

## DAFTAR PUSTAKA

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# LAMPIRAN



Hasil Simulasi Aliran Daya SLD Variasi Satu saat Beban Puncak Siang Hari

500 kV in  
-i

		DigSILENT PowerFactory 15.1.7		Project: Date: 6/25/2023	
Load Flow Calculation				Total System Summary	
AC Load Flow, balanced, positive sequence		Automatic Model Adaptation for Convergence		No	
Automatic Tap Adjust of Transformers		Max. Acceptable Load Flow Error for		1.00 kVA	
Consider Reactive Power Limits		Nodes		0.10 %	
Model Equations					
Total System Summary			Study Case: Study Case		Annex: / 1
No. of Substations	225	No. of Busbars	438	No. of Terminals	4266
No. of 2-w Trfs.	197	No. of 3-w Trfs.	0	No. of syn. Machines	61
No. of Loads	122	No. of Shunts	9	No. of SVS	0
Generation	= 1661.24 MW	225.51 Mvar	1676.48 MVA		
External Infeed	= 0.00 MW	0.00 Mvar	0.00 MVA		
Load P(U)	= 1638.30 MW	534.45 Mvar	1723.27 MVA		
Load P(Un)	= 1638.30 MW	534.45 Mvar	1723.27 MVA		
Load P(Un-U)	= 0.00 MW	0.00 Mvar			
Motor Load	= 0.00 MW	0.00 Mvar	0.00 MVA		
Grid Losses	= 22.94 MW	-230.61 Mvar			
Line Charging	=	-593.26 Mvar			
Compensation ind.	=	0.00 Mvar			
Compensation cap.	=	-78.33 Mvar			
Installed Capacity	= 2512.66 MW				
Spinning Reserve	= 727.23 MW				
Total Power Factor:					
Generation	= 0.99 [-]				
Load/Motor	= 0.95 / 0.00 [-]				



Hasil Simulasi Aliran Daya SLD Variasi Satu saat Beban Puncak Malam Hari

		DigSILENT PowerFactory 15.1.7		Project: Date: 6/25/2023	
Load Flow Calculation				Total System Summary	
AC Load Flow, balanced, positive sequence		Automatic Model Adaptation for Convergence		No	
Automatic Tap Adjust of Transformers		Max. Acceptable Load Flow Error for		1.00 kVA	
Consider Reactive Power Limits		Nodes		0.10 %	
Model Equations					
Total System Summary			Study Case: Study Case		Annex: / 1
No. of Substations	225	No. of Busbars	438	No. of Terminals	4266
No. of 2-w Trfs.	198	No. of 3-w Trfs.	0	No. of syn. Machines	60
No. of Loads	122	No. of Shunts	8	No. of SVS	0
Generation	= 1849.68 MW	217.44 Mvar	1862.42 MVA		
External Infeed	= 0.00 MW	0.00 Mvar	0.00 MVA		
Load P(U)	= 1824.46 MW	460.84 Mvar	1881.76 MVA		
Load P(Un)	= 1824.46 MW	460.84 Mvar	1881.76 MVA		
Load P(Un-U)	= 0.00 MW	-0.00 Mvar			
Motor Load	= 0.00 MW	0.00 Mvar	0.00 MVA		
Grid Losses	= 25.22 MW	-175.60 Mvar			
Line Charging	=	-593.56 Mvar			
Compensation ind.	=	0.00 Mvar			
Compensation cap.	=	-67.80 Mvar			
Installed Capacity	= 2512.66 MW				
Spinning Reserve	= 546.66 MW				
Total Power Factor:					
Generation	= 0.99 [-]				
Load/Motor	= 0.97 / 0.00 [-]				





Hasil Simulasi Aliran Daya SLD Variasi Dua saat Beban Puncak Siang Hari

500 kV OUT  
ri

				DigSILENT PowerFactory 15.1.7		Project: Date: 6/25/2023	
Load Flow Calculation				Total System Summary			
AC Load Flow, balanced, positive sequence		Automatic Tap Adjust of Transformers		Automatic Model Adaptation for Convergence		No	
Consider Reactive Power Limits		Yes		Max. Acceptable Load Flow Error for		1.00 kVA	
		Yes		Nodes		0.10 %	
				Model Equations			
Total System Summary				Study Case: Study Case		Annex: / 1	
No. of Substations	214	No. of Busbars	416	No. of Terminals	4043	No. of Lines	176
No. of 2-w Trfs.	187	No. of 3-w Trfs.	0	No. of syn. Machines	61	No. of asyn. Machines	0
No. of Loads	122	No. of Shunts	9	No. of SVS	0		
Generation	= 1677.21 MW	566.75 Mvar		1770.38 MVA			
External Infeed	= 0.00 MW	0.00 Mvar		0.00 MVA			
Load P(U)	= 1638.30 MW	534.45 Mvar		1723.27 MVA			
Load P(Un)	= 1638.30 MW	534.45 Mvar		1723.27 MVA			
Load P(Un-U)	= 0.00 MW	-0.00 Mvar					
Motor Load	= 0.00 MW	0.00 Mvar		0.00 MVA			
Grid Losses	= 38.91 MW	107.05 Mvar					
Line Charging	=	-357.58 Mvar					
Compensation ind.	=	0.00 Mvar					
Compensation cap.	=	-74.75 Mvar					
Installed Capacity	= 2512.66 MW						
Spinning Reserve	= 711.26 MW						
Total Power Factor:							
Generation	= 0.95 [-]						
Load/Motor	= 0.95 / 0.00 [-]						



Hasil Simulasi Aliran Daya SLD Variasi Dua saat Beban Puncak Malam Hari

500 kV OUT  
ri

DigSILENT PowerFactory 15.1.7	Project: Date: 6/25/2023
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Load Flow Calculation Total System Summary

AC Load Flow, balanced, positive sequence	Yes	Automatic Model Adaptation for Convergence	No
Automatic Tap Adjust of Transformers	Yes	Max. Acceptable Load Flow Error for Nodes	1.00 kVA
Consider Reactive Power Limits	Yes	Model Equations	0.10 %

Total System Summary Study Case: Study Case / Annex: / 1

No. of Substations	214	No. of Busbars	416	No. of Terminals	4043	No. of Lines	176
No. of 2-w Trfs.	188	No. of 3-w Trfs.	0	No. of syn. Machines	60	No. of asyn.Machines	0
No. of Loads	122	No. of Shunts	8	No. of SVS	0		
Generation	= 1868.81 MW	589.45 Mvar		1959.56 MVA			
External Infeed	= 0.00 MW	0.00 Mvar		0.00 MVA			
Load P(U)	= 1824.46 MW	460.84 Mvar		1881.76 MVA			
Load P(Un)	= 1824.46 MW	460.84 Mvar		1881.76 MVA			
Load P(Un-U)	= 0.00 MW	-0.00 Mvar					
Motor Load	= 0.00 MW	0.00 Mvar		0.00 MVA			
Grid Losses	= 44.35 MW	193.32 Mvar					
Line Charging	=	-354.81 Mvar					
Compensation ind.	=	0.00 Mvar					
Compensation cap.	=	-64.70 Mvar					
Installed Capacity	= 2512.66 MW						
Spinning Reserve	= 527.53 MW						
Total Power Factor:							
Generation	= 0.95 [-]						
Load/Motor	= 0.97 / 0.00 [-]						



## Data Tipe Transmisi 500 kV

nama Transmisi 500 kV	Type
ANDOWIA - BNGKU	OHL-500KV-ACSR-ZEBRA 4X428.9mm
ANDOWIA - BNGKU(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm
DAYA BARU - SDRAP	OHL-500KV-ACSR-ZEBRA 4X428.9mm
DAYA BARU - SDRAP(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm
ERKNG - LTUPA	OHL-500KV-ACSR-ZEBRA 4X428.9mm
ERKNG - LTUPA(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm
KNDRI - ANDOWIA	OHL-500KV-ACSR-ZEBRA 4X428.9mm
KNDRI - ANDOWIA(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm
PGAYA - BNTG SWTCH	OHL-500KV-ACSR-ZEBRA 4X428.9mm
PGAYA - BNTG SWTCH(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm
PGAYA - DAYA BARU	OHL-500KV-ACSR-ZEBRA 4X428.9mm
PGAYA - DAYA BARU(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm
SDRAP - ERKNG	OHL-500KV-ACSR-GANNET 4X392.8mm
SDRAP - ERKNG(1)	OHL-500KV-ACSR-GANNET 4X392.8mm
WOTU - BNGKU	OHL-500KV-ACSR-ZEBRA 4X428.9mm
WOTU - BNGKU(1)	OHL-500KV-ACSR-ZEBRA 4X428.9mm





