220	0,220	0,000	0,220	0,000	10,000	9,481	0,519	9,481
Mass flow (tonne/day)	148,58	21,41	21,41	0,00	21,41	0,00	319,01	284,20	34,80	284,20
Std. Ideal liq vol flow (barrel/day)	2853,6	207,2	207,2	0,0	207,2	0,0	5007,4	4619,8	387,7	4619,8
Heat flow (kJ/h)	-2,88E+07	-2,10E+06	-2,10E+06	0,00E+00	-2,10E+06	0,00E+00	-4,68E+07	-4,31E+07	-3,70E+06	-4,51E+07
Molar enthalpy (kJ/kgmole)	-8,68E+04	-1,91E+05	-1,91E+05	-1,53E+05	-1,91E+05	-1,18E+05	-9,39E+04	-9,12E+04	-1,43E+05	-9,55E+04

Name	22	23	8	6
Vapour fraction	0,105054	0	1	0,605632
Temperature (F)	-5	-38,46	166,45	-5
Pressure (psia)	395	400	450	880
Molar flow (MMSCFD)	2,811	2,811	8,052	9,481
Mass flow (tonne/day)	135,62	135,62	189,49	284,20
Std. Ideal liq vol flow (barrel/day)	1766,2	1766,2	3559,7	4619,8
Heat flow (kJ/h)	-1,78E+07	-1,81E+07	-3,36E+07	-4,69E+07

LAMPIRAN 2A

Kondisi Operasi Unit Dehidrasi LPG Plant Pendopo



		Material Streams											
		From Comp. Pendopo	TEG Feed	Water to Saturate	Gas + H2O	Gas to Contactor	Water Out	Dry Gas	Rich TEG	LP TEG	Regen Strms	Lean from L/R	
Vapour Fraction		1.0000	0.0000	0.0000	0.9968	1.0000	0.0000	1.0000	0.0000	0.0355	0.0000	0.0000	
Temperature	F	95.00	120.0	482.5	85.00	85.00	85.00	113.1	111.6	121.7	400.0	318.2	
Pressure	psia	500.0	900.0	500.0	500.0	500.0	900.0	900.0	900.0	26.00	15.00	14.90	
Molar Flow	MMSCFD	2.400	7.327e-002	1.002e-002	2.410	2.402	7.819e-003	2.396	7.936e-002	7.936e-002	7.326e-002	7.326e-002	
Mass Flow	tonne/d	56.85	12.29	0.2157	57.06	56.91	0.2480	56.65	12.45	12.45	12.29	12.29	
Liquid Volume Flow	barrel/day	1035	68.57	1.360	1037	1035	1.923	1033	70.37	70.37	68.57	68.57	
Heat Flow	kJ/h	-1.046e+007	-2.748e+006	-1.334e+005	-1.062e+007	-1.052e+007	-1.058e+005	-1.045e+007	-2.816e+006	-2.816e+006	-2.540e+006	-2.609e+006	
		Regen Feed	Sour Gas	MakeUp TEG	TEG to Pump	Pump Out	TEG to Recy	Sales Gas	TEG only	Water DewPt	Gas Out	XS H2O	
Vapour Fraction		0.0410	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.9844	1.0000	0.0000	
Temperature	F	220.0	215.0	60.00	318.1	316.5	120.0	155.9	7.000	26.47	26.47	26.47	
Pressure	psia	16.00	14.70	14.90	14.90	910.0	900.0	895.0	895.0	895.0	895.0	895.0	
Molar Flow	MMSCFD	7.936e-002	6.097e-003	6.382e-006	7.327e-002	7.327e-002	7.327e-002	2.396	1.901e-006	2.396	2.359	3.744e-002	
Mass Flow	tonne/d	12.45	0.1679	1.136e-003	12.29	12.29	12.29	56.65	3.413e-004	56.65	54.51	2.141	
Liquid Volume Flow	barrel/day	70.37	1.806	6.331e-003	68.57	68.57	1033	1033	1.902e-003	1033	1008	25.21	
Heat Flow	kJ/h	-2.748e+006	-5.833e+004	-253.5	-2.609e+006	-2.605e+006	-2.748e+006	-1.030e+007	-76.65	-1.076e+007	-1.049e+007	-2.651e+005	

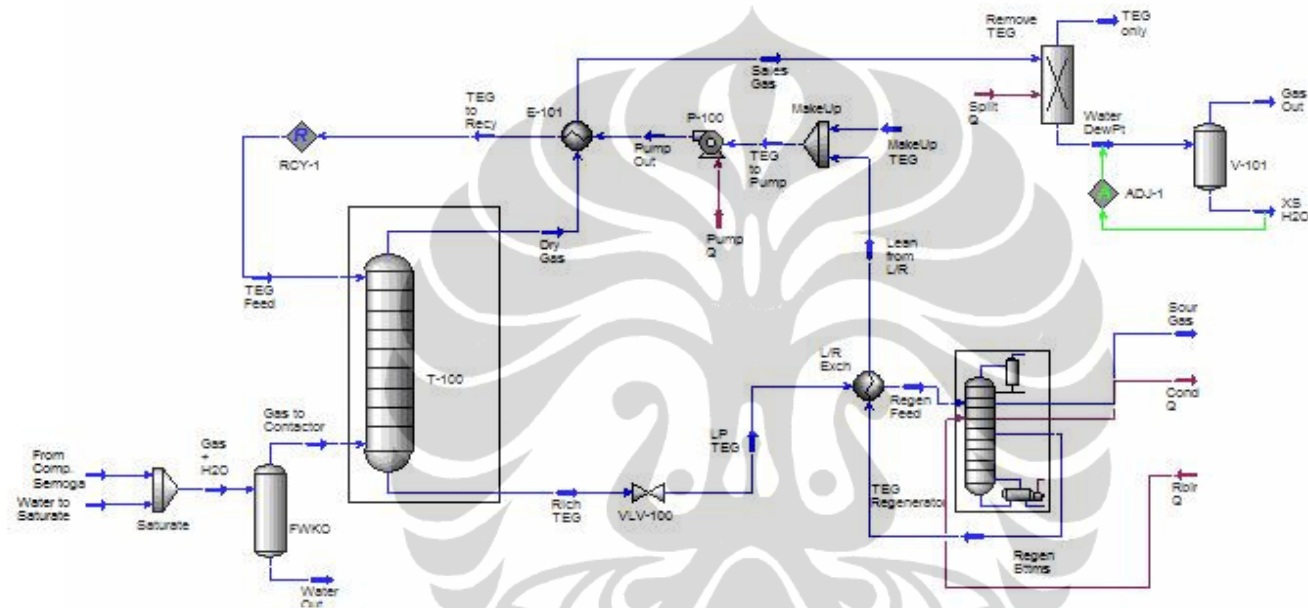
LAMPIRAN 2B
Material Stream Kilang LPG Pendopo

Name	1C	10C	8C	LEAN GAS	OVHD	BTMS	11C	LPG	12C	5C
Vapour fraction	0,994156	0,999972	0	1	0,999995746	0	0,495867321	0	0,00E+00	0,948029
Temperature (F)	55,00	-41,22	-42,21	72,15	15,00	246,53	175,67	96,78	282,82	-42,21
Pressure (psia)	890	395	400	390	395	405	155	120	125	400
Molar flow (MMSCFD)	2,400	2,330	0,125	2,330	0,055	0,070	0,070	0,051	0,019	2,400
Mass flow (tonne/day)	56,89	51,84	6,64	51,84	1,60	5,04	5,04	3,09	1,95	56,89
Std. Ideal liq vol flow (barrel/day)	1034,8	980,2	81,4	980,2	26,8	54,6	54,6	36,0	18,7	1034,8
Heat flow (kJ/h)	-1,07E+07	-1,04E+07	-8,74E+05	-1,01E+07	-2,88E+05	-4,76E+05	-4,76E+05	-3,39E+05	-1,66E+05	-1,10E+07
Molar enthalpy (kJ/kgmole)	-8,96E+04	-8,94E+04	-1,41E+05	-8,68E+04	-1,06E+05	-1,36E+05	-1,36E+05	-1,34E+05	-1,72E+05	-9,17E+04

