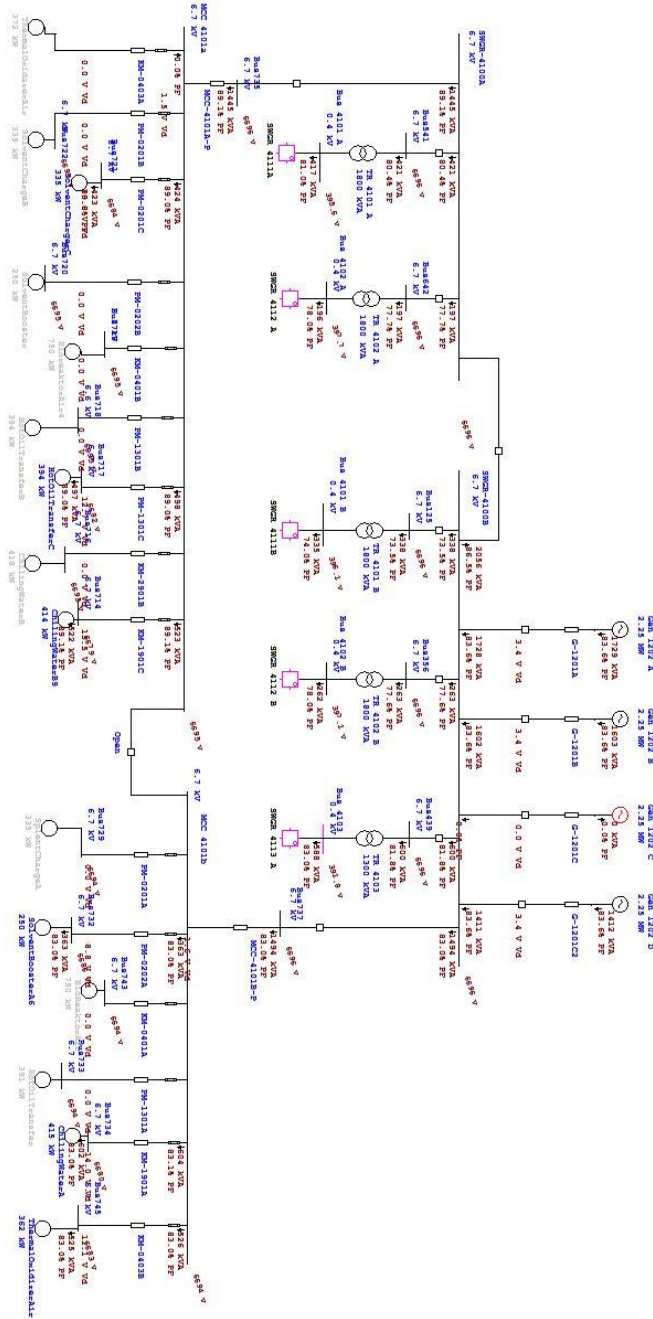
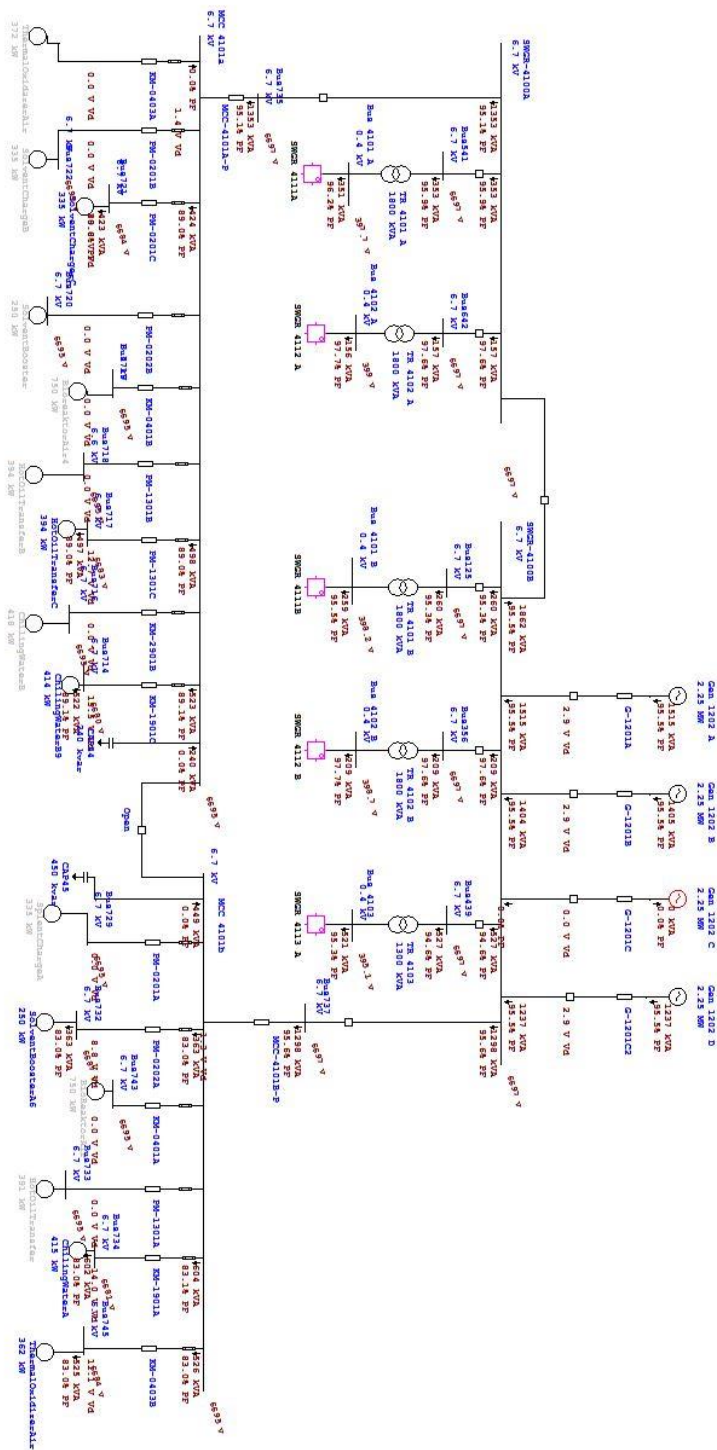