Data Tegangan Bus SLD Variasi 1 saat Beban Puncak Siang Hari

Nama Bus	Area	Tegangan Nominal (kV)	Magnitude Tegangan (kV)	Magnitude Tegangan (p.u)
BNTG SWTCH 500 kV	ULTG JENEPONTO	500	495.80025	0.9916005
PGAYA 500 kV	ULTG JENEPONTO	500	496.8189	0.9936378
BNTG SWTCH	ULTG JENEPONTO	150	144.25647	0.9617098
JNPTO	ULTG JENEPONTO	150	146.6358	0.977572
BNTG NEW	ULTG JENEPONTO	150	145.12986	0.9675324
TLASA	ULTG JENEPONTO	150	145.984305	0.9732287
PGAYA	ULTG JENEPONTO	150	148.13715	0.987581
PGAYA IBT	ULTG JENEPONTO	150	148.150815	0.9876721
ANDOWIA 500 kV	ULTG KENDARI	500	506.091	1.012182
KNDRI 500 kV	ULTG KENDARI	500	505.6335	1.011267
LSUSU	ULTG KENDARI	150	144.58713	0.9639142
WOLO	ULTG KENDARI	150	144.23916	0.9615944
KOLKA	ULTG KENDARI	150	145.55343	0.9703562
UNAHA	ULTG KENDARI	150	146.46219	0.9764146
KNDRI	ULTG KENDARI	150	148.29009	0.9886006
PWATU	ULTG KENDARI	150	148.28079	0.9885386
ADLOG	ULTG KENDARI	150	145.30722	0.9687148
MORAMO	ULTG KENDARI	150	148.494435	0.9899629
KSPTE	ULTG KENDARI	150	144.578475	0.9638565
ANDOWIA	ULTG KENDARI	150	150.6735	1.00449
TINANGGEA SWTCH	ULTG KENDARI	150	144.670095	0.9644673
PWATU 70KV	ULTG KENDARI	70	68.787712	0.9826816
TANASA 70KV	ULTG KENDARI	70	69.492122	0.9927446
PLMAS	ULTG MAMUJU	150	150.86775	1.005785
MJENE	ULTG MAMUJU	150	151.30005	1.008667
MMUJU	ULTG MAMUJU	150	151.8435	1.01229
MMUJU BARU	ULTG MAMUJU	150	151.9845	1.01323
DAYA BARU 500 kV	ULTG MAROS	500	497.0822	0.9941644
TELLO	ULTG MAROS	150	143.866845	0.9591123
KIMA	ULTG MAROS	150	144.422865	0.9628191
DAYA BARU	ULTG MAROS	150	144.69138	0.9646092
PNKEP	ULTG MAROS	150	144.963	0.96642
MAROS	ULTG MAROS	150	145.06191	0.9670794
DAYA BARU IBT	ULTG MAROS	150	144.74235	0.964949
TELLO 70KV	ULTG MAROS	70	68.819786	0.9831398
DAYA 70KV	ULTG MAROS	70	68.451166	0.9778738
PNKEP 70KV	ULTG MAROS	70	69.224645	0.9889235
MNDAI 70KV	ULTG MAROS	70	68.468827	0.9781261
LTUPA 500 kV	ULTG PALOPO	500	499.17695	0.9983539
WOTU 500 kV	ULTG PALOPO	500	506.644	1.013288



A 275KV	ULTG PALOPO	275	274.092253	0.9966991
A 275KV	ULTG PALOPO	275	273.594943	0.9948907
A	ULTG PALOPO	150	149.45802	0.9963868
A	ULTG PALOPO	150	148.263855	0.9884257
MALILI	ULTG PALOPO	150	147.379515	0.9825301
PALOPO	ULTG PALOPO	150	149.461965	0.9964131
BLOPA	ULTG PALOPO	150	149.63835	0.997589
SIWA	ULTG PALOPO	150	149.67054	0.9978036
BNGKU 500 kV	ULTG PALU	500	506.7375	1.013475
TPOYO	ULTG PALU	150	152.3496	1.015664
PSKYU	ULTG PALU	150	151.1598	1.007732
SILAE	ULTG PALU	150	149.437935	0.9962529
SIDERA	ULTG PALU	150	149.67108	0.9978072
POSO	ULTG PALU	150	151.0215	1.00681
TALLISE	ULTG PALU	150	148.965225	0.9931015
PAMONA	ULTG PALU	150	151.2675	1.00845
KLDLE	ULTG PALU	150	151.5201	1.010134
BNGKU	ULTG PALU	150	151.5951	1.010634
SIDERA 70KV	ULTG PALU	70	70.63406	1.009058
TALLISE 70KV	ULTG PALU	70	70.46319	1.006617
PARIGI 70KV	ULTG PALU	70	70.35749	1.005107
TLAMA	ULTG PANAKUKANG	150	143.720415	0.9581361
GIS BNTLA	ULTG PANAKUKANG	150	143.76288	0.9584192
PKANG	ULTG PANAKUKANG	150	143.642025	0.9576135
TBNGA	ULTG PANAKUKANG	150	143.954925	0.9596995
SGMSA	ULTG PANAKUKANG	150	144.254895	0.9616993
LANA	ULTG PANAKUKANG	150	144.079545	0.9605303
BLNGI	ULTG PANAKUKANG	150	144.433605	0.9628907
BRLOE 70KV	ULTG PANAKUKANG	70	68.925836	0.9846548
BARRU	ULTG PAREPARE	150	147.433335	0.9828889
BARRU EXT-BLUSU	ULTG PAREPARE	150	149.61888	0.9974592
PPARE	ULTG PAREPARE	150	149.150205	0.9943347
PNRANG	ULTG PAREPARE	150	148.59786	0.9906524
BKARU	ULTG PAREPARE	150	151.1247	1.007498
ERKNG 500 kV	ULTG SIDRAP	500	498.9952	0.9979904
SDRAP 500 kV	ULTG SIDRAP	500	498.7088	0.9974176
SKANG	ULTG SIDRAP	150	149.80854	0.9987236
MKALE	ULTG SIDRAP	150	150.2427	1.001618
ERKNG	ULTG SIDRAP	150	149.49861	0.9966574
SDRAP	ULTG SIDRAP	150	149.139765	0.9942651
SIDRAP IBT	ULTG SIDRAP	150	148.879995	0.9925333
SPENG	ULTG WATAMPONE	150	148.457925	0.9897195
BONE	ULTG WATAMPONE	150	146.825895	0.9788393
SNJAI	ULTG WATAMPONE	150	145.2411	0.968274
BKMBA	ULTG WATAMPONE	150	144.24807	0.9616538
TNETE	ULTG WATAMPONE	150	144.59151	0.9639434



## Data Tegangan Bus SLD Variasi 1 saat Beban Puncak Malam Hari

Nama Bus	Area	Tegangan Nominal (kV)	Magnitude Tegangan (kV)	Magnitude Tegangan (p.u)
BNTG SWTCH 500 kV	ULTG JENEPONTO	500	497.011	0.994022
PGAYA 500 kV	ULTG JENEPONTO	500	497.97905	0.9959581
BNTG SWTCH	ULTG JENEPONTO	150	144.87969	0.9658646
JNPTO	ULTG JENEPONTO	150	147.00999	0.9800666
BNTG NEW	ULTG JENEPONTO	150	145.64309	0.9709539
TLASA	ULTG JENEPONTO	150	146.37413	0.9758275
PGAYA	ULTG JENEPONTO	150	148.41102	0.9894068
PGAYA IBT	ULTG JENEPONTO	150	148.42325	0.9894883
ANDOWIA 500 kV	ULTG KENDARI	500	505.5625	1.011125
KNDRI 500 kV	ULTG KENDARI	500	505.121	1.010242
LSUSU	ULTG KENDARI	150	144.80225	0.9653483
WOLO	ULTG KENDARI	150	144.47828	0.9631885
KOLKA	ULTG KENDARI	150	145.62309	0.9708206
UNAHA	ULTG KENDARI	150	146.56899	0.9771266
KNDRI	ULTG KENDARI	150	148.38707	0.9892471
PWATU	ULTG KENDARI	150	148.37061	0.9891374
ADLOG	ULTG KENDARI	150	145.49597	0.9699731
MORAMO	ULTG KENDARI	150	148.60514	0.9907009
KSPTE	ULTG KENDARI	150	144.7593	0.965062
ANDOWIA	ULTG KENDARI	150	150.59085	1.003939
TINANGGEA SWTCH	ULTG KENDARI	150	144.86604	0.9657736
PWATU 70KV	ULTG KENDARI	70	68.785045	0.9826435
TANASA 70KV	ULTG KENDARI	70	69.489301	0.9927043
PLMAS	ULTG MAMUJU	150	150.83115	1.005541
MJENE	ULTG MAMUJU	150	151.10445	1.007363
MMUJU	ULTG MAMUJU	150	151.47495	1.009833
MMUJU BARU	ULTG MAMUJU	150	151.599	1.01066
DAYA BARU 500 kV	ULTG MAROS	500	498.2169	0.9964338
TELLO	ULTG MAROS	150	144.43983	0.9629322
KIMA	ULTG MAROS	150	145.01787	0.9667858
DAYA BARU	ULTG MAROS	150	145.24764	0.9683176
PNKEP	ULTG MAROS	150	145.36178	0.9690785
MAROS	ULTG MAROS	150	145.59645	0.970643
DAYA BARU IBT	ULTG MAROS	150	145.29665	0.9686443
TELLO 70KV	ULTG MAROS	70	68.696726	0.9813818
DAYA 70KV	ULTG MAROS	70	68.328309	0.9761187
PNKEP 70KV	ULTG MAROS	70	69.20592	0.988656
MNDAI 70KV	ULTG MAROS	70	68.356435	0.9765205
LTUPA 500 kV	ULTG PALOPO	500	500.0405	1.000081
WOTU 500 kV	ULTG PALOPO	500	506.0875	1.012175



275KV	ULTG PALOPO	275	274.06921	0.9966153
275KV	ULTG PALOPO	275	273.28843	0.9937761
	ULTG PALOPO	150	149.62632	0.9975088
	ULTG PALOPO	150	148.25762	0.9883841
MALILI	ULTG PALOPO	150	147.42528	0.9828352
PALOPO	ULTG PALOPO	150	149.64519	0.9976346
BLOPA	ULTG PALOPO	150	149.81345	0.9987563
SIWA	ULTG PALOPO	150	149.85633	0.9990422
BNGKU 500 kV	ULTG PALU	500	506.166	1.012332
TPOYO	ULTG PALU	150	151.82415	1.012161
PSKYU	ULTG PALU	150	150.1719	1.001146
SILAE	ULTG PALU	150	148.16093	0.9877395
SIDERA	ULTG PALU	150	148.2617	0.9884113
POSO	ULTG PALU	150	150.13035	1.000869
TALLISE	ULTG PALU	150	147.29199	0.9819466
PAMONA	ULTG PALU	150	150.6702	1.004468
KLDLE	ULTG PALU	150	151.0539	1.007026
BNGKU	ULTG PALU	150	151.22115	1.008141
SIDERA 70KV	ULTG PALU	70	69.445103	0.9920729
TALLISE 70KV	ULTG PALU	70	68.893398	0.9841914
PARIGI 70KV	ULTG PALU	70	67.995823	0.9713689
TLAMA	ULTG PANAKUKANG	150	144.33557	0.9622371
GIS BNTLA	ULTG PANAKUKANG	150	144.37632	0.9625088
PKANG	ULTG PANAKUKANG	150	144.21845	0.9614563
TBNGA	ULTG PANAKUKANG	150	144.51333	0.9634222
SGMSA	ULTG PANAKUKANG	150	144.79131	0.9652754
LANA	ULTG PANAKUKANG	150	144.61703	0.9641135
BLNGI	ULTG PANAKUKANG	150	144.98129	0.9665419
BRLOE 70KV	ULTG PANAKUKANG	70	68.741666	0.9820238
BARRU	ULTG PAREPARE	150	147.73559	0.9849039
BARRU EXT-BLUSU	ULTG PAREPARE	150	149.91246	0.9994164
PPARE	ULTG PAREPARE	150	149.48393	0.9965595
PNRANG	ULTG PAREPARE	150	148.99328	0.9932885
BKARU	ULTG PAREPARE	150	151.16655	1.007777
ERKNG 500 kV	ULTG SIDRAP	500	499.92955	0.9998591
SDRAP 500 kV	ULTG SIDRAP	500	499.69865	0.9993973
SKANG	ULTG SIDRAP	150	149.98112	0.9998741
MKALE	ULTG SIDRAP	150	150.40035	1.002669
ERKNG	ULTG SIDRAP	150	149.80812	0.9987208
SDRAP	ULTG SIDRAP	150	149.47754	0.9965169
SIDRAP IBT	ULTG SIDRAP	150	149.23538	0.9949025
SPENG	ULTG WATAMPONE	150	148.7243	0.9914953
BONE	ULTG WATAMPONE	150	147.21084	0.9814056
SNJAI	ULTG WATAMPONE	150	145.80785	0.9720523
BKMBA	ULTG WATAMPONE	150	144.84329	0.9656219
TNETE	ULTG WATAMPONE	150	145.18023	0.9678682