Name	7C	13C	14C	Vapor	Kondensat	ASD	From Comp/Dehyd	19	20	18
Vapour fraction	1	0	2,51E-02	1	0	0	1	1	0	0,993046
Temperature (F)	-42,21	120,00	114,50	114,50	114,50	36,64	145,00	145,00	145,00	50,98
Pressure (psia)	400	123	13	13	13	395	895	895	895	885
Molar flow (MMSCFD)	2,275	0,019	0,019	0,000	0,019	0,000	2,400	2,400	0,000	2,400
Mass flow (tonne/day)	50,24	1,95	1,95	0,04	1,91	0,00	56,89	56,89	0,00	56,89
Std. Ideal liq vol flow (barrel/day)	953,4	18,7	18,7	0,4	18,3	0,0	1034,8	1034,8	0,0	1034,8
Heat flow (kJ/h)	-1,01E+07	-1,85E+05	-1,85E+05	-3,67E+03	-1,81E+05	0,00E+00	-1,04E+07	-1,04E+07	0,00E+00	-1,07E+07
Molar enthalpy (kJ/kgmole)	-8,90E+04	-1,92E+05	-1,92E+05	-1,52E+05	-1,93E+05	-1,17E+05	-8,71E+04	-8,71E+04	-1,46E+05	-8,97E+04

Name	22	23	8	6
Vapour fraction	9,21E-02	0	1	0,957718
Temperature (F)	-10	-42,21	95,04	-5
Pressure (psia)	395	400	450	880
Molar flow (MMSCFD)	0,125	0,125	2,330	2,400
Mass flow (tonne/day)	6,64	6,64	51,84	56,89
Std. Ideal liq vol flow (barrel/day)	81,4	81,4	980,2	1034,8
Heat flow (kJ/h)	-8,60E+05	-8,74E+05	-1,00E+07	-1,10E+07
Molar enthalpy (kJ/kgmole)	-1,38E+05	-1,41E+05	-8,63E+04	-9,17E+04

LAMPIRAN 3A Kondisi Operasi Unit Dehidrasi LPG Plant Semoga



		Material Streams												
		From Comp. Semoga	TEG Feed	Water to Saturate	Gas + H2O	Gas to Contactor	Water Out	Dry Gas	Rich TEG	LP TEG	Regen Bottoms	Lean from L/R		
Vapour Fraction		1.0000	0.0000	0.0000	1.0000	1.0000	0.0000	1.0000	0.0000	0.0382	0.0000	0.0000		
Temperature	F	417.0	120.0	488.5	85.00	85.00	85.00	110.7	109.8	119.1	400.0	312.2		
Pressure	psia	500.0	900.0	500.0	500.0	500.0	500.0	900.0	900.0	25.00	15.00	14.90		
Molar Flow	MMSCFD	7.700	7.326e-002	1.002e-002	7.710	7.710	0.0000	7.697	8.672e-002	8.672e-002	7.325e-002	7.325e-002		
Mass Flow	tonne/d	169.7	12.29	0.2157	169.9	169.9	0.0000	169.6	12.63	12.63	12.28	12.28		
Liquid Volume Flow	barrel/day	3206	68.57	1.360	3207	3207	0.0000	3204	71.50	71.50	68.56	68.56		
Heat Flow	kJ/h	-2.938e+007	-2.746e+006	-1.334e+005	-3.270e+007	-3.270e+007	0.0000	-3.254e+007	-2.906e+006	-2.906e+006	-2.540e+006	-2.614e+006		
		Regen Feed	Sour Gas	MakeUp TEG	TEG to Pump	Pump Out	TEG to Recy	Sales Gas	TEG only	Water DewPt	Gas Out	XS H2O		
Vapour Fraction		0.0532	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000		
Temperature	F	220.0	215.0	60.00	312.1	310.4	120.0	124.3	7.000	24.88	24.88	24.88		
Pressure	psia	16.00	14.70	14.90	14.90	910.0	900.0	895.0	895.0	895.0	895.0	895.0		
Molar Flow	MMSCFD	8.672e-002	1.347e-002	1.225e-005	7.326e-002	7.326e-002	7.326e-002	7.697	4.855e-006	7.697	7.697	8.724e-006		
Mass Flow	tonne/d	12.63	0.3490	2.180e-003	12.29	12.29	12.29	169.6	8.715e-004	169.6	169.6	1.885e-004		
Liquid Volume Flow	barrel/day	71.50	2.944	1.215e-002	68.57	68.57	68.57	3204	4.855e-003	3204	3204	1.190e-003		
Heat Flow	kJ/h	-2.833e+006	-1.318e+005	-488.6	-2.614e+006	-2.610e+006	-2.746e+006	-3.240e+007	-195.7	-3.341e+007	-3.341e+007	-124.8		

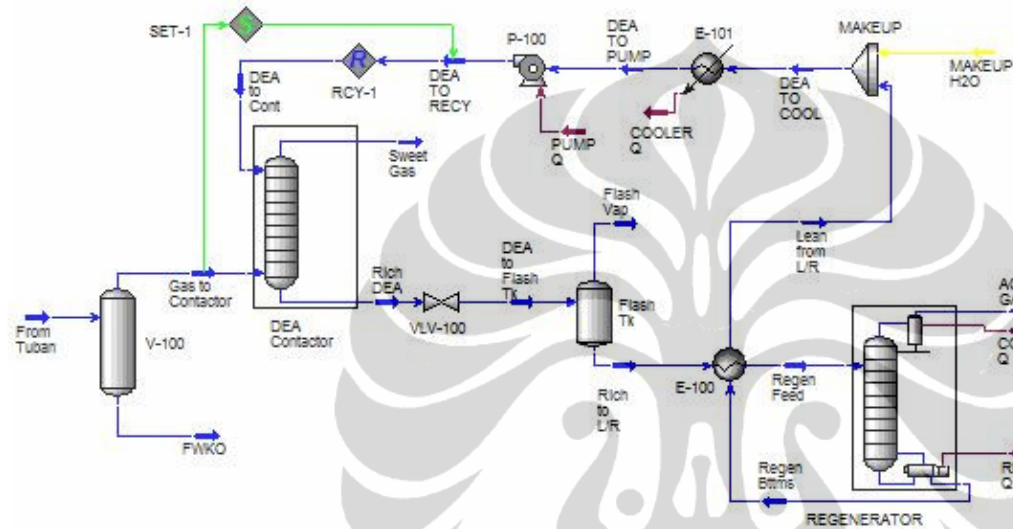
LAMPIRAN 3B
Material Stream Kilang LPG Semoga