LAMPIRAN – LAMPIRAN

Lampiran 1. Hasil Simulasi



Gambar 38. Simulasi Kondisi Eksiting



Gambar 39. Simulasi Kondisi Evaluasi

Lampiran 2. Losess Jaringan Sebelum

Branch Losses Summary Report

CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
EM-0201-A2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0201-B2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0201-C2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0201-D2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0201-E2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0203-A2	0.024	0.017	-0.023	-0.017	1.1	0.1	98.9	95.7	3.17
EM-0205-A2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0402-A2	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
EM-0404	0.001	0.001	-0.001	-0.001	0.0	0.0	98.9	97.7	1.18
JB-PE-1900-9	0.046	0.032	-0.044	-0.032	1.3	0.2	98.9	96.7	2.16
JB-PE-1901-8	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PEM-0403-1	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PEM-0403-3	0.001	0.001	-0.001	-0.001	0.0	0.0	98.9	97.7	1.25
PM-0101-B	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0204-B	0.006	0.004	-0.006	-0.004	0.1	0.0	98.9	97.3	1.57
PM-0206B	0.005	0.003	-0.005	-0.003	0.1	0.0	98.9	97.0	1.87
PM-0305B	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0307B	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0308-B	0.002	0.001	-0.002	-0.001	0.0	0.0	98.9	97.8	1.08
PM-0401-B	0.192	0.140	-0.185	-0.134	7.0	5.4	98.9	95.2	3.69
PM-0402-C	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0403-B	0.015	0.011	-0.014	-0.011	0.8	0.0	98.9	95.3	3.62
PM-0404-B	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0405-B	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0406B	0.003	0.002	-0.003	-0.002	0.1	0.0	98.9	96.9	1.97
PM-0411-B	0.001	0.000	-0.001	0.000	0.0	0.0	98.9	98.3	0.56
PM-0501-B	0.007	0.006	-0.007	-0.006	0.3	0.0	98.9	95.9	3.04
PM-0502	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-0901-B	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-1101-B	0.007	0.005	-0.007	-0.005	0.1	0.0	98.9	97.6	1.34
PM-1801-B	0.004	0.003	-0.004	-0.003	0.1	0.0	98.9	96.9	2.02
PM-1802-B	0.024	0.018	-0.023	-0.018	1.0	0.1	98.9	96.1	2.76
PM-2001-A	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
PM-3302	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00
YM-0402	0.000	0.000	0.000	0.000	0.0	0.0	98.9	98.9	0.00