## Data Tegangan Bus IPP &amp; Industri SLD Variasi 1

Name	Area	Tegangan Nominal (kV)	BP Siang	BP Malam
			Magnitude Tegangan (p.u)	Magnitude Tegangan (p.u)
TINANGGEA SMLTR	PT BINTANG SMELTER INDONESIA	150	0.9617711	0.9631785
BSOWA	PT BOSOWA	150	0.960495	0.9638042
KOLKA SMLTR	PT CNI	150	0.9584018	0.960223
PLTB TOLO	PT ENERGI BAYU JENEPONTO	150	0.9800582	0.9825852
PLTU JNPT	PT ENERGI BOSOWA	150	0.9877531	0.9895678
PLTU JNPT EXPSI	PT ENERGI BOSOWA	150	0.9877696	0.9895773
BNTG SMLTR	PT HUADI NICKEL-ALLOY	150	0.9588935	0.9632901
MALEA	PT MALEA ENERGY	150	1.002568	1.003606
SUPPA	PT PJBS PLTD SUPPA	150	0.9963671	0.998584
PAMONA	PT POSO ENERGI	275	1.000095	0.9992841
SLWNA	PT POSO ENERGI	275	1.000236	0.9994582
PLTU MMUJU	PT REKIND DAYA MAMUJU	150	1.012929	1.010485
TONASA	PT SEMEN TONASA	70	0.9774434	0.9778317
PT TIRAN	PT TIRAN	150	1.000139	1.000022
PLTB SDRAP	PT UPC SIDRAP BAYU ENERGI	150	0.9938852	0.9961693





Data Tegangan Bus SLD Variasi 2 saat Beban Puncak Siang Hari

Nama Bus	Area	Tegangan Nominal (kV)	Magnitude Tegangan (kV)	Magnitude Tegangan (p.u)
BNTG SWTCH	ULTG JENEPONTO	150	136.61235	0.910749
JNPTO	ULTG JENEPONTO	150	142.02735	0.946849
BNTG NEW	ULTG JENEPONTO	150	138.712815	0.9247521
TLASA	ULTG JENEPONTO	150	142.99179	0.9532786
PGAYA	ULTG JENEPONTO	150	146.008245	0.9733883
ANDOWIA 500 kV	ULTG KENDARI	500	468.0615	0.936123
KNDRI 500 kV	ULTG KENDARI	500	468.2287	0.9364574
LSUSU	ULTG KENDARI	150	134.586675	0.8972445
WOLO	ULTG KENDARI	150	134.14014	0.8942676
KOLKA	ULTG KENDARI	150	135.581805	0.9038787
UNAHA	ULTG KENDARI	150	137.097645	0.9139843
KNDRI	ULTG KENDARI	150	140.4204	0.936136
PWATU	ULTG KENDARI	150	140.662005	0.9377467
ADLOG	ULTG KENDARI	150	137.11206	0.9140804
MORAMO	ULTG KENDARI	150	141.364965	0.9424331
KSPTE	ULTG KENDARI	150	136.31805	0.908787
ANDOWIA	ULTG KENDARI	150	139.086225	0.9272415
TINANGGEA SWTCH	ULTG KENDARI	150	136.416915	0.9094461
PWATU(1)	ULTG KENDARI	70	67.857825	0.9693975
TANASA	ULTG KENDARI	70	68.604844	0.9800692
PLMAS	ULTG MAMUJU	150	149.911425	0.9994095
MJENE	ULTG MAMUJU	150	150.4911	1.003274
MMUJU	ULTG MAMUJU	150	151.3197	1.008798
MMUJU BARU	ULTG MAMUJU	150	151.46535	1.009769
TELLO	ULTG MAROS	150	139.970355	0.9331357
KIMA	ULTG MAROS	150	140.17332	0.9344888
DAYA BARU	ULTG MAROS	150	140.28132	0.9352088
PNKEP	ULTG MAROS	150	141.451185	0.9430079
MAROS	ULTG MAROS	150	140.818815	0.9387921
TELLO 70KV	ULTG MAROS	70	66.957275	0.9565325
DAYA	ULTG MAROS	70	66.600443	0.9514349
PNKEP 70KV	ULTG MAROS	70	67.530015	0.9647145
MNDAI	ULTG MAROS	70	66.633714	0.9519102
LTUPA 275KV	ULTG PALOPO	275	269.653725	0.980559
WOTU 275KV	ULTG PALOPO	275	266.33365	0.968486
LTUPA	ULTG PALOPO	150	147.755145	0.9850343
WOTU(3)	ULTG PALOPO	150	142.15242	0.9476828
MALILI	ULTG PALOPO	150	139.670475	0.9311365
PALOPO	ULTG PALOPO	150	147.85173	0.9856782
BLOPA	ULTG PALOPO	150	148.13058	0.9875372



	ULTG PALOPO	150	148.24764	0.9883176
	ULTG PALU	150	151.6866	1.011244
	ULTG PALU	150	150.21585	1.001439
	ULTG PALU	150	148.246605	0.9883107
SIDERA	ULTG PALU	150	148.406505	0.9893767
POSO	ULTG PALU	150	149.45814	0.9963876
TALLISE	ULTG PALU	150	147.6861	0.984574
PAMONA	ULTG PALU	150	149.652915	0.9976861
KLDLE	ULTG PALU	150	149.750295	0.9983353
BNGKU	ULTG PALU	150	149.71473	0.9980982
SIDERA 70KV	ULTG PALU	70	70.01981	1.000283
TALLISE 70KV	ULTG PALU	70	69.83501	0.997643
PARIGI	ULTG PALU	70	69.701765	0.9957395
TLAMA	ULTG PANAKUKANG	150	139.89234	0.9326156
GIS BNTLA	ULTG PANAKUKANG	150	139.95261	0.9330174
PKANG	ULTG PANAKUKANG	150	139.739145	0.9315943
TBNGA	ULTG PANAKUKANG	150	140.21007	0.9347338
SGMSA	ULTG PANAKUKANG	150	140.431005	0.9362067
LANA	ULTG PANAKUKANG	150	140.250045	0.9350003
BLNGI	ULTG PANAKUKANG	150	140.285895	0.9352393
BRLOE	ULTG PANAKUKANG	70	67.121558	0.9588794
BARRU	ULTG PAREPARE	150	144.933945	0.9662263
BARRU EXT-BLUSU	ULTG PAREPARE	150	147.896295	0.9859753
PPARE	ULTG PAREPARE	150	147.18276	0.9812184
PNRANG	ULTG PAREPARE	150	146.9547	0.979698
BKARU	ULTG PAREPARE	150	150.29325	1.001955
SKANG	ULTG SIDRAP	150	148.513155	0.9900877
MKALE	ULTG SIDRAP	150	148.80336	0.9920224
ERKNG	ULTG SIDRAP	150	147.83523	0.9855682
SDRAP	ULTG SIDRAP	150	147.109365	0.9807291
SPENG	ULTG WATAMPONE	150	146.09919	0.9739946
BONE	ULTG WATAMPONE	150	143.090715	0.9539381
SNJAI	ULTG WATAMPONE	150	139.392795	0.9292853
BKMBA	ULTG WATAMPONE	150	136.769535	0.9117969
TNETE	ULTG WATAMPONE	150	137.668005	0.9177867



### 0 Data Tegangan Bus SLD Variasi 2 saat Beban Puncak Malam Hari

Nama Bus	Area	Tegangan Nominal (kV)	Magnitude Tegangan (kV)	Magnitude Tegangan (p.u)
BNTG SWTCH	ULTG JENEPONTO	150	137.32773	0.9155182
JNPTO	ULTG JENEPONTO	150	142.451595	0.9496773
BNTG NEW	ULTG JENEPONTO	150	139.295355	0.9286357
TLASA	ULTG JENEPONTO	150	143.45808	0.9563872
PGAYA	ULTG JENEPONTO	150	146.33544	0.9755696
ANDOWIA 500 kV	ULTG KENDARI	500	465.0306	0.9300612
KNDRI 500 kV	ULTG KENDARI	500	465.1917	0.9303834
LSUSU	ULTG KENDARI	150	131.73276	0.8782184
WOLO	ULTG KENDARI	150	131.294805	0.8752987
KOLKA	ULTG KENDARI	150	132.911595	0.8860773
UNAHA	ULTG KENDARI	150	135.017355	0.9001157
KNDRI	ULTG KENDARI	150	139.464135	0.9297609
PWATU	ULTG KENDARI	150	139.732035	0.9315469
ADLOG	ULTG KENDARI	150	136.20141	0.9080094
MORAMO	ULTG KENDARI	150	140.522745	0.9368183
KSPTE	ULTG KENDARI	150	135.387465	0.9025831
ANDOWIA	ULTG KENDARI	150	138.242145	0.9216143
TINANGGEA SWTCH	ULTG KENDARI	150	135.504165	0.9033611
PWATU(1)	ULTG KENDARI	70	67.7306	0.96758
TANASA	ULTG KENDARI	70	68.483184	0.9783312
PLMAS	ULTG MAMUJU	150	149.840925	0.9989395
MJENE	ULTG MAMUJU	150	150.23835	1.001589
MMUJU	ULTG MAMUJU	150	150.83745	1.005583
MMUJU BARU	ULTG MAMUJU	150	150.94905	1.006327
TELLO	ULTG MAROS	150	140.65641	0.9377094
KIMA	ULTG MAROS	150	140.89248	0.9392832
DAYA BARU	ULTG MAROS	150	140.96727	0.9397818
PNKEP	ULTG MAROS	150	141.95127	0.9463418
MAROS	ULTG MAROS	150	141.47247	0.9431498
TELLO 70KV	ULTG MAROS	70	66.894667	0.9556381
DAYA	ULTG MAROS	70	66.537513	0.9505359
PNKEP 70KV	ULTG MAROS	70	67.568872	0.9652696
MNDAI	ULTG MAROS	70	66.580962	0.9511566
LTUPA 275KV	ULTG PALOPO	275	268.276498	0.9755509
WOTU 275KV	ULTG PALOPO	275	264.119625	0.960435
LTUPA	ULTG PALOPO	150	147.479745	0.9831983
WOTU(3)	ULTG PALOPO	150	140.268405	0.9351227
MALILI	ULTG PALOPO	150	137.32329	0.9154886
PALOPO	ULTG PALOPO	150	147.650085	0.9843339
BLOPA	ULTG PALOPO	150	148.01337	0.9867558



