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Output Filename: D:\SKRIPSI\BACKUP\BACKUP\BACKUP\BACKUP\BACKUP\BACKUP\BACKUP\C
APASITOR.lfr

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Adjustments

<u>Tolerance</u>	<u>Apply Adjustments</u>	<u>Individual /Global</u>	<u>Percent</u>
Transformer Impedance:	Yes	Individual	
Reactor Impedance:	Yes	Individual	
Overload Heater Resistance:	No		
Transmission Line Length:	No		
Cable Length:	No		

<u>Temperature Correction</u>	<u>Apply Adjustments</u>	<u>Individual /Global</u>	<u>Degree C</u>
Transmission Line Resistance:	Yes	Individual	
Cable Resistance:	Yes	Individual	

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Bus Input Data

Bus			Initial Voltage		Load							
					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
AL1	20.000	1	100.0	0.0			0.000	-3.200				
AL2	0.400	1	100.0	0.0	0.004	0.003	0.006	0.004				
AL3	20.000	1	100.0	0.0								
AL4	0.400	1	100.0	0.0	0.211	0.131	0.317	0.196				
AL5	20.000	1	100.0	0.0								
AL6	0.400	1	100.0	0.0	0.012	0.007	0.017	0.011				
AL7	20.000	1	100.0	0.0								
AL8	0.400	1	100.0	0.0	0.017	0.011	0.012	0.007				
AL9	20.000	1	100.0	0.0								
AL10	0.400	1	100.0	0.0	0.003	0.002	0.004	0.002				
AL11	20.000	1	100.0	0.0								
AL14	0.400	1	100.0	0.0	0.004	0.002	0.006	0.004				
AL15	20.000	1	100.0	0.0								
AL16	0.400	1	100.0	0.0	0.006	0.004	0.009	0.006				
AL17	0.400	1	100.0	0.0	0.011	0.007	0.003	0.002				
AL18	20.000	1	100.0	0.0								
AL19	20.000	1	100.0	0.0								
AL20	0.400	1	100.0	0.0	0.002	0.001	0.003	0.002				
AL21	20.000	1	100.0	0.0								
AL22	0.400	1	100.0	0.0	0.004	0.003	0.006	0.004				
AL23	20.000	1	100.0	0.0								
AL24	0.400	1	100.0	0.0	0.005	0.003	0.007	0.004				
AL25	20.000	1	100.0	0.0								
AL26	20.000	1	100.0	0.0								
AL27	0.400	1	100.0	0.0	0.002	0.001	0.001	0.001				
AL28	20.000	1	100.0	0.0								
AL29	20.000	1	100.0	0.0								
AL30	0.400	1	100.0	0.0	0.004	0.002	0.003	0.002				
AL31	0.400	1	100.0	0.0	0.007	0.004	0.005	0.003				
AL32	20.000	1	100.0	0.0								
AL34	0.400	1	100.0	0.0	0.004	0.003	0.003	0.002				
AL35	20.000	1	100.0	0.0								
AL36	0.400	1	100.0	0.0	0.005	0.003	0.003	0.002				

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Bus			Initial Voltage		Load							
					Constant kVA		Constant Z		Constant I		Generic	
					MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
AL38	0.400	1	100.0	0.0	0.006	0.003	0.008	0.005				
AL39	20.000	1	100.0	0.0								
Bus1	21.000	1	100.0	0.0								
Bus2	21.000	1	100.0	0.0								
Bus24-1	150.000	1	100.0	0.0								
Bus25-1	20.000	1	100.0	0.0								
Bus37	20.000	2	100.0	0.0								
Bus97	0.400	2	100.0	0.0	0.012	0.008	0.003	0.002				
Bus121	20.000	2	100.0	0.0								
Bus122	150.000	2	100.0	0.0								
Bus123	20.000	2	100.0	0.0								
Bus124	20.000	2	100.0	0.0								
Bus125	20.000	2	100.0	0.0								
Bus126	20.000	2	100.0	0.0								
Bus128	20.000	2	100.0	0.0								
Bus129	20.000	2	100.0	0.0								
Bus130	20.000	2	100.0	0.0								
Bus131	20.000	2	100.0	0.0								
Bus134	20.000	2	100.0	0.0								
Bus135	20.000	2	100.0	0.0								
Bus136	20.000	2	100.0	0.0								
Bus137	20.000	2	100.0	0.0								
Bus138	20.000	2	100.0	0.0								
Bus139	20.000	2	100.0	0.0								
Bus428	0.400	1	100.0	0.0	0.061	0.038	0.092	0.057				
Bus429	20.000	1	100.0	0.0								
Bus430	0.400	1	100.0	0.0	0.092	0.057	0.061	0.038				
Bus431	20.000	1	100.0	0.0								
Bus432	20.000	1	100.0	0.0								
Bus433	0.400	1	100.0	0.0	0.061	0.038	0.092	0.057				
P2	20.000	1	100.0	0.0								
P3	20.000	1	100.0	0.0								
P4	20.000	1	100.0	0.0								
P5	0.400	1	100.0	0.0	0.012	0.008	0.018	0.011				
P6	20.000	1	100.0	0.0								