Name	1C	10C	8C	LEAN GAS	OVHD	BTMS	11C	LPG	12C	5C
Vapour fraction	0,98605	0,999976	0	1	0,999998858	0	0,538869484	0	0,00E+00	0,941467
Temperature (F)	55,00	-42,57	-43,67	51,97	14,99	293,96	223,17	119,82	286,80	-43,67
Pressure (psia)	890	392	400	387	392	405	155	120	125	400
Molar flow (MMSCFD)	7,697	7,468	0,451	7,468	0,222	0,229	0,229	0,136	0,093	7,697
Mass flow (tonne/day)	187,45	168,98	25,19	168,98	6,72	18,48	18,48	8,92	9,56	187,45
Std. Ideal liq vol flow (barrel/day)	3364,2	3172,7	303,3	3172,7	111,8	191,6	191,6	100,5	91,1	3364,2
Heat flow (kJ/h)	-3,59E+07	-3,46E+07	-3,34E+06	-3,38E+07	-1,22E+06	-1,64E+06	-1,64E+06	-9,53E+05	-8,06E+05	-3,67E+07
Molar enthalpy (kJ/kgmole)	-9,37E+04	-9,31E+04	-1,49E+05	-9,09E+04	-1,11E+05	-1,44E+05	-1,44E+05	-1,40E+05	-1,74E+05	-9,59E+04

Name	7C	13C	14C	Vapor	Kondensat	ASD	From Comp/Dehyd	19	20	18
Vapour fraction	1	0	1,84E-02	1	0	0	1	1	0	0,983547
Temperature (F)	-43,67	120,00	116,21	116,21	116,21	37,77	125,00	125,00	125,00	48,38
Pressure (psia)	400	123	13	13	13	392	895	895	895	885
Molar flow (MMSCFD)	7,246	0,093	0,093	0,002	0,091	0,000	7,697	7,697	0,000	7,697
Mass flow (tonne/day)	162,26	9,56	9,56	0,15	9,41	0,00	187,45	187,45	0,00	187,45
Std. Ideal liq vol flow (barrel/day)	3061,0	91,1	91,1	1,5	89,6	0,0	3364,2	3364,2	0,0	3364,2
Heat flow (kJ/h)	-3,34E+07	-9,02E+05	-9,02E+05	-1,29E+04	-8,90E+05	0,00E+00	-3,51E+07	-3,51E+07	0,00E+00	-3,60E+07
Molar enthalpy (kJ/kgmole)	-9,26E+04	-1,95E+05	-1,95E+05	-1,52E+05	-1,96E+05	-1,37E+05	-9,15E+04	-9,15E+04	-1,78E+05	-9,39E+04

Name	22	23	8	6
Vapour fraction	1,40E-01	0	1	0,945958
Temperature (F)	5	-43,67	75,47	-5
Pressure (psia)	395	400	450	880
Molar flow (MMSCFD)	0,451	0,451	7,468	7,697
Mass flow (tonne/day)	25,20	25,20	168,98	187,45
Std. Ideal liq vol flow (barrel/day)	303,4	303,4	3172,7	3364,2
Heat flow (kJ/h)	-3,26E+06	-3,34E+06	-3,36E+07	-3,67E+07
Molar enthalpy (kJ/kgmole)	-1,45E+05	-1,49E+05	-9,04E+04	-9,59E+04

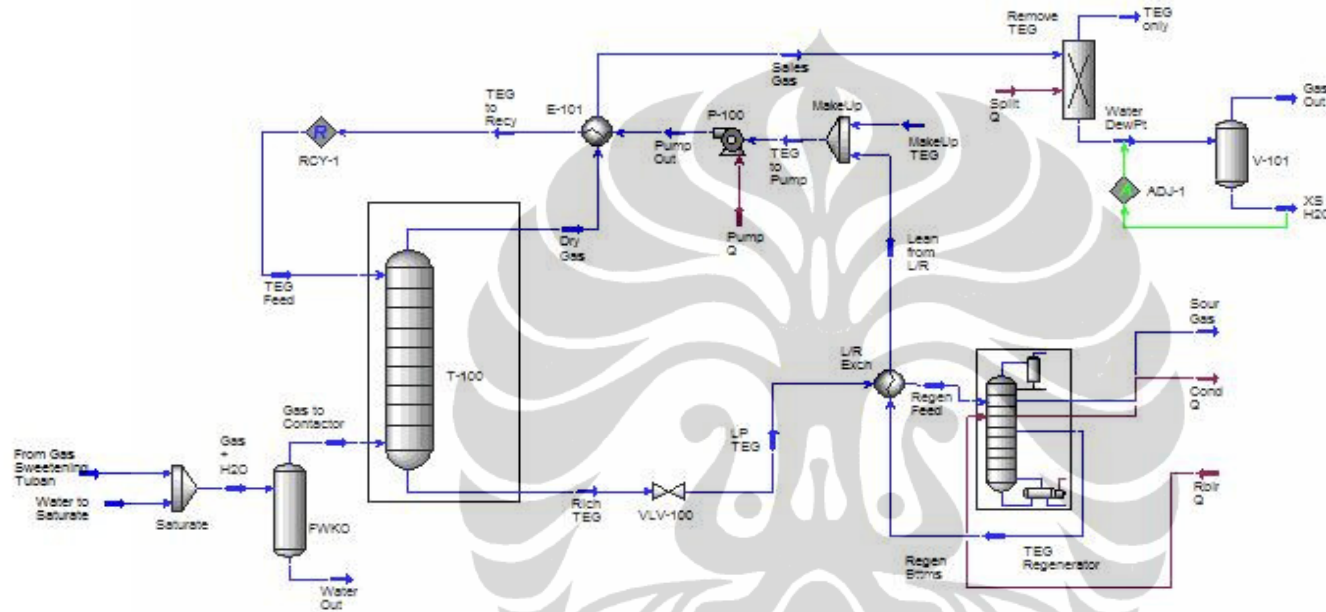
LAMPIRAN 4A
Kondisi Operasi Unit Gas Sweetening LPG Plant Tuban



Material Streams										
		From Tuban	DEA to Cont	Gas to Contactor	FWKO	Sweet Gas	Rich DEA	DEA to Flash Tx	Flash Vap	Rich to L/R
Vapour Fraction		0.9195	0.0000	1.0000	0.0000	0.9479	0.0000	0.0007	1.0000	0.0000
Temperature	F	95.00	95.00	95.00	95.00	95.32	135.5	136.4	136.4	136.4
Pressure	pela	650.0	645.0	650.0	650.0	995.0	1000.	90.00	90.00	90.00
Molar Flow	MMSCFD	6.000	37.72	5.517	0.4527	4.350	38.89	38.89	2.843e-002	38.86
Mass Flow	tonne/d	213.0	1059	183.0	29.94	122.7	1120	1120	0.6831	1119
Liquid Volume Flow	barrel/day	2849	6514	2515	330.4	2050	6982	6982	11.86	6971
Heat Flow	kJ/h	-5.253e+006	-5.208e+007	4.435e+006	8.182e+005	3.860e+006	-5.151e+007	-5.151e+007	2.119e+004	-5.153e+007
		Regen Feed	Regen Btms	Lean from L/R	ACID GAS	MAKEUP H2O	DEA TO COOL	DEA TO PUMP	DEA TO RECY	
Vapour Fraction		0.0003	0.0000	0.0000	1.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Temperature	F	200.0	255.7	193.4	120.0	70.00	193.2	92.28	95.00	
Pressure	pela	80.00	31.50	21.50	27.50	21.50	21.50	16.50	645.0	
Molar Flow	MMSCFD	38.86	37.64	37.64	1.221	8.227e-002	37.72	37.72	37.72	
Mass Flow	tonne/d	1119	1058	1058	61.45	1.772	1059	1059	1059	
Liquid Volume Flow	barrel/day	6971	6503	6503	467.5	11.17	6514	6514	6514	
Heat Flow	kJ/h	-4.531e+007	-3.643e+007	-4.265e+007	6.287e+005	-1.409e+005	-4.279e+007	-5.233e+007	-5.208e+007	