Ckt / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	
EM-0201 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
EM-0201 B1	0.032	0.027	-0.030	-0.027	1.9	0.2	99.0	95.3	3.68
EM-0201 C1	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
EM-0201 D1	0.033	0.031	-0.031	-0.031	2.3	0.2	99.0	95.1	3.88
EM-0201 E1	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
EM-0203 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
EM-0205 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
EM-0301	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
EM-0402 A1	0.011	0.010	-0.010	-0.010	0.4	0.0	99.0	96.7	2.29
EM-0403	0.001	0.001	-0.001	-0.001	0.0	0.0	99.0	98.1	0.88
H-0701 PP	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
H-1001 PP	0.004	0.004	-0.004	-0.004	0.2	0.0	99.0	96.5	2.57
JB-5011	0.045	0.040	-0.043	-0.039	1.5	0.3	99.0	96.9	2.16
JB- 5013	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
JB-5014 B	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
JB-PE 1901 1	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
JB-PE 1901 2	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
JB-PE 1901 3	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
K-0401 PP	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
OTC-03	0.010	0.009	-0.010	-0.009	0.6	0.0	99.0	95.6	3.41
PE-020 PP	0.001	0.001	-0.001	-0.001	0.0	0.0	99.0	98.2	0.81
PE-0404 PP	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
PE-0501 TR2	0.001	0.001	-0.001	-0.001	0.0	0.0	99.0	98.4	0.62
PE-0501 TR3	0.003	0.003	-0.003	-0.003	0.2	0.0	99.0	96.3	2.77
PM-0101 A	0.008	0.008	-0.008	-0.008	0.4	0.0	99.0	96.7	2.36
PM-0205	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
PM-0206 A	0.005	0.005	-0.005	-0.005	0.2	0.0	99.0	97.0	2.01
PM-0304 A	0.001	0.000	0.000	0.000	0.0	0.0	99.0	98.6	0.42
PM-0306	0.003	0.003	-0.003	-0.003	0.2	0.0	99.0	96.3	2.69
PM-0307 A	0.002	0.001	-0.001	-0.001	0.0	0.0	99.0	97.7	1.35
PM-0307 A2	0.002	0.002	-0.002	-0.002	0.0	0.0	99.0	97.9	1.12
PM-0307 A4	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
PM-0307 A5	0.005	0.004	-0.004	-0.004	0.3	0.0	99.0	95.5	3.53
PM-0307 A6	0.011	0.010	-0.010	-0.010	0.7	0.0	99.0	95.5	3.50
PM-0307 A7	0.004	0.004	-0.004	-0.004	0.3	0.0	99.0	95.2	3.84
PM-0307 A8	0.001	0.001	-0.001	-0.001	0.0	0.0	99.0	98.5	0.52
PM-0310	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
PM-0403-A	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
PM-0404-A	0.008	0.007	-0.008	-0.007	0.5	0.0	99.0	95.7	3.35
PM-0411-A	0.001	0.001	-0.001	-0.001	0.0	0.0	99.0	98.1	0.92
PM-0421-B	0.001	0.001	-0.001	-0.001	0.0	0.0	99.0	98.3	0.68
PM-0701-A	0.005	0.005	-0.005	-0.005	0.1	0.0	99.0	97.6	1.41
PM-0901-A	0.015	0.013	-0.014	-0.013	0.7	0.0	99.0	96.5	2.52
PM-1303	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
PM-1601-B	0.000	0.000	0.000	0.000	0.0	0.0	99.0	99.0	0.00
PM-1602-B	0.011	0.010	-0.011	-0.010	0.6	0.0	99.0	96.3	2.73
PM-1701-B	0.005	0.005	-0.005	-0.005	0.2	0.0	99.0	96.7	2.33
PM-1802-A	0.010	0.010	-0.010	-0.010	0.4	0.0	99.0	97.2	1.83
YM-0501	0.008	0.008	-0.008	-0.008	0.5	0.0	99.0	95.6	3.44
TR-4101-B	0.248	0.229	-0.248	-0.225	0.7	3.9	99.9	99.0	0.92
PM-3401-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-1901-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-3301-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0204-A	-0.010	-0.008	0.010	0.008	0.4	0.0	96.9	99.4	2.51
PM-0207	-0.001	-0.001	0.001	0.001	0.0	0.0	98.7	99.4	0.75
PM-0406-B	-0.001	-0.001	0.001	0.001	0.0	0.0	98.0	99.4	1.46
PM-0311-B	-0.001	-0.001	0.001	0.001	0.0	0.0	99.0	99.4	0.47
EM-0302-B	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.4	0.18
EM-0301-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0309-B	-0.001	-0.001	0.001	0.001	0.0	0.0	98.9	99.4	0.59
PM-0407-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-3001	-0.001	-0.001	0.001	0.001	0.0	0.0	98.2	99.4	1.23
PM-0302-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0305-A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.2	99.4	1.21
PM-0414-B	-0.007	-0.006	0.008	0.006	0.4	0.0	96.3	99.4	3.10
PM-0412-B	-0.007	-0.006	0.008	0.006	0.4	0.0	96.4	99.4	3.04
PM-0107-B	-0.005	-0.004	0.005	0.004	0.2	0.0	96.7	99.4	2.76
PM-0702-B	-0.001	-0.001	0.001	0.001	0.0	0.0	99.0	99.4	0.42
EM-0702-A2	-0.004	-0.004	0.005	0.004	0.2	0.0	97.0	99.4	2.41
EM-0702-B2	-0.004	-0.004	0.005	0.004	0.2	0.0	97.0	99.4	2.41
PM-3002	-0.001	-0.001	0.001	0.001	0.0	0.0	98.2	99.4	1.23
EM-0901-A2	-0.001	-0.001	0.001	0.001	0.0	0.0	99.0	99.4	0.47
PM-0203-B	-0.013	-0.010	0.013	0.010	0.6	0.0	96.8	99.4	2.67
EM-0101-A2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	
EM-0201 F2	-0.029	-0.025	0.031	0.025	1.7	0.2	95.9	99.4	3.54
EM-0201 G2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0201 H2	-0.029	-0.025	0.031	0.025	1.7	0.2	95.9	99.4	3.54
EM-0203 B2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0203 C2	-0.024	-0.021	0.026	0.021	1.2	0.1	96.5	99.4	2.96
PM-0303 B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0405	-0.001	-0.001	0.001	0.001	0.0	0.0	99.3	99.4	0.16
PM-0401-C	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
KM-0402 B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
G-1201A	1.445	0.950	-1.444	-0.949	0.7	0.5	101.5	99.9	0.05
G-1201B	1.340	0.880	-1.339	-0.880	0.7	0.5	101.5	99.9	0.05
G-1201C	0.000	0.000	0.000	0.000			101.5	99.9	0.00
G-1201C2	1.180	0.775	-1.179	-0.775	0.6	0.4	101.5	99.9	0.05
TR-4102 B	0.204	0.166	-0.204	-0.164	0.4	2.4	99.9	99.3	0.68
KM-1401-B-1	-0.021	-0.014	0.022	0.015	0.9	0.0	95.1	97.9	2.84
UPS-4111-B1	-0.050	-0.034	0.051	0.034	1.1	0.3	96.2	97.9	1.76
DP-4111	-0.134	-0.086	0.136	0.087	2.0	0.5	96.7	97.9	1.20
KM-1401-B	-0.259	-0.181	0.268	0.185	8.9	4.3	95.0	97.9	2.94
BC-4112-B	0.012	0.008	-0.012	-0.008	0.3	0.0	97.9	96.3	1.62
PM-0413 A	-0.003	-0.002	0.003	0.002	0.1	0.0	97.8	99.3	1.45
PM-1901 A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
EM-0203 C1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-0303 A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-3401 A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-0203 A	-0.014	-0.011	0.015	0.011	0.7	0.0	96.3	99.3	2.96
EM-0101 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-0702 A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.8	99.3	0.50
PM-1804	-0.004	-0.003	0.004	0.003	0.2	0.0	96.5	99.3	2.79
PM-0406 A	-0.001	-0.001	0.001	0.001	0.0	0.0	97.7	99.3	1.57
PM-0421 A	0.000	0.000	0.000	0.000	0.0	0.0	98.8	99.3	0.49
PM-311 A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.5	99.3	0.78
EM-0302 A	0.000	0.000	0.000	0.000	0.0	0.0	98.9	99.3	0.33
EM-0702 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
EM-0901 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-3301 A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
TR-4103	0.491	0.345	-0.488	-0.328	2.8	17.1	99.9	97.9	2.00
TR-4101 A	0.338	0.250	-0.337	-0.244	1.0	6.1	99.9	98.9	1.05