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					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P7	0.400	1	100.0	0.0	0.018	0.011	0.026	0.016				
P8	20.000	1	100.0	0.0								
P9	0.400	1	100.0	0.0	0.009	0.005	0.006	0.004				
P10	20.000	1	100.0	0.0								
P11	0.400	1	100.0	0.0	0.017	0.011	0.011	0.007				
P12	20.000	1	100.0	0.0								
P13	0.400	1	100.0	0.0	0.032	0.020	0.021	0.013				
P14	20.000	1	100.0	0.0								
P15	20.000	1	100.0	0.0								
P16	0.400	1	100.0	0.0	0.009	0.006	0.014	0.009				
P17	20.000	1	100.0	0.0								
P18	0.400	1	100.0	0.0	0.017	0.010	0.025	0.016				
P19	20.000	1	100.0	0.0								
P20	0.400	1	100.0	0.0	0.010	0.006	0.015	0.010				
P21	20.000	1	100.0	0.0								
P22	0.400	1	100.0	0.0	0.010	0.006	0.006	0.004				
P23	20.000	2	100.0	0.0								
P24	0.400	2	100.0	0.0	0.010	0.007	0.016	0.010				
P25	20.000	2	100.0	0.0								
P26	0.400	2	100.0	0.0	0.012	0.007	0.018	0.011				
P27	20.000	2	100.0	0.0								
P28	0.400	2	100.0	0.0	0.012	0.008	0.018	0.011				
P29	20.000	2	100.0	0.0								
P30	0.400	2	100.0	0.0	0.019	0.012	0.013	0.008				
P31	20.000	2	100.0	0.0								
P32	0.400	2	100.0	0.0	0.019	0.011	0.028	0.017				
P33	20.000	2	100.0	0.0								
P34	20.000	2	100.0	0.0								
P35	0.400	2	100.0	0.0	0.002	0.002	0.002	0.001				
P36	20.000	2	100.0	0.0			0.000	-1.600				
P37	0.400	2	100.0	0.0	0.036	0.022	0.054	0.034				
P38	20.000	2	100.0	0.0								
P39	0.400	2	100.0	0.0	0.013	0.008	0.008	0.005				
P40	20.000	2	100.0	0.0								
P41	0.400	2	100.0	0.0	0.018	0.011	0.004	0.003				

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					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P42	20.000	2	100.0	0.0								
P43	0.400	2	100.0	0.0	0.015	0.009	0.010	0.006				
P44	20.000	2	100.0	0.0								
P45	20.000	2	100.0	0.0								
P46	0.400	2	100.0	0.0	0.010	0.006	0.003	0.002				
P47	0.400	2	100.0	0.0	0.006	0.003	0.008	0.005				
P48	20.000	2	100.0	0.0								
P49	20.000	2	100.0	0.0								
P50	0.400	2	100.0	0.0	0.003	0.002	0.004	0.003				
P51	20.000	2	100.0	0.0								
P52	20.000	2	100.0	0.0								
P53	0.400	2	100.0	0.0	0.012	0.007	0.008	0.005				
P54	20.000	2	100.0	0.0								
P55	0.400	2	100.0	0.0	0.004	0.003	0.006	0.004				
P56	20.000	2	100.0	0.0								
P57	0.400	2	100.0	0.0	0.019	0.012	0.029	0.018				
P58	20.000	2	100.0	0.0								
P59	0.400	2	100.0	0.0	0.012	0.007	0.018	0.011				
P60	20.000	2	100.0	0.0								
P61	0.400	2	100.0	0.0	0.007	0.004	0.002	0.001				
P62	20.000	2	100.0	0.0								
P63	0.400	2	100.0	0.0	0.018	0.011	0.012	0.008				
P64	20.000	2	100.0	0.0								
P65	0.400	2	100.0	0.0	0.007	0.004	0.010	0.006				
P66	20.000	2	100.0	0.0								
P67	20.000	2	100.0	0.0								
P68	0.400	2	100.0	0.0	0.011	0.007	0.007	0.005				
P69	20.000	2	100.0	0.0								
P70	0.400	2	100.0	0.0	0.005	0.003	0.007	0.004				
P71	20.000	2	100.0	0.0								
P72	0.400	2	100.0	0.0	0.003	0.002	0.004	0.003				
P73	20.000	2	100.0	0.0								
P74	0.400	2	100.0	0.0	0.004	0.003	0.007	0.004				
P76	20.000	2	100.0	0.0								
P77	0.400	2	100.0	0.0	0.007	0.004	0.010	0.006				