LAMPIRAN 4B

Kondisi Operasi Unit Dehidrasi LPG Plant Tuban



Material Streams													
		From Gas Sweetening Tuban	TEG Feed	Water to Saturate	Gas + H ₂ O	Gas to Contactor	Water Out	Dry Gas	Rich TEG	LP TEG	Regen Strms	Lean from L/R	
Vapour Fraction		1.0000	0.0000	0.0000	0.9985	1.0000	0.0000	1.0000	0.0000	0.0249	0.0000	0.0000	
Temperature	F	95.32	120.0	542.6	85.00	85.00	85.00	85.38	81.11	91.87	400.0	294.4	
Pressure	psia	995.0	900.0	995.0	995.0	995.0	995.0	995.0	900.0	26.00	15.00	14.90	
Molar Flow	MMSCFD	4.350	7.328e-002	1.002e-002	4.360	4.353	6.538e-003	4.348	7.863e-002	7.863e-002	7.328e-002	7.328e-002	
Mass Flow	tonne/d	92.24	12.29	0.2157	92.45	92.31	0.1419	92.19	12.41	12.41	12.29	12.29	
Liquid Volume Flow	barrel/day	1813	68.57	1.360	1815	1814	0.8945	1812	69.93	69.93	68.57	68.57	
Heat Flow	kJ/h		-1.717e+007	-2.746e+006	-1.315e+005	-1.738e+007	-1.727e+007	-9.351e+004	-1.719e+007	-2.827e+006	-2.827e+006	-2.541e+006	-2.628e+006
		Regen Feed	Sour Gas	MakeUp TEG	TEG to Pump	Pump Out	TEG to Recy	Sales Gas	TEG only	Water Dew Pt	Gas Out	XS H ₂ O	
Vapour Fraction		0.0287	1.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	1.0000	1.0000	0.0000	
Temperature	F	220.0	215.0	60.00	294.3	292.4	120.0	107.0	7.000	5.539	5.539	5.539	
Pressure	psia	16.00	14.70	14.90	14.90	910.0	900.0	895.0	895.0	895.0	895.0	895.0	
Molar Flow	MMSCFD	7.863e-002	5.352e-003	4.014e-006	7.328e-002	7.328e-002	7.328e-002	4.348	7.175e-007	4.348	4.348	1.110e-005	
Mass Flow	tonne/d	12.41	0.1278	7.141e-004	12.29	12.29	12.29	92.19	1.288e-004	92.19	92.19	2.392e-004	
Liquid Volume Flow	barrel/day	69.93	1.366	3.991e-003	68.57	68.57	68.57	1812	7.179e-004	1812	1812	1.508e-003	
Heat Flow	kJ/h		-2.739e+006	-4.923e+004	-159.4	-2.628e+006	-2.624e+006	-2.746e+006	-1.708e+007	-28.92	-1.765e+007	-1.765e+007	-159.5

LAMPIRAN 4C
Material Stream Kilang Tuban

Name	1C	10C	8C	LEAN GAS	OVHD	BTMS	11C	LPG	12C	5C
Vapour fraction	0,90428	0,999204	0	1	1	0	0,504886769	1,31E-06	2,08E-06	0,798917
Temperature (F)	55,00	-37,36	-44,01	59,26	14,97	230,39	153,05	103,47	236,70	-44,01
Pressure (psia)	990	395	400	390	395	405	155	120	125	400
Molar flow (MMSCFD)	4,533	4,034	0,911	4,034	0,413	0,499	0,499	0,425	0,074	4,533
Mass flow (tonne/day)	122,00	89,24	44,35	89,24	11,59	32,77	32,77	26,34	6,43	122,00
Std. Ideal liq vol flow (barrel/day)	2095,9	1729,0	572,8	1729,0	205,9	366,9	366,9	302,5	64,4	2095,9
Heat flow (kJ/h)	-1,98E+07	-1,65E+07	-5,76E+06	-1,61E+07	-1,83E+06	-3,20E+06	-3,20E+06	-2,85E+06	-5,94E+05	-2,05E+07
Molar enthalpy (kJ/kgmole)	-8,76E+04	-8,22E+04	-1,27E+05	-7,99E+04	-8,90E+04	-1,29E+05	-1,29E+05	-1,34E+05	-1,61E+05	-9,06E+04

Name	7C	13C	14C	Vapor	Kondensat	ASD	From Sweetening/	19	20	18
Vapour fraction	1	0	2,15E-01	1	0	0	0,94745001	1	0	0,891419
Temperature (F)	-44,01	120,00	60,00	60,00	60,00	39,61	95,30	95,30	95,30	49,59
Pressure (psia)	400	123	8	8	8	395	995	995	995	985
Molar flow (MMSCFD)	3,621	0,074	0,074	0,016	0,058	0,000	4,784	4,533	0,251	4,533
Mass flow (tonne/day)	77,65	6,43	6,43	1,37	5,06	0,00	135,08	122,00	13,08	122,00
Std. Ideal liq vol flow (barrel/day)	1523,1	64,4	64,4	13,8	50,6	0,0	2257,5	2095,9	161,6	2095,9
Heat flow (kJ/h)	-1,47E+07	-6,40E+05	-6,40E+05	-1,21E+05	-5,19E+05	0,00E+00	-2,09E+07	-1,93E+07	-1,55E+06	-1,98E+07
Molar enthalpy (kJ/kgmole)	-8,15E+04	-1,74E+05	-1,74E+05	-1,53E+05	-1,79E+05	-1,17E+05	-8,75E+04	-8,55E+04	-1,24E+05	-8,78E+04

Name	22	23	8	6
Vapour fraction	6,04E-02	0	1	0,738694
Temperature (F)	-25	-44,01	81,48	-5
Pressure (psia)	395	400	450	980
Molar flow (MMSCFD)	0,911	0,911	4,034	4,533
Mass flow (tonne/day)	44,35	44,35	89,24	122,00
Std. Ideal liq vol flow (barrel/day)	572,8	572,8	1729,0	2095,9
Heat flow (kJ/h)	-5,70E+06	-5,76E+06	-1,60E+07	-2,05E+07
Molar enthalpy (kJ/kgmole)	-1,26E+05	-1,27E+05	-7,95E+04	-9,06E+04

LAMPIRAN 5A
Perhitungan Cash Flow Kilang LPG Tambun (Skenario A)

KEEKONOMIAN PROYEK MINI LPG PLANT

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$)
DAY OF OPERATION / YEAR (DAYS)
CONTRACTOR INCOME FROM PROD.