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
TR-4102.A	0.153	0.124	-0.153	-0.123	0.2	1.3	99.9	99.4	0.51
EM-0201.F1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
EM-0201.G1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
EM-0201.H1	-0.028	-0.023	0.030	0.023	1.6	0.1	95.6	99.3	3.64
EM-0203.B1	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-0301.A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.2	99.3	1.11
PM-0309.A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.0	99.3	1.29
JB-5014.A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
WO-5001.B	-0.031	-0.025	0.032	0.025	0.6	0.1	98.0	99.3	1.27
PM-3302.A	-0.002	-0.002	0.003	0.002	0.1	0.0	97.3	99.3	1.97
JB-5012	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-3402	-0.002	-0.002	0.003	0.002	0.1	0.0	97.3	99.3	1.94
YM-0405.A	-0.002	-0.001	0.002	0.001	0.0	0.0	98.1	99.3	1.12
PM-0412.A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
YM-0411	-0.004	-0.003	0.004	0.003	0.1	0.0	97.6	99.3	1.64
EM-0702.B1	-0.005	-0.004	0.005	0.004	0.2	0.0	96.7	99.3	2.57
PM-0302.A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.2	99.3	1.03
PM-0404.A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.1	99.3	1.21
YM-0404	-0.001	-0.001	0.001	0.001	0.0	0.0	98.1	99.3	1.13
EM-0402.A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
YM-0405	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PP-PE-0402	-0.001	0.000	0.001	0.000	0.0	0.0	98.9	99.3	0.40
DP-0411	-0.002	-0.001	0.002	0.001	0.0	0.0	98.8	99.3	0.48
JB-PE 1901.4	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
EM-1901.C	-0.465	-0.237	0.466	0.237	1.3	0.2	99.7	99.9	0.23
EM-2901.B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-1301.C	-0.443	-0.227	0.444	0.227	1.0	0.1	99.7	99.9	0.19
PM-1301.B	0.000	0.000	0.000	0.000			101.4	99.9	0.00
EM-0401.B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0202.B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0201.C	-0.376	-0.193	0.377	0.193	0.7	0.1	99.8	99.9	0.16
PM-0201.B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0201.A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0202.A	-0.301	-0.202	0.302	0.202	0.5	0.1	99.8	99.9	0.13
PM-1301.A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
EM-1901.A	-0.500	-0.336	0.501	0.336	1.4	0.2	99.7	99.9	0.21
MCC-4101.A-P	1.287	0.657	-1.287	-0.657	0.3	0.2	99.9	99.9	0.02