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					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P80	20.000	2	100.0	0.0								
P81	0.400	2	100.0	0.0	0.015	0.009	0.023	0.014				
P82	20.000	2	100.0	0.0								
P83	0.400	2	100.0	0.0	0.004	0.003	0.006	0.004				
P84	20.000	2	100.0	0.0								
P85	0.400	2	100.0	0.0	0.004	0.002	0.006	0.004				
P86	20.000	2	100.0	0.0								
P87	0.400	2	100.0	0.0	0.003	0.002	0.004	0.003				
P88	20.000	2	100.0	0.0								
P89	0.400	2	100.0	0.0	0.003	0.002	0.005	0.003				
P90	20.000	2	100.0	0.0								
P91	0.400	2	100.0	0.0	0.003	0.002	0.005	0.003				
P92	20.000	2	100.0	0.0								
P93	0.400	2	100.0	0.0	0.004	0.003	0.006	0.004				
P94	20.000	2	100.0	0.0								
P95	0.400	2	100.0	0.0	0.003	0.002	0.004	0.002				
P96	20.000	2	100.0	0.0								
P97	0.400	2	100.0	0.0	0.007	0.004	0.011	0.007				
P98	20.000	2	100.0	0.0								
P99	0.400	2	100.0	0.0	0.006	0.004	0.009	0.005				
P102	0.400	2	100.0	0.0	0.016	0.010	0.010	0.007				
P103	20.000	2	100.0	0.0								
P106	0.400	2	100.0	0.0	0.004	0.003	0.003	0.002				
P107	20.000	2	100.0	0.0								
P108	0.400	2	100.0	0.0	0.008	0.005	0.005	0.003				
P109	20.000	2	100.0	0.0								
P114	0.400	2	100.0	0.0	0.009	0.006	0.006	0.004				
P115	20.000	2	100.0	0.0								
P116	0.400	2	100.0	0.0	0.008	0.005	0.006	0.003				
P117	20.000	2	100.0	0.0								
P118	0.400	2	100.0	0.0	0.068	0.042	0.045	0.028				
P119	20.000	2	100.0	0.0								
P120	0.400	2	100.0	0.0	0.042	0.026	0.028	0.017				
P121	20.000	2	100.0	0.0								
P122	0.400	2	100.0	0.0	0.009	0.006	0.006	0.004				

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					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P123	20.000	2	100.0	0.0								
P126	20.000	2	100.0	0.0								
P127	0.400	2	100.0	0.0	0.004	0.002	0.006	0.003				
P128	20.000	2	100.0	0.0								
P129	0.400	2	100.0	0.0	0.003	0.002	0.005	0.003				
P130	20.000	2	100.0	0.0								
P131	0.400	2	100.0	0.0	0.006	0.004	0.010	0.006				
P132	20.000	2	100.0	0.0								
P133	0.400	2	100.0	0.0	0.005	0.003	0.008	0.005				
P134	20.000	2	100.0	0.0								
P135	0.400	2	100.0	0.0	0.008	0.005	0.005	0.003				
P136	20.000	2	100.0	0.0								
P137	0.400	2	100.0	0.0	0.007	0.004	0.010	0.006				
P138	20.000	2	100.0	0.0								
P139	0.400	2	100.0	0.0	0.004	0.002	0.006	0.004				
P140	0.400	2	100.0	0.0			0.024	0.015				
P141	20.000	2	100.0	0.0								
P142	20.000	2	100.0	0.0								
P143	0.400	2	100.0	0.0	0.006	0.004	0.009	0.006				
P146	0.400	2	100.0	0.0	0.006	0.004	0.004	0.002				
P147	20.000	2	100.0	0.0								
P148	0.400	2	100.0	0.0	0.010	0.006	0.007	0.004				
P149	20.000	2	100.0	0.0								
P150	0.400	2	100.0	0.0	0.004	0.002	0.003	0.002				
P151	20.000	2	100.0	0.0								
P152	0.400	2	100.0	0.0	0.006	0.004	0.004	0.003				
P153	20.000	2	100.0	0.0								
P154	0.400	2	100.0	0.0	0.007	0.004	0.005	0.003				
P155	20.000	2	100.0	0.0								
P156	0.400	2	100.0	0.0	0.009	0.006	0.006	0.004				
P157	20.000	2	100.0	0.0								
P158	0.400	2	100.0	0.0	0.009	0.006	0.006	0.004				
P159	20.000	2	100.0	0.0								
P162	0.400	2	100.0	0.0	0.056	0.034	0.037	0.023				
P163	20.000	2	100.0	0.0								