	ULTG PALOPO	150	148.225395	0.9881693
	ULTG PALU	150	150.96825	1.006455
	ULTG PALU	150	148.841475	0.9922765
	ULTG PALU	150	146.445555	0.9763037
SIDERA	ULTG PALU	150	146.42856	0.9761904
POSO	ULTG PALU	150	147.91398	0.9860932
TALLISE	ULTG PALU	150	145.43355	0.969557
PAMONA	ULTG PALU	150	148.3965	0.98931
KLDLE	ULTG PALU	150	148.48566	0.9899044
BNGKU	ULTG PALU	150	148.447995	0.9896533
SIDERA 70KV	ULTG PALU	70	68.549467	0.9792781
TALLISE 70KV	ULTG PALU	70	67.973325	0.9710475
PARIGI	ULTG PALU	70	67.027737	0.9575391
TLAMA	ULTG PANAKUKANG	150	140.61858	0.9374572
GIS BNTLA	ULTG PANAKUKANG	150	140.67678	0.9378452
PKANG	ULTG PANAKUKANG	150	140.42895	0.936193
TBNGA	ULTG PANAKUKANG	150	140.873535	0.9391569
SGMSA	ULTG PANAKUKANG	150	141.075285	0.9405019
LANA	ULTG PANAKUKANG	150	140.89455	0.939297
BLNGI	ULTG PANAKUKANG	150	140.953965	0.9396931
BRLOE	ULTG PANAKUKANG	70	66.992233	0.9570319
BARRU	ULTG PAREPARE	150	145.286865	0.9685791
BARRU EXT-BLUSU	ULTG PAREPARE	150	148.1751	0.987834
PPARE	ULTG PAREPARE	150	147.499455	0.9833297
PNRANG	ULTG PAREPARE	150	147.330855	0.9822057
BKARU	ULTG PAREPARE	150	150.3147	1.002098
SKANG	ULTG SIDRAP	150	148.6215	0.99081
MKALE	ULTG SIDRAP	150	148.68249	0.9912166
ERKNG	ULTG SIDRAP	150	147.91872	0.9861248
SDRAP	ULTG SIDRAP	150	147.40482	0.9826988
SPENG	ULTG WATAMPONE	150	146.316	0.97544
BONE	ULTG WATAMPONE	150	143.45466	0.9563644
SNJAI	ULTG WATAMPONE	150	140.00286	0.9333524
BKMBA	ULTG WATAMPONE	150	137.452815	0.9163521
TNETE	ULTG WATAMPONE	150	138.333735	0.9222249



## 1 Data Tegangan Bus IPP &amp; Industri SLD Variasi 2

Name	Area	Tegangan Nominal (kV)	BP Siang	BP Malam
			Magnitude Tegangan (p.u)	Magnitude Tegangan (p.u)
TINANGGEA SMLTR	PT BINTANG SMELTER INDONESIA	150	0.9065457	0.9005362
BSOWA	PT BOSOWA	150	0.9360078	0.9400354
KOLKA SMLTR	PT CNI	150	0.8908406	0.8720034
PLTB TOLO	PT ENERGI BAYU JENEPONTO	150	0.9494057	0.9522662
PLTU JNPT	PT ENERGI BOSOWA	150	0.9737157	0.9758821
PLTU JNPT EXPSI	PT ENERGI BOSOWA	150	0.973744	0.9759045
BNTG SMLTR	PT HUADI NICKEL-ALLOY	150	0.9077681	0.9127962
MALEA	PT MALEA ENERGY	150	0.9942122	0.993633
SUPPA	PT PJBS PLTD SUPPA	150	0.9832731	0.9853808
PAMONA(1)	PT POSO ENERGI	275	0.9907106	0.98711
SLWNA	PT POSO ENERGI	275	0.9911219	0.9876354
PLTU MMUJU	PT REKIND DAYA MAMUJU	150	1.009594	1.006309
TONASA	PT SEMEN TONASA	70	0.9529325	0.9541708
PT TIRAN	PT TIRAN	150	0.9224116	0.9172135
PLTB SDRAP	PT UPC SIDRAP BAYU ENERGI	150	0.9790312	0.9811891





## 2 Data Hasil Simulasi Kontingensi N-1 Andowia-Bungku Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

	Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
1	TD_DAYA BARU		92.1	92.1	92.0	1	ANDOWIA - BNGKU	
2	TD_SDRAP #1		91.7	91.7	91.6	1	ANDOWIA - BNGKU	
3	TD_BNTG SMLTR #3		87.4	87.4	87.4	1	ANDOWIA - BNGKU	
4	TD_KOLKA SMLTR #1		87.0	87.0	86.6	1	ANDOWIA - BNGKU	
5	TD_TINANGGEA SMLTR #1		86.0	86.0	85.6	1	ANDOWIA - BNGKU	
6	TG_PLTA BILI BILI #1		82.4	82.4	82.4	1	ANDOWIA - BNGKU	
7	TD_PALOPO #3		80.5	80.5	80.4	1	ANDOWIA - BNGKU	
8	TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
9	TG_PLTA BKARU #2		84.3	84.3	84.3	-1	Base Case	

## Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

	Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
1	TD_PARIGI #2		95.4	95.4	95.0	1	ANDOWIA - BNGKU	
2	TD_SDRAP #1		93.2	93.2	93.2	1	ANDOWIA - BNGKU	
3	TD_DAYA BARU		91.7	91.7	91.6	1	ANDOWIA - BNGKU	
4	TD_TINANGGEA SMLTR #1		84.6	84.6	84.1	1	ANDOWIA - BNGKU	
5	TD_BNTG SMLTR #3		84.5	84.5	84.5	1	ANDOWIA - BNGKU	
6	TG_PLTA BILI BILI #1		83.9	83.9	83.9	1	ANDOWIA - BNGKU	
7	TD_KOLKA SMLTR #1		82.9	82.9	82.4	1	ANDOWIA - BNGKU	
8	TD_MJENE		81.6	81.6	81.6	1	ANDOWIA - BNGKU	
9	TD_PALOPO #3		80.0	80.0	79.9	1	ANDOWIA - BNGKU	
10	TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2		84.4	84.4	84.4	-1	Base Case	



### 3 Data Hasil simulasi Kontingensi N-2 Andowia-Bungku Puncak Siang Hari

Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 90.0 [%]      Overloading Limit: 100 [%]

Component	Branch, or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
1	TD_DAYA BARU	92.2	92.2	92.0	2	ANDOWIA - BNGKU-AND	
2	TD_KOLKA SMLTR #1	91.9	91.9	86.6	2	ANDOWIA - BNGKU-AND	
3	TD_SDRAP #1	91.8	91.8	91.6	2	ANDOWIA - BNGKU-AND	
4	TD_TINANGGEA SMLTR	90.6	90.6	85.6	2	ANDOWIA - BNGKU-AND	
5	TD_BNTG SMLTR #3	87.6	87.6	87.4	2	ANDOWIA - BNGKU-AND	
6	TG_PLTA BILI BILI #1	82.4	82.4	82.4	2	ANDOWIA - BNGKU-AND	
7	TG_PLTU MORAMO #2	82.0	82.0	67.1	2	ANDOWIA - BNGKU-AND	
8	TD_PALOPO #3	80.7	80.7	80.4	2	ANDOWIA - BNGKU-AND	
9	TG_PLTU MORAMO #1	80.2	80.2	65.0	2	ANDOWIA - BNGKU-AND	
10	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case  
Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]      Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.903 p.u. - 1.012 p.u.]
1	BUS A KOLKA SMLTR	0.903	-0.055	0.958	2	ANDOWIA - BNGKU-ANDOWIA	
2	BUS A WOLO	0.906	-0.055	0.962	2	ANDOWIA - BNGKU-ANDOWIA	
3	BUS A LSUSU	0.910	-0.054	0.964	2	ANDOWIA - BNGKU-ANDOWIA	
4	BUS A TINANGGEA SMLTR	0.911	-0.051	0.962	2	ANDOWIA - BNGKU-ANDOWIA	
5	BUS A KSPTE	0.913	-0.051	0.964	2	ANDOWIA - BNGKU-ANDOWIA	
6	BUS A KOLKA	0.913	-0.057	0.970	2	ANDOWIA - BNGKU-ANDOWIA	
7	BUS A TINANGGEA SWTCH	0.914	-0.051	0.964	2	ANDOWIA - BNGKU-ANDOWIA	
8	BUS A ADLOG	0.918	-0.051	0.969	2	ANDOWIA - BNGKU-ANDOWIA	
9	BUS A UNAHA	0.921	-0.055	0.976	2	ANDOWIA - BNGKU-ANDOWIA	
10	BUS A PT TIRAN	0.926	-0.074	1.000	2	ANDOWIA - BNGKU-ANDOWIA	
11	BUS A ANDOWIA	0.931	-0.073	1.004	2	ANDOWIA - BNGKU-ANDOWIA	
12	BUS A ANDOWIA 500KV	0.940	-0.072	1.012	2	ANDOWIA - BNGKU-ANDOWIA	
13	BUS A KNDR1	0.940	-0.049	0.989	2	ANDOWIA - BNGKU-ANDOWIA	
14	BUS A KNDR1 500KV	0.940	-0.071	1.011	2	ANDOWIA - BNGKU-ANDOWIA	
15	BUS A PWATU	0.941	-0.047	0.989	2	ANDOWIA - BNGKU-ANDOWIA	
16	BUS A MALIJ	0.945	-0.037	0.983	2	ANDOWIA - BNGKU-ANDOWIA	
17	BUS A MORAMO	0.946	-0.044	0.990	2	ANDOWIA - BNGKU-ANDOWIA	