<p>PRODUCT</p> <p>13.735.988,79 LPG US\$/TON 500,0</p> <p>330 CONDENSATE US\$/BBL 52,0</p> <p>100% LEAN GAS US\$/MMBTU 2,5</p> <p>LPG PROD.DA/Metric Ton 73,3</p> <p>COND.PROD.D BBI 207,2</p>	<p>RESOURCE :</p> <p>RAW GAS PRICE US\$/MMBTU 5,50</p> <p>Heat Val.L/G BTU/SCF 978,00</p> <p>Heat Val. Raw Gas BTU/SCF 1.056,00</p> <p>Gas Input Volume MMSCF/Day 10</p> <p>Gas Output Volume MMSCF/Day 8,3</p>
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YEAR	TOTAL	0	1	2	3	4	5	6	7	8	9	10
INPUT GAS (MMSCFD)			10	10	10	10	10	10	10	10	10	10
RAW GAS (MMBTUD)			10.560	10.560	10.560	10.560	10.560	10.560	10.560	10.560	10.560	10.560
GAS TO BE PROCESS (MMBTUD)			2.403	2.403	2.403	2.403	2.403	2.403	2.403	2.403	2.403	2.403
PRODUCTION (TO SALE)												
LEAN GAS (MMBTU)	26.916.516		2.691.652	2.691.652	2.691.652	2.691.652	2.691.652	2.691.652	2.691.652	2.691.652	2.691.652	2.691.652
LPG (TON)	241.890		24.189	24.189	24.189	24.189	24.189	24.189	24.189	24.189	24.189	24.189
CONDENSATE (BBL)	683.760		68.376	68.376	68.376	68.376	68.376	68.376	68.376	68.376	68.376	68.376
INCOME FROM PRODUCTION (US\$.1000)												
LEAN GAS	67.291		6.729	6.729	6.729	6.729	6.729	6.729	6.729	6.729	6.729	6.729
LPG	120.945		12.095	12.095	12.095	12.095	12.095	12.095	12.095	12.095	12.095	12.095
CONDENSATE	35.556		3.556	3.556	3.556	3.556	3.556	3.556	3.556	3.556	3.556	3.556
TOTAL PRODUCT VALUE	223.792		22.379	22.379	22.379	22.379	22.379	22.379	22.379	22.379	22.379	22.379
FEED GAS COST	43.623		4.362	4.362	4.362	4.362	4.362	4.362	4.362	4.362	4.362	4.362
TOTAL PROJECT GROSS INCOME	180.169		18.017	18.017	18.017	18.017	18.017	18.017	18.017	18.017	18.017	18.017
OPERATING COST (5 % UP/YEAR)												
OPERATING (10% dari gross revenue)			2.708	2.843	2.985	3.135	3.291	3.456	3.629	3.810	4.001	4.201
DEPRECIATION & AMORTISATION			916	916	916	916	916	916	916	916	916	916
TOTAL OPERATING COST			3.624	3.759	3.901	4.050	4.207	4.372	4.545	4.726	4.917	5.117
TOTAL COST (Operating & Gas Cost)	86.840		7.986	8.121	8.263	8.413	8.569	8.734	8.907	9.088	9.279	9.479
TOTAL PROJECT NET INCOME	136.952		14.393	14.258	14.116	13.966	13.810	13.645	13.472	13.291	13.100	12.900
CONTRACTOR TAKE	136.952		14.393	14.258	14.116	13.966	13.810	13.645	13.472	13.291	13.100	12.900
PROFIT BEFORE TAX	136.952		14.393	14.258	14.116	13.966	13.810	13.645	13.472	13.291	13.100	12.900
TAX (30%)	41.086		4.318	4.277	4.235	4.190	4.143	4.094	4.042	3.987	3.930	3.870
NET PROFIT AFTER TAX	95.866		10.075	9.981	9.881	9.776	9.667	9.552	9.431	9.304	9.170	9.030
CASH FLOW (US\$.1000)												
YEAR		-	1	2	3	4	5	6	7	8	9	10
CAPITAL OUT LAY		13.736										
PROFIT AFTER TAXES			10.075	9.981	9.881	9.776	9.667	9.552	9.431	9.304	9.170	9.030
ADD BACK:												
DEPRECIATION & AMORTIZATION	9.157		916	916	916	916	916	916	916	916	916	916
CASH FLOW		(13.736)	10.991	10.896	10.797	10.692	10.583	10.467	10.346	10.219	10.086	9.946
NET CASH FLOW DENGAN DF5%	86.287	(13.736)	10.468	10.377	10.283	10.183	10.079	9.969	9.854	9.733	9.606	9.472
IRR		75,02%										
NPV @ 10%		43.859										
Payback periode(year)			1									

LAMPIRAN 5B
Perhitungan Cash Flow Kilang LPG Tambun (Skenario B)

KEEKONOMIAN PROYEK MINI LPG PLANT

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$) 13.735.988,79
DAY OF OPERATION / YEAR (DAYS) 330
CONTRACTOR INCOME FROM PROD. 100%

PRODUCT PROCESSING FEE
LPG US\$/TON 65,5
330 CONDENSATE US\$/BBL 17,0
100% LEAN GAS US\$/MSCF 0,2
LPG PROD.DA' Metric Ton 73,3
COND.PROD.D BBI 207,2

RESOURCE :
RAW GAS PRICE US\$/MMBTU -
Heat Val./L/G BTU/SCF 978,42
Heat Val. Raw Gas BTU/SCF 1.264,00
Gas Input Volume MMSCF/Day 10
Gas Output Volume MMSCF/Day 8,3

YEAR	TOTAL	0	1	2	3	4	5	6	7	8	9	10
INPUT GAS (MMSCFD)			10	10	10	10	10	10	10	10	10	10
RAW GAS (MMBTUD)			12.640	12.640	12.640	12.640	12.640	12.640	12.640	12.640	12.640	12.640
GAS TO BE PROCESS (MMBTUD)			4.480	4.480	4.480	4.480	4.480	4.480	4.480	4.480	4.480	4.480
PRODUCTION (TO SALE)												
LEAN GAS (MMBTU)	26.928.000		2.692.800	2.692.800	2.692.800	2.692.800	2.692.800	2.692.800	2.692.800	2.692.800	2.692.800	2.692.800
LPG (TON)	241.890		24.189	24.189	24.189	24.189	24.189	24.189	24.189	24.189	24.189	24.189
CONDENSATE (BBL)	683.760		68.376	68.376	68.376	68.376	68.376	68.376	68.376	68.376	68.376	68.376
INCOME FROM PROCESSING (US\$.1000)												
LEAN GAS	5.386		539	539	539	539	539	539	539	539	539	539
LPG	15.844		1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584	1.584
CONDENSATE	11.624		1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162	1.162
TOTAL PRODUCT VALUE	32.853		3.285	3.285	3.285	3.285	3.285	3.285	3.285	3.285	3.285	3.285
GAS TO BE PROCESS COST	-		-	-	-	-	-	-	-	-	-	-
TOTAL PROJECT GROSS INCOME	32.853		3.285	3.285	3.285	3.285	3.285	3.285	3.285	3.285	3.285	3.285
OPERATING COST (5 % UP/YEAR)												
OPERATING (10% dari gross revenue)			329	345	362	380	399	419	440	462	485	510
DEPRECIATION & AMORTISATION			916	916	916	916	916	916	916	916	916	916
TOTAL OPERATING COST			1.244	1.261	1.278	1.296	1.315	1.335	1.356	1.378	1.401	1.425
TOTAL COST (Operating & Gas Cost)	13.290		1.244	1.261	1.278	1.296	1.315	1.335	1.356	1.378	1.401	1.425
TOTAL PROJECT NET INCOME	19.564		2.041	2.025	2.007	1.989	1.970	1.950	1.929	1.907	1.884	1.860
CONTRACTOR TAKE	19.564		2.041	2.025	2.007	1.989	1.970	1.950	1.929	1.907	1.884	1.860
PROFIT BEFORE TAX	19.564		2.041	2.025	2.007	1.989	1.970	1.950	1.929	1.907	1.884	1.860
TAX (30%)	5.869		612	607	602	597	591	585	579	572	565	558
NET PROFIT AFTER TAX	13.695		1.429	1.417	1.405	1.392	1.379	1.365	1.351	1.335	1.319	1.302
CASH FLOW (US\$.1000)												
YEAR			1	2	3	4	5	6	7	8	9	10
CAPITAL OUT LAY	13.736											
PROFIT AFTER TAXES			1.429	1.417	1.405	1.392	1.379	1.365	1.351	1.335	1.319	1.302
ADD BACK:												
DEPRECIATION & AMORTIZATION	9.157		916	916	916	916	916	916	916	916	916	916
CASH FLOW		(13.736)	2.344	2.333	2.321	2.308	2.295	2.281	2.266	2.251	2.235	2.218
GOVERNMENT INCOME (TAX & GAS COST)	5.869		612	607	602	597	591	585	579	572	565	558
- NPV @ 5%	4.551											
NET CASH FLOW DENGAN DF5%	8.028	(13.736)	2.233	2.222	2.210	2.198	2.186	2.172	2.158	2.144	2.128	2.112
IRR		9,5%										
NPV @ 10%		(273)										
Payback periode(year)		6										

LAMPIRAN 6A
Perhitungan Cash Flow Kilang LPG Pendopo (Skenario A)

KEEKONOMIAN PROYEK MINI LPG PLANT PENDOPO

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$)
DAY OF OPERATION / YEAR (DAYS)
CONTRACTOR INCOME FROM PROD.