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					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P164	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P165	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P166	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P167	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P168	0.400	1	100.0	0.0	0.794	0.492	0.529	0.328				
P172	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P173	20.000	1	100.0	0.0								
P177	20.000	1	100.0	0.0								
P178	20.000	1	100.0	0.0								
P179	20.000	1	100.0	0.0								
P180	20.000	1	100.0	0.0								
P181	20.000	1	100.0	0.0								
P182	20.000	1	100.0	0.0								
P183	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P186	20.000	1	100.0	0.0								
P187	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P188	0.400	2	100.0	0.0	0.008	0.005	0.005	0.003				
P189	0.400	2	100.0	0.0	0.010	0.006	0.007	0.004				
P190	20.000	1	100.0	0.0								
P191	0.400	1	100.0	0.0	0.015	0.009	0.023	0.014				
P192	0.400	2	100.0	0.0	0.010	0.006	0.006	0.004				
P193	0.400	2	100.0	0.0	0.004	0.002	0.002	0.001				
P194	20.000	2	100.0	0.0								
P195	20.000	2	100.0	0.0								
P196	20.000	2	100.0	0.0								
P197	20.000	2	100.0	0.0								
P200	0.400	2	100.0	0.0	0.022	0.013	0.014	0.009				
P201	20.000	2	100.0	0.0								
P202	0.400	2	100.0	0.0	0.015	0.009	0.010	0.006				
P203	20.000	2	100.0	0.0								
P208	0.400	2	100.0	0.0	0.007	0.004	0.004	0.003				
P209	0.400	2	100.0	0.0	0.008	0.005	0.006	0.003				
P210	20.000	2	100.0	0.0								
P211	20.000	2	100.0	0.0								
P214	0.400	2	100.0	0.0	0.040	0.025	0.027	0.017				

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ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P215	20.000	2	100.0	0.0								
P220	0.400	2	100.0	0.0	0.010	0.006	0.007	0.004				
P221	0.400	2	100.0	0.0	0.008	0.005	0.005	0.003				
P222	20.000	2	100.0	0.0								
P223	20.000	2	100.0	0.0								
P226	0.400	2	100.0	0.0	0.055	0.034	0.037	0.023				
P227	20.000	2	100.0	0.0								
P232	0.400	2	100.0	0.0	0.010	0.006	0.007	0.004				
P233	20.000	2	100.0	0.0								
P234	20.000	2	100.0	0.0								
P235	0.400	2	100.0	0.0	0.007	0.004	0.005	0.003				
P238	0.400	2	100.0	0.0	0.045	0.028	0.030	0.019				
P239	20.000	2	100.0	0.0								
P242	0.400	2	100.0	0.0	0.015	0.009	0.010	0.006				
P243	20.000	2	100.0	0.0								
P246	0.400	2	100.0	0.0	0.011	0.007	0.007	0.005				
P247	20.000	2	100.0	0.0								
P250	0.400	2	100.0	0.0	0.008	0.005	0.005	0.003				
P251	20.000	2	100.0	0.0								
P252	0.400	2	100.0	0.0	0.009	0.006	0.006	0.004				
P253	20.000	2	100.0	0.0								
P254	0.400	2	100.0	0.0	0.011	0.007	0.008	0.005				
P255	20.000	2	100.0	0.0								
P260	0.400	2	100.0	0.0	0.007	0.004	0.005	0.003				
P261	0.400	2	100.0	0.0	0.005	0.003	0.003	0.002				
P262	20.000	2	100.0	0.0								
P263	20.000	2	100.0	0.0								
P266	0.400	2	100.0	0.0	0.005	0.003	0.004	0.002				
P267	20.000	2	100.0	0.0								
P268	0.400	2	100.0	0.0	0.004	0.003	0.003	0.002				
P269	20.000	2	100.0	0.0								
P272	0.400	2	100.0	0.0	0.007	0.004	0.004	0.003				
P273	20.000	2	100.0	0.0								
P277	20.000	2	100.0	0.0								
P282	0.400	2	100.0	0.0	0.015	0.009	0.010	0.006				