Puncak Malam Hari

Report: Maximum Loadings

Study Case: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 96 %]
1	TD_PARIGI #2	95.7	95.7	95.0	2	ANDOWIA - BNGKU-AND	
2	TD_SDRAP #1	93.4	93.4	93.2	2	ANDOWIA - BNGKU-AND	
3	TD_DAYA BARU	91.8	91.8	91.6	2	ANDOWIA - BNGKU-AND	
4	TD_TINANGGEEA SMLTR #1	89.6	89.6	84.1	2	ANDOWIA - BNGKU-AND	
5	TD_KOLKA SMLTR #1	89.1	89.1	82.4	2	ANDOWIA - BNGKU-AND	
6	TD_BNTG SMLTR #3	84.7	84.7	84.5	2	ANDOWIA - BNGKU-AND	
7	TG_PLTU MORAMO #2	84.2	84.2	67.0	2	ANDOWIA - BNGKU-AND	
8	TG_PLTA BILI BILI #1	83.9	83.9	83.9	2	ANDOWIA - BNGKU-AND	
9	TD_KOLKA	82.7	82.7	75.4	2	ANDOWIA - BNGKU-AND	
10	TG_PLTU MORAMO #1	82.4	82.4	54.9	2	ANDOWIA - BNGKU-AND	
11	TD_UNAHA	81.7	81.7	76.1	2	ANDOWIA - BNGKU-AND	
12	TD_MJENE	81.7	81.7	81.6	2	ANDOWIA - BNGKU-AND	
13	TD_PALOPO #3	80.3	80.3	79.9	2	ANDOWIA - BNGKU-AND	
14	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
15	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case

Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]      Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.888 p.u. - 1.011 p.u.]
1	BUS A	0.888	-0.072	0.960	2	ANDOWIA - BNGKU-AND	
2	BUS A	0.891	-0.072	0.963	2	ANDOWIA - BNGKU-AND	
3	BUS A	0.895	-0.071	0.965	2	ANDOWIA - BNGKU-AND	
4	BUS A	0.899	-0.072	0.971	2	ANDOWIA - BNGKU-AND	
5	BUS A	0.906	-0.057	0.963	2	ANDOWIA - BNGKU-AND	
6	BUS A	0.908	-0.057	0.965	2	ANDOWIA - BNGKU-AND	
7	BUS A	0.909	-0.057	0.966	2	ANDOWIA - BNGKU-AND	
8	BUS A	0.910	-0.067	0.977	2	ANDOWIA - BNGKU-AND	
9	BUS A	0.914	-0.056	0.970	2	ANDOWIA - BNGKU-AND	
10	BUS A	0.923	-0.077	1.000	2	ANDOWIA - BNGKU-AND	
11	BUS A	0.927	-0.077	1.004	2	ANDOWIA - BNGKU-AND	
12	BUS A	0.933	-0.050	0.983	2	ANDOWIA - BNGKU-AND	
13	BUS A	0.935	-0.054	0.989	2	ANDOWIA - BNGKU-AND	
14	BUS A	0.936	-0.075	1.011	2	ANDOWIA - BNGKU-AND	
15	BUS A	0.936	-0.074	1.010	2	ANDOWIA - BNGKU-AND	
16	BUS A	0.937	-0.052	0.989	2	ANDOWIA - BNGKU-AND	
17	BUS A	0.942	-0.049	0.991	2	ANDOWIA - BNGKU-AND	





#### 4 Data Hasil simulasi Kontingensi N-1 Daya Baru-Sidrap Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

	Component	Branch, S or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
▶ 1	TD_DAYA BARU		92.3	92.3	92.0	3	DAYA BARU - SDRAP	
2	TD_SDRAP #1		91.8	91.8	91.6	3	DAYA BARU - SDRAP	
3	TD_BNTG SMLTR #3		87.8	87.8	87.4	3	DAYA BARU - SDRAP	
4	TD_KOLKA SMLTR #1		86.7	86.7	86.6	3	DAYA BARU - SDRAP	
5	TD_TINANGGEA SMLTR #1		85.6	85.6	85.6	3	DAYA BARU - SDRAP	
6	TG_PLTA BILU BILU #1		82.4	82.4	82.4	3	DAYA BARU - SDRAP	
7	TD_PALOPO #3		80.5	80.5	80.4	3	DAYA BARU - SDRAP	
8	TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
9	TG_PLTA BKARU #2		84.3	84.3	84.3	-1	Base Case	

#### Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

	Component	Branch, S or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
▶ 1	TD_PARIGI #2		95.1	95.1	95.0	3	DAYA BARU - SDRAP	
2	TD_SDRAP #1		93.3	93.3	93.2	3	DAYA BARU - SDRAP	
3	TD_DAYA BARU		91.9	91.9	91.6	3	DAYA BARU - SDRAP	
4	TD_BNTG SMLTR #3		84.8	84.8	84.5	3	DAYA BARU - SDRAP	
5	TD_TINANGGEA SMLTR #1		84.1	84.1	84.1	3	DAYA BARU - SDRAP	
6	TG_PLTA BILU BILU #1		84.0	84.0	83.9	3	DAYA BARU - SDRAP	
7	TD_KOLKA SMLTR #1		82.5	82.5	82.4	3	DAYA BARU - SDRAP	
8	TD_MJENE		81.6	81.6	81.6	3	DAYA BARU - SDRAP	
9	TD_PALOPO #3		80.1	80.1	79.9	3	DAYA BARU - SDRAP	
10	TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2		84.4	84.3	84.4	-1	Base Case	



5 Data Hasil simulasi Kontingensi N-2 Daya Baru-Sidrap  
Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 93 %]
1	TD_DAYA BARU	93.4	93.4	92.0	4	DAYA BARU - SDRAP	
2	TD_SDRAP #1	91.8	91.8	91.6	4	DAYA BARU - SDRAP	
3	TD_BNTG SMLTR #3	89.1	89.1	87.4	4	DAYA BARU - SDRAP	
4	TD_BNTG SMLTR #2	81.1	81.1	79.6	4	DAYA BARU - SDRAP	
5	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
6	TD_KOLKA SMLTR #1	86.6	86.5	86.6	-1	Base Case	
7	TD_TINANGGEA SMLTR #1	85.6	85.5	85.6	-1	Base Case	
8	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	
9	TG_PLTA BILI BILI #1	82.4	82.4	82.4	-1	Base Case	
10	TD_PALOPO #3	80.4	80.3	80.4	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case  
Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]      Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.941 p.u. - 0.964 p.u.]
1	BUS A	0.941	-0.018	0.959	4	DAYA BARU - SDRAP	
2	BUS A	0.944	-0.018	0.962	4	DAYA BARU - SDRAP	
3	BUS A	0.944	-0.018	0.962	4	DAYA BARU - SDRAP	
4	BUS A	0.945	-0.012	0.958	4	DAYA BARU - SDRAP	
5	BUS A	0.946	-0.012	0.958	4	DAYA BARU - SDRAP	
6	BUS A	0.946	-0.012	0.958	4	DAYA BARU - SDRAP	
7	BUS A	0.947	-0.012	0.959	4	DAYA BARU - SDRAP	
8	BUS A	0.948	-0.016	0.964	4	DAYA BARU - SDRAP	
9	BUS A	0.948	-0.012	0.960	4	DAYA BARU - SDRAP	
10	BUS A	0.949	-0.012	0.961	4	DAYA BARU - SDRAP	
11	BUS A	0.949	-0.011	0.960	4	DAYA BARU - SDRAP	
12	BUS A	0.950	-0.012	0.962	4	DAYA BARU - SDRAP	
13	BUS A	0.950	-0.013	0.963	4	DAYA BARU - SDRAP	

Untuk Beban Puncak Malam Hari





Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95%]
1	TD_SDRAP #1	93.4	93.4	93.2	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 93.4% loading]
2	TD_DAYA BARU	93.0	93.0	91.6	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 93.0% loading]
3	TD_BNTG SMLTR #3	86.0	86.0	84.5	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 86.0% loading]
4	TD_MJENE	81.6	81.6	81.6	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 81.6% loading]
5	TD_PLTU JENEPONTO EXP	80.3	80.3	79.7	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 80.3% loading]
6	TD_PARIGI #2	95.0	94.9	95.0	-1	Base Case	[Bar chart showing 95.0% loading]
7	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	[Bar chart showing 90.0% loading]
8	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	[Bar chart showing 84.4% loading]
9	TD_TINANGGEEA SMLTR #1	84.1	84.0	84.1	-1	Base Case	[Bar chart showing 84.1% loading]
10	TG_PLTA BILI BILI #1	83.9	83.9	83.9	-1	Base Case	[Bar chart showing 83.9% loading]
11	TD_KOLKA SMLTR #1	82.4	82.4	82.4	-1	Base Case	[Bar chart showing 82.4% loading]

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case  
Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]  
Min Voltage Lmt: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.946 p.u. - 0.966 p.u.]
1	BUS A	0.946	-0.017	0.963	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 0.946 p.u. voltage]
2	BUS A	0.949	-0.017	0.966	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 0.949 p.u. voltage]
3	BUS A	0.949	-0.017	0.966	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 0.949 p.u. voltage]
4	BUS A	0.950	-0.012	0.961	4	DAYA BARU - SDRAP(1)-	[Bar chart showing 0.950 p.u. voltage]