PRODUCT		
LPG	US\$/TON	500,00
330 CONDENSATE	US\$/BBL	52,00
100% LEAN GAS	US\$/MMBTU	2,00
LPG PROD.DA' Metric Ton		3,09
COND.PROD.D BBI		18,26

RESOURCE :

RAW GAS PRICE	US\$/MMBTU	5,50
Heat Val.L/G	BTU/SCF	978,00
Heat Val. Raw Gas	BTU/SCF	1.108,00
Gas Input Volume	MMSCF/Day	2,40
Gas Output Volume	MMSCF/Day	2,36

YEAR	TOTAL	0	1	2	3	4	5	6	7
INPUT GAS (MMSCFD)			2,40	2,40	2,40	2,40	2,40	2,40	2,40
RAW GAS (MMBTUD)			2.659	2.659	2.659	2.659	2.659	2.659	2.659
GAS TO BE PROCESS (MMBTUD)			353	353	353	353	353	353	353
PRODUCTION (TO SALE)									
LEAN GAS (MMBTU)	5.327.146		761.021	761.021	761.021	761.021	761.021	761.021	761.021
LPG (TON)	7.143		1.020	1.020	1.020	1.020	1.020	1.020	1.020
CONDENSATE (BBL)	42.181		6.026	6.026	6.026	6.026	6.026	6.026	6.026
INCOME FROM PRODUCTION (US\$.1000)									
LEAN GAS	10.654		1.522	1.522	1.522	1.522	1.522	1.522	1.522
LPG	3.571		510	510	510	510	510	510	510
CONDENSATE	2.193		313	313	313	313	313	313	313
TOTAL PRODUCT VALUE	16.419		2.346	2.346	2.346	2.346	2.346	2.346	2.346
FEED GAS COST	4.486		641	641	641	641	641	641	641
TOTAL PROJECT GROSS INCOME	11.933		1.705	1.705	1.705	1.705	1.705	1.705	1.705
OPERATING COST (5 % UP/YEAR)									
OPERATING (10% dari gross revenue)			352	369	388	407	428	449	471
DEPRECIATION & AMORTISATION			132	132	132	132	132	132	132
TOTAL OPERATING COST			484	502	520	539	560	581	604
TOTAL COST (Operating & Gas Cost)	8.275		1.125	1.142	1.161	1.180	1.201	1.222	1.244
TOTAL PROJECT NET INCOME	8.144		1.221	1.203	1.185	1.165	1.145	1.124	1.101
CONTRACTOR TAKE	8.144		1.221	1.203	1.185	1.165	1.145	1.124	1.101
PROFIT BEFORE TAX	8.144		1.221	1.203	1.185	1.165	1.145	1.124	1.101
TAX (30%)	2.443		366	361	355	350	343	337	330
NET PROFIT AFTER TAX	5.701		855	842	829	816	801	787	771
CASH FLOW (US\$.1000)									
YEAR			1	2	3	4	5	6	7
CAPITAL OUT LAY		1.981							
PROFIT AFTER TAXES			855	842	829	816	801	787	771
ADD BACK:									
DEPRECIATION & AMORTIZATION	925		132	132	132	132	132	132	132
CASH FLOW		(1.981)	987	974	961	948	934	919	903
NET CASH FLOW DENGAN DF5% IRR	4.329	(1.981)	940	928	916	903	889	875	860
NPV @ 10%		42,45%							
Payback periode(year)		2.210							
		2							

LAMPIRAN 6B
Perhitungan Cash Flow Kilang LPG Pendopo (Skenario B)

KEEKONOMIAN PROYEK MINI LPG PLANT PENDOPO

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$) 1.981.297,66
DAY OF OPERATION / YEAR (DAYS) 330
CONTRACTOR INCOME FROM PROD. 100%

PRODUCT PROCESSING FEE

LPG US\$/TON 65,50
330 CONDENSATE US\$/BBL 17,00
100% LEAN GAS US\$/MSCF 0,20
LPG PROD.DA' Metric Ton 3,09
COND.PROD.D BBI 18,26

RESOURCE :

RAW GAS PRICE US\$/MMBTU -
Heat Val.L/G BTU/SCF 978,00
Heat Val. Raw Gas BTU/SCF 1.108,00
Gas Input Volume MMSCF/Day 2,40
Gas Output Volume MMSCF/Day 2,36

YEAR	TOTAL	0	1	2	3	4	5	6	7
INPUT GAS (MMSCFD)			2,40	2,40	2,40	2,40	2,40	2,40	2,40
RAW GAS (MMBTUD)			2.659	2.659	2.659	2.659	2.659	2.659	2.659
GAS TO BE PROCESS (MMBTUD)			353	353	353	353	353	353	353
PRODUCTION (TO SALE)									
LEAN GAS (MMBTU)	5.327.146		761.021	761.021	761.021	761.021	761.021	761.021	761.021
LPG (TON)	7.143		1.020	1.020	1.020	1.020	1.020	1.020	1.020
CONDENSATE (BBL)	42.181		6.026	6.026	6.026	6.026	6.026	6.026	6.026
INCOME FROM PROCESSING (US\$.1000)									
LEAN GAS	1.065		152	152	152	152	152	152	152
LPG	468		67	67	67	67	67	67	67
CONDENSATE	717		102	102	102	102	102	102	102
TOTAL PRODUCT VALUE	2.250		321	321	321	321	321	321	321
GAS TO BE PROCESS COST	-		-	-	-	-	-	-	-
TOTAL PROJECT GROSS INCOME	2.250		321	321	321	321	321	321	321
OPERATING COST (5 % UP/YEAR)									
OPERATING (10% dari gross revenue)			32	34	35	37	39	41	43
DEPRECIATION & AMORTISATION			132	132	132	132	132	132	132
TOTAL OPERATING COST			164	166	168	169	171	173	175
TOTAL COST (Operating & Gas Cost)	1.186		164	166	168	169	171	173	175
TOTAL PROJECT NET INCOME	1.064		157	156	154	152	150	148	146
CONTRACTOR TAKE	1.064		157	156	154	152	150	148	146
PROFIT BEFORE TAX	1.064		157	156	154	152	150	148	146
TAX (30%)	319		47	47	46	46	45	45	44
NET PROFIT AFTER TAX	745		110	109	108	107	105	104	102
CASH FLOW (US\$.1000)									
YEAR		-	1	2	3	4	5	6	7
CAPITAL OUT LAY	1.981								
PROFIT AFTER TAXES			110	109	108	107	105	104	102
ADD BACK:									
DEPRECIATION & AMORTIZATION	925		132	132	132	132	132	132	132
CASH FLOW	(1.981)		242	241	240	239	237	236	235
GOVERNMENT INCOME (TAX & GAS COST) - NPV @ 5%	319 264		47	47	46	46	45	45	44
NET CASH FLOW DENGAN DF5%	(391)	(1.981)	231	230	228	227	226	225	223
IRR		-5,2%							
NPV @ 10%		(794)							
Payback periode(year)		9							

LAMPIRAN 7A
Perhitungan Cash Flow Kilang LPG Semoga (Skenario A)

KEEKONOMIAN PROYEK MINI LPG PLANT SEMOGA

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$)
DAY OF OPERATION / YEAR (DAYS)
CONTRACTOR INCOME FROM PROD.