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					Load							
Bus			Initial Voltage		Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
P283	20.000	2	100.0	0.0								
P286	20.000	2	100.0	0.0								
P288	20.000	2	100.0	0.0								
P292	20.000	2	100.0	0.0								
P293	0.400	2	100.0	0.0	0.010	0.006	0.007	0.004				
P296	20.000	2	100.0	0.0								
P297	0.400	2	100.0	0.0	0.008	0.005	0.005	0.003				
P298	20.000	2	100.0	0.0								
P299	0.400	2	100.0	0.0	0.010	0.006	0.006	0.004				
P304	0.400	2	100.0	0.0	0.026	0.016	0.017	0.011				
P305	20.000	2	100.0	0.0								
P312	20.000	2	100.0	0.0								
P313	0.400	2	100.0	0.0	0.014	0.009	0.009	0.006				
P314	20.000	2	100.0	0.0								
P315	0.400	2	100.0	0.0	0.012	0.007	0.008	0.005				
P316	20.000	2	100.0	0.0								
P317	0.400	2	100.0	0.0	0.008	0.005	0.006	0.003				
P324	0.400	2	100.0	0.0	0.012	0.007	0.008	0.005				
P325	0.400	2	100.0	0.0	0.006	0.004	0.004	0.002				
P326	20.000	2	100.0	0.0								
P327	20.000	2	100.0	0.0								
P328	20.000	2	100.0	0.0								
P329	0.400	2	100.0	0.0	0.010	0.006	0.006	0.004				
TL1	21.000	1	100.0	0.0								
Total Number of Buses: 302					2.706	1.677	2.482	-3.262	0.000	0.000	0.000	0.000

Generation Bus				Voltage		Generation			Mvar Limits	
ID	kV	Type	Sub-sys	% Mag.	Angle	MW	Mvar	% PF	Max	Min
Bus24-1	150.000	Swing	1	100.0	0.0					
Bus122	150.000	Swing	2	100.0	0.0					
						0.000	0.000			

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Line/Cable Input Data

Line/Cable		Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)							
		Library	Size	Length		#/Phase	T (°C)	R	X
				Adj. (m)	% Tol.				
Cable13	ID			700.0	0.0	1	75	0.460800	0.357200
Cable14				700.0	0.0	1	75	0.460800	0.357200
Cable15				700.0	0.0	1	75	0.460800	0.357200
Outgoing		30NCUS3	400	30.0	0.0	1	75	0.059516	0.097900
SKTM_AL				0.8	0.0	3	75	0.206000	0.113850
SKTM_AL2				0.8	0.0	3	75	0.206000	0.113850
SKTM_AL4				0.8	0.0	3	75	0.206000	0.113850
line			157.	500.0	0.0	1	75	0.198368	0.330500
line1			157.	800.0	0.0	1	75	0.198368	0.330500
Line1			157.	18000.0	0.0	1	75	0.198368	0.330500
Line1-1			157.	2500.0	0.0	1	75	0.198368	0.330500
Line1-2			157.	454.1	0.0	1	75	0.198368	0.330500
line2			157.	500.0	0.0	1	75	0.198368	0.330500
Line2			157.	2000.0	0.0	1	75	0.198368	0.330500
Line2-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line3			157.	1500.0	0.0	1	75	0.198368	0.330500
Line3-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line4-1			157.	454.1	0.0	1	75	0.198368	0.330500
Line5			157.	500.0	0.0	1	75	0.198368	0.330500
Line5-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line6			75.6	600.0	0.0	1	75	0.198368	0.330500
Line6-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line7			157.	500.0	0.0	1	75	0.198368	0.330500
Line7-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line8-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line9			157.	1000.0	0.0	1	75	0.198368	0.330500
Line9-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line10			75.6	600.0	0.0	1	75	0.198368	0.330500
Line10-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line11			157.	1000.0	0.0	1	75	0.198368	0.330500
Line11-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line12			75.6	600.0	0.0	1	75	0.198368	0.330500
Line12-2			157.	454.1	0.0	1	75	0.198368	0.330500
Line13			157.	700.0	0.0	1	75	0.198368	0.330500