Project:
Location:
Contract:
Engineer:
Filename: Emap Pertamina Apply PLN

ETAP
12.6.0H

Study Case: LF

Page: 6
Date: 06-26-2019
SN:
Revision: Base
Config: Normal

CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
MCC-4101B-P	1.240	0.832	-1.240	-0.832	0.3	0.2	99.9	99.9	0.02
KM-0401A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
KM-0403B	-0.436	-0.293	0.437	0.293	1.0	0.1	99.8	99.9	0.17
JB-PE 1901 6	-0.046	-0.037	0.048	0.037	1.8	0.3	96.7	99.3	2.61
JB-PE 1901 8	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
OTC-02	-0.036	-0.035	0.039	0.035	3.4	0.3	94.2	99.3	5.06
KM-0403A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0401A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-0402A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
PM-0701A	0.000	0.000	0.000	0.000	0.0	0.0	99.3	99.3	0.00
					67.3	46.4			

Lampiran 3. Losess Jaringan Sesudah

Branch Losses Summary Report

CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vinag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
EM-0201-A2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0201-B2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0201-C2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0201-D2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0201-E2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0203-A2	0.024	0.017	-0.023	-0.017	1.1	0.1	99.4	96.3	3.16
EM-0205-A2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0402-A2	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
EM-0404	0.001	0.001	-0.001	-0.001	0.0	0.0	99.4	98.3	1.17
JB-PE-1900-9	0.046	0.032	-0.044	-0.032	1.3	0.2	99.4	97.3	2.15
JB-PE-1901-8	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PEM-0403-1	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PEM-0403-3	0.001	0.001	-0.001	-0.001	0.0	0.0	99.4	98.2	1.25
PM-0101-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0204-B	0.006	0.004	-0.006	-0.004	0.1	0.0	99.4	97.9	1.56
PM-0206B	0.005	0.003	-0.005	-0.003	0.1	0.0	99.4	97.6	1.86
PM-0305B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0307B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0308-B	0.002	0.001	-0.002	-0.001	0.0	0.0	99.4	98.4	1.08
PM-0401-B	0.192	0.139	-0.185	-0.134	6.9	5.4	99.4	95.8	3.67
PM-0402-C	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0403-B	0.015	0.011	-0.014	-0.011	0.8	0.0	99.4	95.8	3.60
PM-0404-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0405-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0406B	0.003	0.002	-0.003	-0.002	0.1	0.0	99.4	97.5	1.96
PM-0411-B	0.001	0.000	-0.001	0.000	0.0	0.0	99.4	98.9	0.56
PM-0501-B	0.007	0.006	-0.007	-0.006	0.3	0.0	99.4	96.4	3.02
PM-0502	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-0901-B	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-1101-B	0.007	0.005	-0.007	-0.005	0.1	0.0	99.4	98.1	1.34
PM-1801-B	0.004	0.003	-0.004	-0.003	0.1	0.0	99.4	97.4	2.00
PM-1802-B	0.024	0.018	-0.023	-0.018	1.0	0.1	99.4	96.7	2.75
PM-2001-A	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
PM-3302	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00
YM-0402	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.4	0.00