Lampiran.16 Data Hasil simulasi Kontingensi N-1 Enrekang-Latuppa Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92%]
1	TD_DAYA BARU	92.1	92.1	92.0	5	ERKNG - LTUPA	[Bar chart showing 92.1% loading]
2	TD_SDRAP #1	91.7	91.7	91.6	5	ERKNG - LTUPA	[Bar chart showing 91.7% loading]
3	TD_BNTG SMLTR #3	87.5	87.5	87.4	5	ERKNG - LTUPA	[Bar chart showing 87.5% loading]
4	TD_KOLKA SMLTR #1	86.6	86.6	86.6	5	ERKNG - LTUPA	[Bar chart showing 86.6% loading]
5	TD_TINANGGEEA SMLTR #1	85.6	85.6	85.6	5	ERKNG - LTUPA	[Bar chart showing 85.6% loading]
6	TG_PLTA BILI BILI #1	82.4	82.4	82.4	5	ERKNG - LTUPA	[Bar chart showing 82.4% loading]
7	TD_PALOPO #3	80.5	80.5	80.4	5	ERKNG - LTUPA	[Bar chart showing 80.5% loading]
8	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	[Bar chart showing 90.0% loading]
9	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	[Bar chart showing 84.3% loading]

Untuk Beban Puncak Malam Hari



Report: Maximum Loadings

Study Case: Contingency Analysis AC

Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
1	<-> TD_PARIGI #2	95.1	95.1	95.0	5	ERKNG - LTUPA	
2	<-> TD_SDRAP #1	93.3	93.3	93.2	5	ERKNG - LTUPA	
3	<-> TD_DAYA BARU	91.7	91.7	91.6	5	ERKNG - LTUPA	
4	<-> TD_BNTG SMLTR #3	84.6	84.6	84.5	5	ERKNG - LTUPA	
5	<-> TD_TINANGGEA SMLTR #1	84.1	84.1	84.1	5	ERKNG - LTUPA	
6	<-> TG_PLTA BILI BILI #1	83.9	83.9	83.9	5	ERKNG - LTUPA	
7	<-> TD_KOLKA SMLTR #1	82.5	82.5	82.4	5	ERKNG - LTUPA	
8	<-> TD_MJENE	81.6	81.6	81.6	5	ERKNG - LTUPA	
9	<-> TD_PALOPO #3	80.0	80.0	79.9	5	ERKNG - LTUPA	
10	<-> TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
11	<-> TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	

**Lampiran.17** Data Hasil simulasi Kontingensi N-2 Enrekang-Latuppa

Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case

Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]

Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
1	<-> TD_DAYA BARU	92.4	92.4	92.0	6	ERKNG - LTUPA-ERKNG	
2	<-> TD_SDRAP #1	92.0	92.0	91.6	6	ERKNG - LTUPA-ERKNG	
3	<-> TD_BNTG SMLTR #3	87.8	87.8	87.4	6	ERKNG - LTUPA-ERKNG	
4	<-> TD_KOLKA SMLTR #1	86.6	86.6	86.6	6	ERKNG - LTUPA-ERKNG	
5	<-> TD_TINANGGEA SMLTR #1	85.6	85.6	85.6	6	ERKNG - LTUPA-ERKNG	
6	<-> TG_PLTA BILI BILI #1	82.5	82.5	82.4	6	ERKNG - LTUPA-ERKNG	
7	<-> TD_BNTG SMLTR #2	80.0	80.0	79.6	6	ERKNG - LTUPA-ERKNG	
8	<-> TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
9	<-> TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	
10	<-> TD_PALOPO #3	80.4	80.4	80.4	-1	Base Case	

Untuk Beban Puncak Malam Hari



Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 100 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
1	TD_SDRAP #1	93.5	93.5	93.2	6	ERKNG - LTUPA-ERKNG	
2	TD_DAYA BARU	92.0	92.0	91.6	6	ERKNG - LTUPA-ERKNG	
3	TD_BNTG SMLTR #3	84.8	84.8	84.5	6	ERKNG - LTUPA-ERKNG	
4	TD_TINANGGEEA SMLTR #1	84.1	84.1	84.1	6	ERKNG - LTUPA-ERKNG	
5	TG_PLTA BILI BILI #1	84.0	84.0	83.9	6	ERKNG - LTUPA-ERKNG	
6	TD_KOLKA SMLTR #1	82.5	82.5	82.4	6	ERKNG - LTUPA-ERKNG	
7	TD_MJENE	81.6	81.6	81.6	6	ERKNG - LTUPA-ERKNG	
8	TD_PARIKI #2	95.0	95.0	95.0	-1	Base Case	
9	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
10	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	

**Lampiran.18** Data Hasil simulasi Kontingensi N-1 Kendari-Andowia

Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
1	TD_DAYA BARU	92.0	92.0	92.0	7	KNDRI - ANDOWIA	
2	TD_SDRAP #1	91.7	91.7	91.6	7	KNDRI - ANDOWIA	
3	TD_BNTG SMLTR #3	87.4	87.4	87.4	7	KNDRI - ANDOWIA	
4	TD_KOLKA SMLTR #1	86.8	86.8	86.6	7	KNDRI - ANDOWIA	
5	TD_TINANGGEEA SMLTR #1	85.9	85.9	85.6	7	KNDRI - ANDOWIA	
6	TG_PLTA BILI BILI #1	82.4	82.4	82.4	7	KNDRI - ANDOWIA	
7	TD_PALOPO #3	80.4	80.4	80.4	7	KNDRI - ANDOWIA	
8	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
9	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
1	TD_PARIKI #2	95.2	95.2	95.0	7	KNDRI - ANDOWIA	
2	TD_SDRAP #1	93.2	93.2	93.2	7	KNDRI - ANDOWIA	
3	TD_DAYA BARU	91.7	91.7	91.6	7	KNDRI - ANDOWIA	
4	TD_BNTG SMLTR #3	84.5	84.5	84.5	7	KNDRI - ANDOWIA	
5	TD_TINANGGEEA SMLTR #1	84.4	84.4	84.1	7	KNDRI - ANDOWIA	
6	TG_PLTA BILI BILI #1	83.9	83.9	83.9	7	KNDRI - ANDOWIA	
7	TD_KOLKA SMLTR #1	82.7	82.7	82.4	7	KNDRI - ANDOWIA	
8	TD_MJENE	81.6	81.6	81.6	7	KNDRI - ANDOWIA	
9	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
10	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	





9 Data Hasil simulasi Kontingensi N-2 Kendari-Andowia

Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, Substation or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92 %]
1	TG_PLTA BKARU #1	90.0	90.0	90.0	8	KNDRI - ANDOWIA(1)-KN	
2	TD_TINANGGEEA SMLTR #1	88.6	88.6	85.6	8	KNDRI - ANDOWIA(1)-KN	
3	TD_KOLKA SMLTR #1	88.4	88.4	86.6	8	KNDRI - ANDOWIA(1)-KN	
4	TG_PLTA BKARU #2	84.4	84.4	84.3	8	KNDRI - ANDOWIA(1)-KN	
5	TD_DAYA BARU	92.0	92.0	92.0	-1	Base Case	
6	TD_SDRAP #1	91.6	91.6	91.6	-1	Base Case	
7	TD_BNTG SMLTR #3	87.4	87.4	87.4	-1	Base Case	
8	TG_PLTA BILI BILI #1	82.4	82.4	82.4	-1	Base Case	
9	TD_PALOPO #3	80.4	80.4	80.4	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case  
Result File: Contingency Analysis AC

Mn. Voltage: 0.950 [p.u.]      Mn. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.929 p.u. - 0.976 p.u.]
1	BUS A - TINANGGEEA SMLTR	0.929	-0.033	0.962	8	KNDRI - ANDOWIA(1)-KN	
2	BUS A - KSPTE	0.931	-0.033	0.964	8	KNDRI - ANDOWIA(1)-KN	
3	BUS A - TINANGGEEA SWTCH	0.932	-0.033	0.964	8	KNDRI - ANDOWIA(1)-KN	
4	BUS A - ADLOG	0.936	-0.032	0.969	8	KNDRI - ANDOWIA(1)-KN	
5	BUS A - KOLKA SMLTR	0.938	-0.021	0.958	8	KNDRI - ANDOWIA(1)-KN	
6	BUS A - WOLO	0.941	-0.021	0.962	8	KNDRI - ANDOWIA(1)-KN	
7	BUS A - LSUSU	0.944	-0.020	0.964	8	KNDRI - ANDOWIA(1)-KN	
8	BUS A - KOLKA	0.945	-0.025	0.970	8	KNDRI - ANDOWIA(1)-KN	
9	BUS A - UNAHA	0.949	-0.027	0.976	8	KNDRI - ANDOWIA(1)-KN	

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, Substation or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95 %]
1	TD_SDRAP #1	93.2	93.2	93.2	8	KNDRI - ANDOWIA(1)-KN	
2	TD_DAYA BARU	91.6	91.6	91.6	8	KNDRI - ANDOWIA(1)-KN	
3	TG_PLTA BKARU #1	90.1	90.1	90.0	8	KNDRI - ANDOWIA(1)-KN	
4	TD_TINANGGEEA SMLTR #1	87.4	87.4	84.1	8	KNDRI - ANDOWIA(1)-KN	
5	TD_KOLKA SMLTR #1	84.8	84.8	82.4	8	KNDRI - ANDOWIA(1)-KN	
6	TD_BNTG SMLTR #3	84.5	84.5	84.5	8	KNDRI - ANDOWIA(1)-KN	
7	TG_PLTA BKARU #2	84.4	84.4	84.4	8	KNDRI - ANDOWIA(1)-KN	
8	TG_PLTA BILI BILI #1	83.9	83.9	83.9	8	KNDRI - ANDOWIA(1)-KN	
9	TD_PARIGI #2	95.0	94.5	95.0	-1	Base Case	
10	TD_MJENE	81.6	81.5	81.6	-1	Base Case	



Report: Minimum Voltages

Study Case: Contingency Analysis AC

950 [p.u.]      MIn. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.929 p.u. - 0.977 p.u.]
1	BUS A TINANGGEEA SMLTR	0.929	-0.034	0.963	8	KNDRI - ANDOWIA(1)-KN	
2	BUS A KSPTE	0.931	-0.034	0.965	8	KNDRI - ANDOWIA(1)-KN	
3	BUS A TINANGGEEA SWTCH	0.932	-0.034	0.966	8	KNDRI - ANDOWIA(1)-KN	
4	BUS A KOLKA SMLTR	0.933	-0.027	0.960	8	KNDRI - ANDOWIA(1)-KN	
5	BUS A ADLOG	0.936	-0.034	0.970	8	KNDRI - ANDOWIA(1)-KN	
6	BUS A WOLO	0.936	-0.027	0.963	8	KNDRI - ANDOWIA(1)-KN	
7	BUS A LSUSU	0.939	-0.026	0.965	8	KNDRI - ANDOWIA(1)-KN	
8	BUS A KOLKA	0.940	-0.030	0.971	8	KNDRI - ANDOWIA(1)-KN	
9	BUS A UINAAH	0.946	-0.032	0.977	8	KNDRI - ANDOWIA(1)-KN	