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Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)									
Line/Cable									
ID	Library	Size	Length		#/Phase	T (°C)	R	X	Y
			Adj. (m)	% Tol.					
Line13-2		157.	454.1	0.0	1	75	0.198368	0.330500	
Line14		157.	2000.0	0.0	1	75	0.198368	0.330500	
Line14-2		157.	454.1	0.0	1	75	0.198368	0.330500	
Line15		157.	1500.0	0.0	1	75	0.198368	0.330500	
Line15-2		157.	454.1	0.0	1	75	0.198368	0.330500	
Line16		157.	2000.0	0.0	1	75	0.198368	0.330500	
Line16-2		157.	454.1	0.0	1	75	0.198368	0.330500	
Line17-2		157.	454.1	0.0	1	75	0.198368	0.330500	
Line18		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line20		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line21		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line22		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line23		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line24		157.	1500.0	0.0	1	75	0.198368	0.330500	
Line25		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line26		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line27		157.	750.0	0.0	1	75	0.198368	0.330500	
Line28		157.	700.0	0.0	1	75	0.198368	0.330500	
Line29		157.	750.0	0.0	1	75	0.198368	0.330500	
Line30		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line31		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line32		147.	436.0	0.0	1	75	0.269600	0.382242	0.0000036
Line33		157.	500.0	0.0	1	75	0.198368	0.330500	
Line34		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line35		157.	250.0	0.0	1	75	0.198368	0.330500	
Line36		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line37		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line38		157.	250.0	0.0	1	75	0.198368	0.330500	
Line39		157.	500.0	0.0	1	75	0.198368	0.330500	
Line40		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line41		157.	600.0	0.0	1	75	0.198368	0.330500	
Line42		157.	600.0	0.0	1	75	0.198368	0.330500	
Line43		157.	1000.0	0.0	1	75	0.198368	0.330500	
Line44		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line45		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line46		157.	1000.0	0.0	1	75	0.198368	0.330500	

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Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)

Line/Cable ID	Library	Size	Length		#/Phase	T (°C)	R	X	Y
			Adj. (m)	% Tol.					
Line47		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line48		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line49		157.	700.0	0.0	1	75	0.198368	0.330500	
Line50		157.	1400.0	0.0	1	75	0.198368	0.330500	
Line51		157.	1500.0	0.0	1	75	0.198368	0.330500	
Line52		157.	500.0	0.0	1	75	0.198368	0.330500	
Line53		157.	600.0	0.0	1	75	0.198368	0.330500	
Line54		157.	500.0	0.0	1	75	0.198368	0.330500	
Line55		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line56		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line57		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line58		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line60		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line61		147,	205.0	0.0	1	75	0.269600	0.382242	0.0000036
Line62		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line63		147,	213.0	0.0	1	75	0.269600	0.382242	0.0000036
Line64		147,	700.0	0.0	1	75	0.269600	0.382242	0.0000036
Line65		147,	166.0	0.0	1	75	0.269600	0.382242	0.0000036
Line66		147,	147.0	0.0	1	75	0.269600	0.382242	0.0000036
Line67		75,6	650.0	0.0	1	75	0.524700	0.382242	0.0000034
Line68		147,	375.0	0.0	1	75	0.269600	0.382242	0.0000036
Line70		147,	550.0	0.0	1	75	0.269600	0.382242	0.0000036
Line71		75,6	500.0	0.0	1	75	0.524700	0.382242	0.0000034
Line72		147,	495.0	0.0	1	75	0.269600	0.382242	0.0000036
Line73		147,	600.0	0.0	1	75	0.269600	0.382242	0.0000036
Line74		147,	2100.0	0.0	1	75	0.269600	0.382242	0.0000036
Line75		147,	800.0	0.0	1	75	0.269600	0.382242	0.0000036
Line76		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line77		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line78		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line79		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line80		147,	3850.0	0.0	1	75	0.269600	0.382242	0.0000036
Line81		147,	850.0	0.0	1	75	0.269600	0.382242	0.0000036
Line82		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line84		75.6	600.0	0.0	1	75	0.198368	0.330500	
Line86		75.6	600.0	0.0	1	75	0.198368	0.330500	

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Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)