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	
EM-0201 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
EM-0201 B1	0.032	0.027	-0.030	-0.027	1.9	0.2	99.5	95.9	3.66
EM-0201 C1	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
EM-0201 D1	0.033	0.031	-0.031	-0.031	2.2	0.2	99.5	95.7	3.86
EM-0201 E1	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
EM-0203 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
EM-0205 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
EM-0301	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
EM-0402 A1	0.011	0.010	-0.010	-0.010	0.4	0.0	99.5	97.3	2.28
EM-0403	0.001	0.001	-0.001	-0.001	0.0	0.0	99.5	98.7	0.87
H-0701 PP	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
H-1001 PP	0.004	0.004	-0.004	-0.004	0.2	0.0	99.5	97.0	2.56
JB-5011	0.045	0.040	-0.043	-0.039	1.5	0.2	99.5	97.4	2.15
JB-5013	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
JB-5014 B	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
JB-PE 1901 1	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
JB-PE 1901 2	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
JB-PE 1901 3	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
K-0401 PP	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
OTC-03	0.010	0.009	-0.010	-0.009	0.6	0.0	99.5	96.2	3.39
PE-020 PP	0.001	0.001	-0.001	-0.001	0.0	0.0	99.5	98.7	0.81
PE-0404 PP	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
PE-0501 TR2	0.001	0.001	-0.001	-0.001	0.0	0.0	99.5	98.9	0.61
PE-0501 TR3	0.003	0.003	-0.003	-0.003	0.2	0.0	99.5	96.8	2.76
PM-0101 A	0.008	0.008	-0.008	-0.008	0.4	0.0	99.5	97.2	2.34
PM-0205	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
PM-0206 A	0.005	0.005	-0.005	-0.005	0.2	0.0	99.5	97.6	2.00
PM-0304 A	0.001	0.000	0.000	0.000	0.0	0.0	99.5	99.1	0.42
PM-0306	0.003	0.003	-0.003	-0.003	0.2	0.0	99.5	96.9	2.68
PM-0307 A	0.002	0.001	-0.001	-0.001	0.0	0.0	99.5	98.2	1.35
PM-0307 A2	0.002	0.002	-0.002	-0.002	0.0	0.0	99.5	98.4	1.11
PM-0307 A4	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
PM-0307 A5	0.005	0.004	-0.004	-0.004	0.3	0.0	99.5	96.0	3.51
PM-0307 A6	0.011	0.010	-0.010	-0.010	0.7	0.0	99.5	96.1	3.48
PM-0307 A7	0.004	0.004	-0.004	-0.004	0.3	0.0	99.5	95.7	3.82
PM-0307 A8	0.001	0.001	-0.001	-0.001	0.0	0.0	99.5	99.0	0.52
PM-0310	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
PM-0403-A	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
PM-0404-A	0.008	0.007	-0.008	-0.007	0.5	0.0	99.5	96.2	3.33
PM-0411-A	0.001	0.001	-0.001	-0.001	0.0	0.0	99.5	98.6	0.92
PM-0421-B	0.001	0.001	-0.001	-0.001	0.0	0.0	99.5	98.9	0.68
PM-0701-A	0.005	0.005	-0.005	-0.005	0.1	0.0	99.5	98.1	1.41
PM-0901-A	0.015	0.013	-0.014	-0.013	0.6	0.0	99.5	97.0	2.51
PM-1303	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
PM-1601-B	0.000	0.000	0.000	0.000	0.0	0.0	99.5	99.5	0.00
PM-1602-B	0.011	0.010	-0.011	-0.010	0.6	0.0	99.5	96.8	2.72
PM-1701-B	0.005	0.005	-0.005	-0.005	0.2	0.0	99.5	97.2	2.32
PM-1802-A	0.010	0.010	-0.010	-0.010	0.3	0.0	99.5	97.7	1.82
YM-0501	0.008	0.008	-0.008	-0.008	0.5	0.0	99.5	96.1	3.42
TR-4101-B	0.248	0.079	-0.248	-0.077	0.4	2.3	100.0	99.5	0.41
PM-3401-B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-1901-B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-3301-B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-0204-A	-0.010	-0.008	0.010	0.008	0.4	0.0	97.3	99.8	2.50
PM-0207	-0.001	-0.001	0.001	0.001	0.0	0.0	99.0	99.8	0.75
PM-0406-B	-0.001	-0.001	0.001	0.001	0.0	0.0	98.3	99.8	1.45
PM-0311-B	-0.001	-0.001	0.001	0.001	0.0	0.0	99.3	99.8	0.47
EM-0302-B	0.000	0.000	0.000	0.000	0.0	0.0	99.6	99.8	0.18
EM-0301-B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-0309-B	-0.001	-0.001	0.001	0.001	0.0	0.0	99.2	99.8	0.58
PM-0407-B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-3001	-0.001	-0.001	0.001	0.001	0.0	0.0	98.5	99.8	1.23
PM-0302-B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-0305-A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.5	99.8	1.21
PM-0414-B	-0.007	-0.006	0.008	0.006	0.4	0.0	96.7	99.8	3.09
PM-0412-B	-0.007	-0.006	0.008	0.006	0.4	0.0	96.7	99.8	3.03
PM-0107-B	-0.005	-0.004	0.005	0.004	0.2	0.0	97.0	99.8	2.75
PM-0702-B	-0.001	-0.001	0.001	0.001	0.0	0.0	99.3	99.8	0.42
EM-0702-A2	-0.004	-0.004	0.005	0.004	0.2	0.0	97.4	99.8	2.40
EM-0702-B2	-0.004	-0.004	0.005	0.004	0.2	0.0	97.4	99.8	2.40
PM-3002	-0.001	-0.001	0.001	0.001	0.0	0.0	98.5	99.8	1.23
EM-0901-A2	-0.001	-0.001	0.001	0.001	0.0	0.0	99.3	99.8	0.47
PM-0203-B	-0.013	-0.010	0.013	0.010	0.6	0.0	97.1	99.8	2.66
EM-0101-A2	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00