PRODUCT

11.589.878,93 LPG US\$/TON 500,00
330 CONDENSATE US\$/BBL 52,00
100% LEAN GAS US\$/MMBTU 2,00
LPG PROD.DA' Metric Ton 8,92
COND.PROD.D BBI 89,57

RESOURCE :

RAW GAS PRICE US\$/MMBTU 5,50
Heat Val.L/G BTU/SCF 1.179,00
Heat Val. Raw Gas BTU/SCF 1.235,00
Gas Input Volume MMSCF/Day 7,7
Gas Output Volume MMSCF/Day 7,5

Investment Payback
Base on 1,63 Years
Coorporate Tax 30% Years
Discount Factor 10%

YEAR	TOTAL	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
INPUT GAS (MMSCFD)			7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7
RAW GAS (MMBTUD)			9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510
GAS TO BE PROCESS (MMBTUD)			627	627	627	627	627	627	627	627	627	627	627	627	627	627	627
PRODUCTION (TO SALE)																	
LEAN GAS (MMBTU)	43.968.801		2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253
LPG (TON)	44.149		2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943
CONDENSATE (BBL)	443.372		29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558
INCOME FROM PRODUCTION (US\$.1000)																	
LEAN GAS	87.938		5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863	5.863
LPG	22.075		1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472	1.472
CONDENSATE	23.055		1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537	1.537
TOTAL PRODUCT VALUE	133.067		8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871	8.871
FEED GAS COST	17.068		1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138	1.138
TOTAL PROJECT GROSS INCOME	116.000		7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733	7.733
OPERATING COST (5 % UP/YEAR)																	
OPERATING (10% dari gross revenue)			1.331	1.397	1.467	1.540	1.617	1.698	1.783	1.872	1.966	2.064	2.168	2.276	2.390	2.509	2.635
DEPRECIATION & AMORTISATION			773	773	773	773	773	773	773	773	773	773	773	773	773	773	773
TOTAL OPERATING COST			2.103	2.170	2.240	2.313	2.390	2.471	2.556	2.645	2.739	2.837	2.940	3.049	3.162	3.282	3.407
TOTAL COST (Operating & Gas Cost)	57.372		3.241	3.308	3.378	3.451	3.528	3.609	3.694	3.783	3.877	3.975	4.078	4.186	4.300	4.420	4.545
TOTAL PROJECT NET INCOME	75.696		5.630	5.563	5.494	5.420	5.343	5.262	5.177	5.088	4.995	4.896	4.793	4.685	4.571	4.451	4.326
CONTRACTOR TAKE	75.696		5.630	5.563	5.494	5.420	5.343	5.262	5.177	5.088	4.995	4.896	4.793	4.685	4.571	4.451	4.326
PROFIT BEFORE TAX	75.696		5.630	5.563	5.494	5.420	5.343	5.262	5.177	5.088	4.995	4.896	4.793	4.685	4.571	4.451	4.326
TAX (30%)	22.709		1.689	1.669	1.648	1.626	1.603	1.579	1.553	1.526	1.498	1.469	1.438	1.405	1.371	1.335	1.298
NET PROFIT AFTER TAX	52.987		3.941	3.894	3.846	3.794	3.740	3.684	3.624	3.562	3.496	3.427	3.355	3.279	3.200	3.116	3.028
NET CASH FLOW DENGAN DF5%	49.912	(11.590)	4.489	4.445	4.398	4.349	4.298	4.244	4.187	4.128	4.066	4.000	3.931	3.859	3.783	3.704	3.620
IRR		37,31%															
NPV @ 10%		18.537															
Payback periode(year)		2															

LAMPIRAN 7B

Perhitungan Cash Flow Kilang LPG Semoga (Skenario B)

KEEKONOMIAN PROYEK MINI LPG PLANT SEMOGA

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$)
 DAY OF OPERATION / YEAR (DAYS)
 CONTRACTOR INCOME FROM PROD.

PRODUCT PROCESSING FEE
 11.569.878,93 LPG US\$/TON
 330 CONDENSATE US\$/BBL
 100% LEAN GAS US\$/MSCF
 LPG PROD.DA Metric Ton
 COND.PROD.D BBI

RESOURCE:
 RAW GAS PRICE US\$/MMBTU
 Heat Val.L/G BTU/SCF
 Heat Val. Raw Gas BTU/SCF
 Gas Input Volume MMSCF/Day
 Gas Output Volume MMSCF/Day

65,50
 17,00
 0,20
 8,92
 89,57

-
 1.179,00
 1.235,00
 7,7
 7,5

Investment Payback
 Base on 11,85 Years
 Corporate Tax 30%
 Discount Factor 10%

YEAR	TOTAL	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
INPUT GAS (MMSCFD)			7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7	7,7
RAW GAS (MMBTUD)			9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510	9.510
GAS TO BE PROCESS (MMBTUD)			627	627	627	627	627	627	627	627	627	627	627	627	627	627	627
PRODUCTION (TO SALE)																	
LEAN GAS (MMBTU)	43.968.801		2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253	2.931.253
LPG (TON)	44.149		2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943	2.943
CONDENSATE (BBL)	443.372		29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558	29.558
INCOME FROM PROCESSING (US\$.1000)																	
LEAN GAS	8.794		586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
LPG	2.892		193	193	193	193	193	193	193	193	193	193	193	193	193	193	193
CONDENSATE	7.537		502	502	502	502	502	502	502	502	502	502	502	502	502	502	502
TOTAL PRODUCT VALUE	19.223		1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282
GAS TO BE PROCESS COST	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL PROJECT GROSS INCOME	19.223		1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282	1.282
OPERATING COST (5 % UP/YEAR)																	
OPERATING (10% dari gross revenue)			128	135	141	148	156	164	172	180	189	199	209	219	230	242	254
DEPRECIATION & AMORTISATION			773	773	773	773	773	773	773	773	773	773	773	773	773	773	773
TOTAL OPERATING COST			901	907	914	921	928	936	944	953	962	971	981	992	1.003	1.014	1.026
TOTAL COST (Operating & Gas Cost)	14.355		901	907	914	921	928	936	944	953	962	971	981	992	1.003	1.014	1.026
TOTAL PROJECT NET INCOME	4.868		381	374	368	361	353	345	337	329	320	310	300	290	279	267	255
CONTRACTOR TAKE	4.868		381	374	368	361	353	345	337	329	320	310	300	290	279	267	255
PROFIT BEFORE TAX	4.868		381	374	368	361	353	345	337	329	320	310	300	290	279	267	255
TAX (30%)	1.460		114	112	110	108	106	104	101	99	96	93	90	87	84	80	77
NET PROFIT AFTER TAX	3.407		266	262	257	252	247	242	236	230	224	217	210	203	195	187	179
CASH FLOW (US\$.1000)																	
YEAR			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CAPITAL OUT LAY	11.590																
PROFIT AFTER TAXES			266	262	257	252	247	242	236	230	224	217	210	203	195	187	179
ADD BACK:																	
DEPRECIATION & AMORTIZATION	11.590		773	773	773	773	773	773	773	773	773	773	773	773	773	773	773
CASH FLOW	(11.590)		1.039	1.035	1.030	1.025	1.020	1.014	1.009	1.003	996	990	983	975	968	960	951
GOVERNMENT INCOME (TAX & GAS COST)	1.460		114	112	110	108	106	104	101	99	96	93	90	87	84	80	77
- NPV @ 5%	1.035																
NET CASH FLOW DENGAN DF5%	2.693	(11.590)	990	985	981	976	971	966	961	955	949	943	936	929	922	914	906
IRR																	
NPV @ 10%																	
Payback periode(year)																	