Line/Cable		Length							
ID	Library	Size	Adj. (m)	% Tol.	#/Phase	T (°C)	R	X	Y
Line160		75,6	12900.0	0.0	1	75	0.198368	0.330500	
Line161		75,6	600.0	0.0	1	75	0.524700	0.382242	0.0000034
Line162		75,6	900.0	0.0	1	75	0.524700	0.382242	0.0000034
Line164		75,6	384.0	0.0	1	75	0.524700	0.382242	0.0000034
Line166		75,6	960.0	0.0	1	75	0.524700	0.382242	0.0000034
Line168		75,6	295.0	0.0	1	75	0.524700	0.382242	0.0000034
Line170		75,6	1050.0	0.0	1	75	0.524700	0.382242	0.0000034
Line171		75,6	700.0	0.0	1	75	0.524700	0.382242	0.0000034
Line172		75,6	368.0	0.0	1	75	0.524700	0.382242	0.0000034
Line174		75,6	151.0	0.0	1	75	0.524700	0.382242	0.0000034
Line175		75,6	72.0	0.0	1	75	0.524700	0.382242	0.0000034
Line176		75,6	1600.0	0.0	1	75	0.524700	0.382242	0.0000034
Line177		75,6	660.0	0.0	1	75	0.524700	0.382242	0.0000034
Line178		75,6	165.0	0.0	1	75	0.524700	0.382242	0.0000034
Line179		75,6	325.0	0.0	1	75	0.524700	0.382242	0.0000034
Line181		147,	172.0	0.0	1	75	0.269600	0.382242	0.0000036
Line183		147,	375.0	0.0	1	75	0.269600	0.382242	0.0000036
Line184		147,	140.0	0.0	1	75	0.269600	0.382242	0.0000036
Line185		147,	1550.0	0.0	1	75	0.269600	0.382242	0.0000036
Line187		147,	250.0	0.0	1	75	0.269600	0.382242	0.0000036
Line190		147,	500.0	0.0	1	75	0.269600	0.382242	0.0000036
Line191		147,	750.0	0.0	1	75	0.269600	0.382242	0.0000036
Line193		147,	123.0	0.0	1	75	0.269600	0.382242	0.0000036
Line196		147,	325.0	0.0	1	75	0.269600	0.382242	0.0000036
Line198		147,	403.0	0.0	1	75	0.269600	0.382242	0.0000036
Line200		147,	325.0	0.0	1	75	0.269600	0.382242	0.0000036
Line202		147,	700.0	0.0	1	75	0.269600	0.382242	0.0000036
Line204		147,	700.0	0.0	1	75	0.269600	0.382242	0.0000036
Line206		147,	475.0	0.0	1	75	0.269600	0.382242	0.0000036
Line208		147,	128.0	0.0	1	75	0.269600	0.382242	0.0000036
Line210		147,	650.0	0.0	1	75	0.269600	0.382242	0.0000036
Line212		147,	1050.0	0.0	1	75	0.269600	0.382242	0.0000036
Line214		147,	1800.0	0.0	1	75	0.269600	0.382242	0.0000036
Line216		75,6	250.0	0.0	1	75	0.524700	0.382242	0.0000034
Line218		75,6	236.0	0.0	1	75	0.524700	0.382242	0.0000034
Line219		75,6	1000.0	0.0	1	75	0.524700	0.382242	0.0000034

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Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)									
Line/Cable									
ID	Library	Size	Length		#/Phase	T (°C)	R	X	Y
			Adj. (m)	% Tol.					
Line221		75,6	136.0	0.0	1	75	0.524700	0.382242	0.0000034
Line223		75,6	281.0	0.0	1	75	0.524700	0.382242	0.0000034
Line225		75,6	418.0	0.0	1	75	0.524700	0.382242	0.0000034
Line227		75,6	1700.0	0.0	1	75	0.524700	0.382242	0.0000034
Line229		75,6	432.0	0.0	1	75	0.524700	0.382242	0.0000034
Line231		75,6	1000.0	0.0	1	75	0.524700	0.382242	0.0000034
Line233		75,6	446.0	0.0	1	75	0.524700	0.382242	0.0000034
Line235		75,6	446.0	0.0	1	75	0.524700	0.382242	0.0000034
Line237		75,6	235.0	0.0	1	75	0.524700	0.382242	0.0000034
Line239		75,6	12570.0	0.0	1	75	0.524700	0.382242	0.0000034
Line241		75,6	900.0	0.0	1	75	0.524700	0.382242	0.0000034
Line243		75,6	408.0	0.0	1	75	0.524700	0.382242	0.0000034
Line245		75,6	306.0	0.0	1	75	0.524700	0.382242	0.0000034
Line247		75,6	163.0	0.0	1	75	0.524700	0.382242	0.0000034
Line249		75,6	1700.0	0.0	1	75	0.524700	0.382242	0.0000034
Line251		75,6	376.0	0.0	1	75	0.524700	0.382242	0.0000034
Line254		75,6	1250.0	0.0	1	75	0.524700	0.382242	0.0000034
Line255		75,6	234.0	0.0	1	75	0.524700	0.382242	0.0000034
Line257		75,6	700.0	0.0	1	75	0.524700	0.382242	0.0000034
P_Cuaca		157.	104.0	0.0	1	75	0.198368	0.330500	

Line / Cable resistances are listed at the specified temperatures.