**Lampiran.20** Data Hasil simulasi Kontingensi N-1 Punagaya-Bantaeng Switch

Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S. or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92%]
1	TD_DAYA BARU	92.2	92.2	92.0	9	PGAYA - BNTG SWITCH	
2	TD_SDRAP #1	91.8	91.8	91.6	9	PGAYA - BNTG SWITCH	
3	TD_BNTG SMLTR #3	87.8	87.8	87.4	9	PGAYA - BNTG SWITCH	
4	TD_KOLKA SMLTR #1	86.6	86.6	86.6	9	PGAYA - BNTG SWITCH	
5	TD_TINANGGEEA SMLTR #1	85.6	85.6	85.6	9	PGAYA - BNTG SWITCH	
6	TG_PLTA BILI BILI #1	82.4	82.4	82.4	9	PGAYA - BNTG SWITCH	
7	TD_PALOPO #3	80.5	80.5	80.4	9	PGAYA - BNTG SWITCH	
8	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
9	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S. or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95%]
1	TD_PARIGI #2	95.1	95.1	95.0	9	PGAYA - BNTG SWITCH	
2	TD_SDRAP #1	93.3	93.3	93.2	9	PGAYA - BNTG SWITCH	
3	TD_DAYA BARU	91.8	91.8	91.6	9	PGAYA - BNTG SWITCH	
4	TD_BNTG SMLTR #3	84.8	84.8	84.5	9	PGAYA - BNTG SWITCH	
5	TD_TINANGGEEA SMLTR #1	84.1	84.1	84.1	9	PGAYA - BNTG SWITCH	
6	TG_PLTA BILI BILI #1	83.9	83.9	83.9	9	PGAYA - BNTG SWITCH	
7	TD_KOLKA SMLTR #1	82.5	82.5	82.4	9	PGAYA - BNTG SWITCH	
8	TD_MJENE	81.6	81.6	81.6	9	PGAYA - BNTG SWITCH	
9	TD_PALOPO #3	80.0	80.0	79.9	9	PGAYA - BNTG SWITCH	
10	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2	84.4	84.4	84.4	-1	Base Case	





# 1 Data Hasil simulasi Kontingensi N-2 Punagaya-Bantaeng Switch Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92 %]
1	TD_DAYA BARU	92.2	92.2	92.0	10	PGAYA - BNTG SWITCH	
2	TD_SDRAP #1	91.8	91.8	91.6	10	PGAYA - BNTG SWITCH	
3	TD_BNTG SMLTR #3	91.3	91.3	87.4	10	PGAYA - BNTG SWITCH	
4	TD_KOLKA SMLTR #1	86.6	86.6	86.6	10	PGAYA - BNTG SWITCH	
5	TD_TINANGGEEA SMLTR #1	85.6	85.6	85.6	10	PGAYA - BNTG SWITCH	
6	TD_BNTG SMLTR #2	83.0	83.0	79.6	10	PGAYA - BNTG SWITCH	
7	TG_PLTA BILI BILI #1	82.4	82.4	82.4	10	PGAYA - BNTG SWITCH	
8	TD_PALOPO #3	80.4	80.4	80.4	10	PGAYA - BNTG SWITCH	
9	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
10	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case  
Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]      Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.919 p.u. - 0.992 p.u.]
1	BUS A	0.919	-0.040	0.959	10	PGAYA - BNTG SWITCH	
2	BUS A	0.922	-0.070	0.992	10	PGAYA - BNTG SWITCH	
3	BUS A	0.922	-0.040	0.962	10	PGAYA - BNTG SWITCH	
4	BUS A	0.923	-0.039	0.962	10	PGAYA - BNTG SWITCH	
5	BUS A	0.929	-0.035	0.964	10	PGAYA - BNTG SWITCH	
6	BUS A	0.935	-0.032	0.968	10	PGAYA - BNTG SWITCH	
7	BUS A	0.940	-0.028	0.968	10	PGAYA - BNTG SWITCH	

## Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95 %]
1	TD_PARIGI #2	95.0	95.0	95.0	10	PGAYA - BNTG SWITCH	
2	TD_SDRAP #1	93.4	93.4	93.2	10	PGAYA - BNTG SWITCH	
3	TD_DAYA BARU	91.9	91.9	91.6	10	PGAYA - BNTG SWITCH	
4	TD_BNTG SMLTR #3	88.2	88.2	84.5	10	PGAYA - BNTG SWITCH	
5	TD_TINANGGEEA SMLTR #1	84.1	84.1	84.1	10	PGAYA - BNTG SWITCH	
6	TG_PLTA BILI BILI #1	83.9	83.9	83.9	10	PGAYA - BNTG SWITCH	
7	TD_KOLKA SMLTR #1	82.4	82.4	82.4	10	PGAYA - BNTG SWITCH	
8	TD_MUENE	81.6	81.6	81.6	10	PGAYA - BNTG SWITCH	
9	TD_PALOPO #3	80.0	80.0	79.9	10	PGAYA - BNTG SWITCH	
10	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	



Report: Minimum Voltages

Study Case  
Contingency Analysis AC

950 [p.u.]

Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.923 p.u. - 0.994 p.u.]
1	BUS A BNTG SMLTR	0.923	-0.040	0.963	10	PGAYA - BNTG SWITCH(	
2	BUS A BNTG SWITCH 500KV	0.926	-0.068	0.994	10	PGAYA - BNTG SWITCH(	
3	BUS A BNTG SWITCH	0.926	-0.040	0.966	10	PGAYA - BNTG SWITCH(	
4	BUS A BKMBA	0.927	-0.039	0.966	10	PGAYA - BNTG SWITCH(	
5	BUS A TNETE	0.933	-0.035	0.968	10	PGAYA - BNTG SWITCH(	
6	BUS A BNTG NEW	0.939	-0.032	0.971	10	PGAYA - BNTG SWITCH(	
7	BUS A SNJAI	0.944	-0.028	0.972	10	PGAYA - BNTG SWITCH(	

Lampiran.22 Data Hasil simulasi Kontingensi N-1 Punagaya-Daya Baru Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
1	TD_DAYA BARU	92.1	92.1	92.0	11	PGAYA - DAYA BARU	
2	TD_SDRAP #1	91.7	91.7	91.6	11	PGAYA - DAYA BARU	
3	TD_BNTG SMLTR #3	87.6	87.6	87.4	11	PGAYA - DAYA BARU	
4	TD_KOLKA SMLTR #1	86.6	86.6	86.6	11	PGAYA - DAYA BARU	
5	TD_TINANGGEEA SMLTR #1	85.6	85.6	85.6	11	PGAYA - DAYA BARU	
6	TG_PLTA BILU BILU #1	82.4	82.4	82.4	11	PGAYA - DAYA BARU	
7	TD_PALOPO #3	80.4	80.4	80.4	11	PGAYA - DAYA BARU	
8	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
9	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
1	TD_PARIGI #2	95.0	95.0	95.0	11	PGAYA - DAYA BARU	
2	TD_SDRAP #1	93.2	93.2	93.2	11	PGAYA - DAYA BARU	
3	TD_DAYA BARU	91.7	91.7	91.6	11	PGAYA - DAYA BARU	
4	TD_BNTG SMLTR #3	84.6	84.6	84.5	11	PGAYA - DAYA BARU	
5	TD_TINANGGEEA SMLTR #1	84.1	84.1	84.1	11	PGAYA - DAYA BARU	
6	TG_PLTA BILU BILU #1	83.9	83.9	83.9	11	PGAYA - DAYA BARU	
7	TD_KOLKA SMLTR #1	82.5	82.5	82.4	11	PGAYA - DAYA BARU	
8	TD_MJENE	81.6	81.6	81.6	11	PGAYA - DAYA BARU	
9	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
10	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	



### 3 Data Hasil simulasi Kontingensi N-2 Punagaya-Daya Baru

#### Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92 %]
1 TD_DAYA BARU		92.1	92.1	92.0	12	PGAYA - DAYA BARU(1)-H	
2 TD_SDRAP #1		91.6	91.6	91.6	12	PGAYA - DAYA BARU(1)-H	
3 TD_BNTG SMLTR #3		88.3	88.3	87.4	12	PGAYA - DAYA BARU(1)-H	
4 TG_PLTA BILI BILI #1		82.4	82.4	82.4	12	PGAYA - DAYA BARU(1)-H	
5 TD_BNTG SMLTR #2		80.4	80.4	79.6	12	PGAYA - DAYA BARU(1)-H	
6 TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
7 TD_KOLKA SMLTR #1		86.6	86.6	86.6	-1	Base Case	
8 TD_TINANGGEEA SMLTR #1		85.6	85.6	85.6	-1	Base Case	
9 TG_PLTA BKARU #2		84.3	84.3	84.3	-1	Base Case	
10 TD_PALOPO #3		80.4	80.4	80.4	-1	Base Case	

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95 %]
1 TD_SDRAP #1		93.2	93.2	93.2	12	PGAYA - DAYA BARU(1)-H	
2 TD_DAYA BARU		91.7	91.7	91.6	12	PGAYA - DAYA BARU(1)-H	
3 TD_BNTG SMLTR #3		85.2	85.2	84.5	12	PGAYA - DAYA BARU(1)-H	
4 TG_PLTA BILI BILI #1		83.9	83.9	83.9	12	PGAYA - DAYA BARU(1)-H	
5 TD_MJENE		81.6	81.6	81.6	12	PGAYA - DAYA BARU(1)-H	
6 TD_PARIGI #2		95.0	95.0	95.0	-1	Base Case	
7 TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
8 TG_PLTA BKARU #2		84.4	84.4	84.4	-1	Base Case	
9 TD_TINANGGEEA SMLTR #1		84.1	84.1	84.1	-1	Base Case	
10 TD_KOLKA SMLTR #1		82.4	82.4	82.4	-1	Base Case	