Ckt / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	
EM-0201 F2	-0.029	-0.025	0.031	0.025	1.7	0.2	96.2	99.8	3.53
EM-0201 G2	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
EM-0201 H2	-0.029	-0.025	0.031	0.025	1.7	0.2	96.2	99.8	3.53
EM-0203 B2	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
EM-0203 C2	-0.024	-0.021	0.026	0.021	1.2	0.1	96.8	99.8	2.95
PM-0303 B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
PM-0405	-0.001	-0.001	0.001	0.001	0.0	0.0	99.6	99.8	0.16
PM-0401-C	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
KM-0402 B	0.000	0.000	0.000	0.000	0.0	0.0	99.8	99.8	0.00
G-1201A	1.447	0.449	-1.447	-0.448	0.6	0.4	101.5	100.0	0.04
G-1201B	1.342	0.416	-1.341	-0.416	0.5	0.4	101.5	100.0	0.04
G-1201C	0.000	0.000	0.000	0.000			101.5	100.0	0.00
G-1201C2	1.182	0.366	-1.181	-0.366	0.5	0.3	101.5	100.0	0.04
TR-4102 B	0.204	0.046	-0.204	-0.044	0.3	1.5	100.0	99.7	0.27
KM-1401-B-1	-0.021	-0.014	0.022	0.015	0.9	0.0	96.0	98.8	2.82
UPS-4111-B1	-0.051	-0.034	0.052	0.034	1.1	0.3	97.0	98.8	1.77
DP-4111	-0.136	-0.088	0.138	0.088	2.1	0.5	97.6	98.8	1.21
KM-1401-B	-0.263	-0.184	0.273	0.188	9.1	4.4	95.8	98.8	2.96
BC-4112-B	0.012	0.008	-0.012	-0.008	0.3	0.0	98.8	97.1	1.63
PM-0413 A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.2	99.7	1.45
PM-1901 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
EM-0203 C1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-0303 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-3401 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-0203 A	-0.014	-0.011	0.015	0.011	0.7	0.0	96.7	99.7	2.94
EM-0101 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-0702 A	-0.001	-0.001	0.001	0.001	0.0	0.0	99.2	99.7	0.50
PM-1804	-0.004	-0.003	0.004	0.003	0.2	0.0	96.9	99.7	2.78
PM-0408 A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.1	99.7	1.56
PM-0421 A	0.000	0.000	0.000	0.000	0.0	0.0	99.2	99.7	0.48
PM-311 A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.9	99.7	0.77
EM-0302 A	0.000	0.000	0.000	0.000	0.0	0.0	99.4	99.7	0.33
EM-0702 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
EM-0901 A1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-3301 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
TR-4103	0.498	0.171	-0.496	-0.158	2.2	13.2	100.0	98.8	1.18
TR-4101 A	0.338	0.100	-0.337	-0.096	0.7	4.3	100.0	99.4	0.53