LAMPIRAN 8A
Perhitungan Cash Flow Kilang LPG Tuban (Skenario A)

KEEKONOMIAN PROYEK MINI LPG PLANT TUBAN

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$) **15.475.036,58**
DAY OF OPERATION / YEAR (DAYS) **330**
CONTRACTOR INCOME FROM PROD. **100%**

PRODUCT

LPG US\$/TON **500,00**
330 CONDENSATE US\$/BBL **52,00**
100% LEAN GAS US\$/MMBTU **2,00**
LPG PROD.DA' Metric Ton **26,34**
COND.PROD.D BBI **50,63**

RESOURCE :

RAW GAS PRICE US\$/MMBTU **5,50**
Heat Val.L/G BTU/SCF **978,00**
Heat Val. Raw Gas BTU/SCF **956,00**
Gas Input Volume MMSCF/Day **6**
Gas Output Volume MMSCF/Day **4,0**

YEAR	TOTAL	0	1	2	3	4	5	6
INPUT GAS (MMSCFD)			6	6	6	6	6	6
RAW GAS (MMBTUD)			5.736	5.736	5.736	5.736	5.736	5.736
GAS TO BE PROCESS (MMBTUD)			1.791	1.791	1.791	1.791	1.791	1.791
PRODUCTION (TO SALE)								
LEAN GAS (MMBTU)	7.811.599		1.301.933	1.301.933	1.301.933	1.301.933	1.301.933	1.301.933
LPG (TON)	52.153		8.692	8.692	8.692	8.692	8.692	8.692
CONDENSATE (BBL)	100.247		16.708	16.708	16.708	16.708	16.708	16.708
INCOME FROM PRODUCTION (US\$.1000)								
LEAN GAS	15.623		2.604	2.604	2.604	2.604	2.604	2.604
LPG	26.077		4.346	4.346	4.346	4.346	4.346	4.346
CONDENSATE	5.213		869	869	869	869	869	869
TOTAL PRODUCT VALUE	46.913		7.819	7.819	7.819	7.819	7.819	7.819
FEED GAS COST	19.501		3.250	3.250	3.250	3.250	3.250	3.250
TOTAL PROJECT GROSS INCOME	27.411		4.569	4.569	4.569	4.569	4.569	4.569
OPERATING COST (5 % UP/YEAR)								
OPERATING (10% dari gross revenue)			1.196	1.256	1.319	1.385	1.454	1.527
DEPRECIATION & AMORTISATION			1.032	1.032	1.032	1.032	1.032	1.032
TOTAL OPERATING COST			2.228	2.288	2.351	2.417	2.486	2.558
TOTAL COST (Operating & Gas Cost)	33.828		5.478	5.538	5.601	5.667	5.736	5.809
TOTAL PROJECT NET INCOME	13.084		2.341	2.281	2.218	2.152	2.083	2.010
CONTRACTOR TAKE	13.084		2.341	2.281	2.218	2.152	2.083	2.010
PROFIT BEFORE TAX	13.084		2.341	2.281	2.218	2.152	2.083	2.010
TAX (30%)	3.925		702	684	665	646	625	603
NET PROFIT AFTER TAX	9.159		1.638	1.597	1.553	1.506	1.458	1.407
NET CASH FLOW DENGAN DF5%	(857)	(15.475)	2.543	2.503	2.461	2.417	2.371	2.323
IRR		-1,6%						
NPV @ 10%		(4.374)						
Payback periode(year)		6						

LAMPIRAN 8B
Perhitungan Cash Flow Kilang LPG Tuban (Skenario B)

KEEKONOMIAN PROYEK MINI LPG PLANT

PROFIT & LOSS (US\$ 1000)

ECONOMICAL ASPECT:

TOTAL INVESTMENT (US\$)
DAY OF OPERATION / YEAR (DAYS)
CONTRACTOR INCOME FROM PROD.

PRODUCT PROCESSING FEE
15.475.036,58 LPG US\$/TON 65,5
330 CONDENSATE US\$/BBL 17,0
100% LEAN GAS US\$/MSCF 0,2
LPG PROD.DA Metric Ton 26
COND.PROD.D BBI 50,6

RESOURCE :

RAW GAS PRICE US\$/MMBTU -
Heat Val.L/G BTU/SCF 978,42
Heat Val. Raw Gas BTU/SCF 956,00
Gas Input Volume MMSCF/Day 6
Gas Output Volume MMSCF/Day 4,0

YEAR	TOTAL	0	1	2	3	4	5	6
INPUT GAS (MMSCFD)			20	10	10	10	10	10
RAW GAS (MMBTUD)			19.120	19.120	19.120	19.120	19.120	19.120
GAS TO BE PROCESS (MMBTUD)			1.789	1.789	1.789	1.789	1.789	1.789
PRODUCTION (TO SALE)								
LEAN GAS (MMBTU)	34.315.252		5.719.209	5.719.209	5.719.209	5.719.209	5.719.209	5.719.209
LPG (TON)	52.153		8.692	8.692	8.692	8.692	8.692	8.692
CONDENSATE (BBL)	100.247		16.708	16.708	16.708	16.708	16.708	16.708
INCOME FROM PROCESSING (US\$.1000)								
LEAN GAS	6.863		1.144	1.144	1.144	1.144	1.144	1.144
LPG	3.416		569	569	569	569	569	569
CONDENSATE	1.704		284	284	284	284	284	284
TOTAL PRODUCT VALUE	11.983		1.997	1.997	1.997	1.997	1.997	1.997
GAS TO BE PROCESS COST	-		-	-	-	-	-	-
TOTAL PROJECT GROSS INCOME	11.983		1.997	1.997	1.997	1.997	1.997	1.997
OPERATING COST (5 % UP/YEAR)								
OPERATING (10% dari gross revenue)			200	210	220	231	243	255
DEPRECIATION & AMORTISATION			1.032	1.032	1.032	1.032	1.032	1.032
TOTAL OPERATING COST			1.231	1.241	1.252	1.263	1.274	1.287
TOTAL COST (Operating & Gas Cost)	7.549		1.231	1.241	1.252	1.263	1.274	1.287
TOTAL PROJECT NET INCOME	4.435		766	756	745	734	723	711
CONTRACTOR TAKE	4.435		766	756	745	734	723	711
PROFIT BEFORE TAX	4.435		766	756	745	734	723	711
TAX (30%)	1.330		230	227	224	220	217	213
NET PROFIT AFTER TAX	3.104		536	529	522	514	506	497
CASH FLOW (US\$.1000)								
YEAR			1	2	3	4	5	6
CAPITAL OUT LAY	15.475							
PROFIT AFTER TAXES			536	529	522	514	506	497
ADD BACK:								
DEPRECIATION & AMORTIZATION	6.190		1.032	1.032	1.032	1.032	1.032	1.032
CASH FLOW	(15.475)		1.568	1.561	1.553	1.546	1.538	1.529
GOVERNMENT INCOME (TAX & GAS COST)	1.330		230	227	224	220	217	213
- NPV @ 5%	1.128							
NET CASH FLOW DENGAN DF5%	(6.623)	(15.475)	1.493	1.486	1.479	1.472	1.464	1.456
IRR		-14,0%						
NPV @ 10%		(8.219)						
Payback periode(year)		10						