### Lampiran.24 Data Hasil simulasi Kontingensi N-1 Sidrap-Enrekang

Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]  
Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92 %]
1 TD_DAYA BARU		92.1	92.1	92.0	13	SDRAP - ERKNG(1)	
2 TD_SDRAP #1		91.7	91.7	91.6	13	SDRAP - ERKNG(1)	
3 TD_BNTG SMLTR #3		87.5	87.5	87.4	13	SDRAP - ERKNG(1)	
4 TD_KOLKA SMLTR #1		86.6	86.6	86.6	13	SDRAP - ERKNG(1)	
5 TD_TINANGGEEA SMLTR #1		85.6	85.6	85.6	13	SDRAP - ERKNG(1)	
6 TG_PLTA BILI BILI #1		82.4	82.4	82.4	13	SDRAP - ERKNG(1)	
7 TD_PALOPO #3		80.4	80.4	80.4	13	SDRAP - ERKNG(1)	
8 TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
9 TG_PLTA BKARU #2		84.3	84.3	84.3	-1	Base Case	





Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95 %]
1	TD_PARIGI #2	95.0	95.0	95.0	13	SDRAP - ERKNG(1)	[Bar chart]
2	TD_SDRAP #1	93.2	93.2	93.2	13	SDRAP - ERKNG(1)	[Bar chart]
3	TD_DAYA BARU	91.7	91.7	91.6	13	SDRAP - ERKNG(1)	[Bar chart]
4	TD_BNTG SMLTR #3	84.5	84.5	84.5	13	SDRAP - ERKNG(1)	[Bar chart]
5	TD_TINANGGEEA SMLTR #1	84.1	84.1	84.1	13	SDRAP - ERKNG(1)	[Bar chart]
6	TG_PLTA BILI BILI #1	83.9	83.9	83.9	13	SDRAP - ERKNG(1)	[Bar chart]
7	TD_KOLKA SMLTR #1	82.4	82.4	82.4	13	SDRAP - ERKNG(1)	[Bar chart]
8	TD_MJENE	81.6	81.6	81.6	13	SDRAP - ERKNG(1)	[Bar chart]
9	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	[Bar chart]
10	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	[Bar chart]

Lampiran.25 Data Hasil simulasi Kontingensi N-2 Sidrap-Enrekang Untuk Beban Puncak Siang Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 93 %]
1	TD_DAYA BARU	92.6	92.6	92.0	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
2	TD_SDRAP #1	91.9	91.9	91.6	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
3	TD_BNTG SMLTR #3	87.9	87.9	87.4	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
4	TG_PLTA BILI BILI #1	82.5	82.5	82.4	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
5	TD_BNTG SMLTR #2	80.2	80.2	79.6	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
6	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	[Bar chart]
7	TD_KOLKA SMLTR #1	86.6	86.4	86.6	-1	Base Case	[Bar chart]
8	TD_TINANGGEEA SMLTR #1	85.6	85.5	85.6	-1	Base Case	[Bar chart]
9	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	[Bar chart]
10	TD_PALOPO #3	80.4	80.3	80.4	-1	Base Case	[Bar chart]

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 95 %]
1	TD_SDRAP #1	93.5	93.5	93.2	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
2	TD_DAYA BARU	92.1	92.1	91.6	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
3	TD_BNTG SMLTR #3	85.0	85.0	84.5	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
4	TG_PLTA BILI BILI #1	84.0	84.0	83.9	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
5	TD_MJENE	81.6	81.6	81.6	14	SDRAP - ERKNG(1)-SDR	[Bar chart]
6	TD_PARIGI #2	95.0	94.8	95.0	-1	Base Case	[Bar chart]
7	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	[Bar chart]
8	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	[Bar chart]
9	TD_TINANGGEEA SMLTR #1	84.1	84.0	84.1	-1	Base Case	[Bar chart]
10	TD_KOLKA SMLTR #1	82.4	82.3	82.4	-1	Base Case	[Bar chart]



## 6 Data Hasil simulasi Kontingensi N-1 Wotu-Bungku

### Puncak Siang Hari

Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

	Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 92 %]
1	TD_DAYA BARU		92.1	92.1	92.0	15	WOTU - BNGKU	
2	TD_SDRAP #1		91.7	91.7	91.6	15	WOTU - BNGKU	
3	TD_BNTG SMLTR #3		87.5	87.5	87.4	15	WOTU - BNGKU	
4	TD_KOLKA SMLTR #1		87.0	87.0	86.6	15	WOTU - BNGKU	
5	TD_TINANGGEEA SMLTR #1		85.9	85.9	85.6	15	WOTU - BNGKU	
6	TG_PLTA BILI BILI #1		82.4	82.4	82.4	15	WOTU - BNGKU	
7	TD_PALOPO #3		80.5	80.5	80.4	15	WOTU - BNGKU	
8	TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
9	TG_PLTA BKARU #2		84.3	84.3	84.3	-1	Base Case	

### Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case  
Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]      Overloading Limit: 100 [%]

	Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0 % - 95 %]
1	TD_PARIGI #2		95.5	95.5	95.0	15	WOTU - BNGKU	
2	TD_SDRAP #1		93.2	93.2	93.2	15	WOTU - BNGKU	
3	TD_DAYA BARU		91.7	91.7	91.6	15	WOTU - BNGKU	
4	TD_TINANGGEEA SMLTR #1		84.6	84.6	84.1	15	WOTU - BNGKU	
5	TD_BNTG SMLTR #3		84.5	84.5	84.5	15	WOTU - BNGKU	
6	TG_PLTA BILI BILI #1		83.9	83.9	83.9	15	WOTU - BNGKU	
7	TD_KOLKA SMLTR #1		82.9	82.9	82.4	15	WOTU - BNGKU	
8	TD_MJENE		81.6	81.6	81.6	15	WOTU - BNGKU	
9	TD_PALOPO #3		80.0	80.0	79.9	15	WOTU - BNGKU	
10	TG_PLTA BKARU #1		90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2		84.4	84.3	84.4	-1	Base Case	

## Lampiran.27 Data Hasil simulasi Kontingensi N-2 Wotu-Bungku

### Untuk Beban Puncak Siang Hari





Report: Maximum Loadings

Study Case: Contingency Analysis AC

Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 92.1%]
1	TD_DAYA BARU	92.1	92.1	92.0	16	WOTU - BNGKU(1)-WOTI	
2	TD_SDRAP #1	91.7	91.7	91.6	16	WOTU - BNGKU(1)-WOTI	
3	IBT_PAMONA #1	88.6	88.6	61.6	16	WOTU - BNGKU(1)-WOTI	
4	IBT_PAMONA #2	88.6	88.6	61.6	16	WOTU - BNGKU(1)-WOTI	
5	TD_KOLKA SMLTR #1	87.6	87.6	86.6	16	WOTU - BNGKU(1)-WOTI	
6	TD_BNTG SMLTR #3	87.5	87.5	87.4	16	WOTU - BNGKU(1)-WOTI	
7	TD_TINANGGEEA SMLTR #1	86.5	86.5	85.6	16	WOTU - BNGKU(1)-WOTI	
8	TG_PLTA BILU BILU #1	82.4	82.4	82.4	16	WOTU - BNGKU(1)-WOTI	
9	TD_PALOPO #3	80.6	80.6	80.4	16	WOTU - BNGKU(1)-WOTI	
10	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
11	TG_PLTA BKARU #2	84.3	84.3	84.3	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case

Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]

Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.946 p.u. - 0.962 p.u.]
1	BUS A KOLKA SMLTR	0.946	-0.012	0.958	16	WOTU - BNGKU(1)-WOTI	
2	BUS A WOLO	0.949	-0.012	0.962	16	WOTU - BNGKU(1)-WOTI	

Untuk Beban Puncak Malam Hari

Contingency Analysis Report: Maximum Loadings

Study Case: Study Case

Result File: Contingency Analysis AC

Loading Limit: 80.0 [%]

Overloading Limit: 100 [%]

Component	Branch, S... or Site	Loading Continuous [%]	Loading Short-Term [%]	Loading Base Case [%]	Contingency Number	Contingency Name	Base Case and Continuous Loading [0% - 107.9%]
1	IBT_PAMONA #1	107.9	107.9	75.9	16	WOTU - BNGKU(1)-WOTI	
2	IBT_PAMONA #2	107.9	107.9	75.9	16	WOTU - BNGKU(1)-WOTI	
3	TD_PARIGI #2	96.5	96.5	95.0	16	WOTU - BNGKU(1)-WOTI	
4	TD_SDRAP #1	93.3	93.3	93.2	16	WOTU - BNGKU(1)-WOTI	
5	TD_DAYA BARU	91.7	91.7	91.6	16	WOTU - BNGKU(1)-WOTI	
6	TD_TINANGGEEA SMLTR #1	85.1	85.1	84.1	16	WOTU - BNGKU(1)-WOTI	
7	TD_BNTG SMLTR #3	84.6	84.6	84.5	16	WOTU - BNGKU(1)-WOTI	
8	TG_PLTA BILU BILU #1	83.9	83.9	83.9	16	WOTU - BNGKU(1)-WOTI	
9	TD_KOLKA SMLTR #1	83.9	83.9	82.4	16	WOTU - BNGKU(1)-WOTI	
10	TD_MJENE	81.8	81.8	81.6	16	WOTU - BNGKU(1)-WOTI	
11	TD_PALOPO #3	80.2	80.2	79.9	16	WOTU - BNGKU(1)-WOTI	
12	TG_PLTA BKARU #1	90.0	90.0	90.0	-1	Base Case	
13	TG_PLTA BKARU #2	84.4	84.3	84.4	-1	Base Case	

Contingency Analysis Report: Minimum Voltages

Study Case: Study Case

Result File: Contingency Analysis AC

Min. Voltage: 0.950 [p.u.]

Min. Voltage Limit: 0.95 [p.u.]

Component	Branch, Substation or Site	Voltage Min. [p.u.]	Voltage Step [p.u.]	Voltage Base [p.u.]	Contingency Number	Contingency Name	Base Case and Post Voltage [0.945 p.u. - 0.963 p.u.]
1	BUS A KOLKA SMLTR	0.945	-0.015	0.960	16	WOTU - BNGKU(1)-WOTI	
2	BUS A WOLO	0.948	-0.015	0.963	16	WOTU - BNGKU(1)-WOTI	