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	
TR-4102 A	0.153	0.034	-0.153	-0.033	0.1	0.8	100.0	99.8	0.20
EM-0201 F1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
EM-0201 G1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
EM-0201 H1	-0.028	-0.023	0.030	0.023	1.6	0.1	96.1	99.7	3.62
EM-0203 B1	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-0301 A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.6	99.7	1.11
PM-0309 A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.4	99.7	1.29
JB-5014 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
WO-5001 B	-0.031	-0.025	0.032	0.025	0.6	0.1	98.4	99.7	1.27
PM-3302A	-0.002	-0.002	0.003	0.002	0.1	0.0	97.7	99.7	1.96
JB-5012	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-3402	-0.002	-0.002	0.003	0.002	0.1	0.0	97.8	99.7	1.93
YM-0405A	-0.002	-0.001	0.002	0.001	0.0	0.0	98.6	99.7	1.12
PM-0412 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
YM-0411	-0.004	-0.003	0.004	0.003	0.1	0.0	98.0	99.7	1.64
EM-0702 B1	-0.005	-0.004	0.005	0.004	0.2	0.0	97.1	99.7	2.56
PM-0302 A	-0.001	-0.001	0.001	0.001	0.0	0.0	98.7	99.7	1.03
PM-0404A	-0.003	-0.002	0.003	0.002	0.1	0.0	98.5	99.7	1.20
YM-0404	-0.001	-0.001	0.001	0.001	0.0	0.0	98.6	99.7	1.12
KM-0402 A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
YM-0405	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PP-PE-0402	-0.001	0.000	0.001	0.000	0.0	0.0	99.3	99.7	0.40
DP-0411	-0.002	-0.001	0.002	0.001	0.0	0.0	99.2	99.7	0.48
JB-PE 1901 4	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
KM-1901C	-0.465	-0.237	0.466	0.237	1.3	0.2	99.7	99.9	0.23
KM-2901B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-1301C	-0.443	-0.227	0.444	0.227	1.0	0.1	99.7	99.9	0.19
PM-1301B	0.000	0.000	0.000	0.000			101.5	99.9	0.00
KM-0401B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0202B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0201C	-0.376	-0.193	0.377	0.193	0.7	0.1	99.8	99.9	0.16
PM-0201B	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0201A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0202A	-0.301	-0.202	0.302	0.202	0.5	0.1	99.8	99.9	0.13
PM-1301A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
KM-1901A	-0.500	-0.336	0.501	0.336	1.4	0.2	99.7	99.9	0.21
MCC-4101A-P	1.287	0.418	-1.287	-0.417	0.2	0.2	100.0	99.9	0.02

Project:
Location:
Contract:
Engineer:
Filename: Etap Pertamina Apply PLN

ETAP
12.6.0H

Study Case: LF

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Date: 06-26-2019
SN:
Revision: Base
Config: Normal

CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
MCC-4101B-P	1.240	0.383	-1.240	-0.383	0.2	0.2	100.0	99.9	0.02
KM-0401A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
KM-0403B	-0.436	-0.293	0.437	0.293	1.0	0.1	99.8	99.9	0.17
JB-PE 1901 6	-0.046	-0.037	0.048	0.037	1.8	0.3	97.1	99.7	2.60
JB-PE 1901 8	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
OTC-02	-0.036	-0.035	0.039	0.035	3.4	0.3	94.6	99.7	5.04
KM-0403A	0.000	0.000	0.000	0.000			99.9	99.9	0.00
PM-0401A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-0402A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
PM-0701A	0.000	0.000	0.000	0.000	0.0	0.0	99.7	99.7	0.00
					65.3	37.3			