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2-Winding Transformer Input Data

Transformer		Rating					Z Variation			% Tap Setting		Adjusted	Phase Shift	
ID	Phase	MVA	Prim. kV	Sec. kV	% Z1	X1/R1	+ 5%	- 5%	% Tol.	Prim.	Sec.	% Z	Type	Angle
PC1	3-Phase	0.160	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
PC2	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC3	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC4	3-Phase	0.160	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
PC5	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC_06	3-Phase	2.000	20.000	0.400	6.00	7.10	0	0	0	0	0	6.0000	Dyn	0.000
PC7	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC8	3-Phase	0.160	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
PC9	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC10	3-Phase	0.025	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC11	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC12	3-Phase	0.025	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC13	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC14	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC15	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC16	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC17	3-Phase	0.160	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC18	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC19	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC20	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC21	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC22	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC23	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC24	3-Phase	0.160	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
PC25	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC26	3-Phase	0.200	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
PC27	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC28	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC29	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC30	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC31	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC32	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC33	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC34	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000

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Transformer		Rating					Z Variation			% Tap Setting		Adjusted	Phase Shift	
ID	Phase	MVA	Prim. kV	Sec. kV	% Z1	X1/R1	+ 5%	- 5%	% Tol.	Prim.	Sec.	% Z	Type	Angle
PC35	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC36	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC37	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC38	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC39	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC40	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC41	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC42	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC43	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC44	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC45	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC46	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC47	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC48	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC49	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC50	3-Phase	0.050	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
PC_56 MAJU TAMBAK SUMUR	3-Phase	2.000	20.000	0.400	6.25	6.00	0	0	0	0	0	6.2500	Dyn	0.000
PC57	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC58	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC59	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC60	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC61	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC_62	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC_63	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC79	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC80	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC81	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC82	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC86	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC87	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC88	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC89	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC90	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC96	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC97	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC103	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000

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Transformer		Rating					Z Variation			% Tap Setting		Adjusted	Phase Shift	
ID	Phase	MVA	Prim. kV	Sec. kV	% Z1	X1/R1	+ 5%	- 5%	% Tol.	Prim.	Sec.	% Z	Type	Angle
PC104	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC105	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC153	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC154	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC155	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC164	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC165	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
PC166	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 008	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 09	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 010	3-Phase	0.200	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 11	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 38	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 40	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 45	3-Phase	0.250	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 49	3-Phase	0.025	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 61	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 62	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 75	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-KA 94	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 01	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 02	3-Phase	0.200	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 03	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 04	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 05	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 06	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 07	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 08	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 10	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 12	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 13	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 14	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 014	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 16	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 17	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 18	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000

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Transformer		Rating					Z Variation			% Tap Setting		Adjusted	Phase Shift	
ID	Phase	MVA	Prim. kV	Sec. kV	% Z1	X1/R1	+ 5%	- 5%	% Tol.	Prim.	Sec.	% Z	Type	Angle
T-PA 19	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 20	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 021	3-Phase	0.200	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 022	3-Phase	0.200	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PA 23	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 01	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 02	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 03	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 04	3-Phase	0.100	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 05	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 06	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 07	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 08	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 12	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 13	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 14	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 16	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 17	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 18	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 19	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 020	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 21	3-Phase	0.025	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 22	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 23	3-Phase	0.050	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PD 024	3-Phase	0.200	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T51	3-Phase	0.050	0.400	20.000	4.00	1.50	0	0	0	0	0	4.0000	YNd	0.000
T56	3-Phase	30.000	150.000	20.000	12.50	45.00	0	0	0	0	0	12.5000	Dyn	0.000
T187	3-Phase	0.200	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
T188	3-Phase	0.200	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
T189	3-Phase	0.200	20.000	0.400	4.00	3.09	0	0	0	0	0	4.0000	Dyn	0.000
Trafo #2	3-Phase	60.000	150.000	20.000	12.50	45.00	0	0	0	0	0	12.5000	Dyn	0.000

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Branch Connections

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
PC1	2W XFMR	P36	P37	769.76	2378.55	2500.00	
PC2	2W XFMR	P31	P32	1501.08	3707.66	4000.00	
PC3	2W XFMR	P23	P24	3002.16	7415.33	8000.00	
PC4	2W XFMR	P12	P13	769.76	2378.55	2500.00	
PC5	2W XFMR	P27	P28	1501.08	3707.66	4000.00	
PC_06	2W XFMR	AL3	AL4	41.85	297.07	300.00	
PC7	2W XFMR	AL1	AL2	3002.16	7415.33	8000.00	
PC8	2W XFMR	P6	P7	769.76	2378.55	2500.00	
PC9	2W XFMR	P4	P5	1501.08	3707.66	4000.00	
PC10	2W XFMR	P48	P47	6004.31	14830.65	16000.00	
PC11	2W XFMR	P56	P57	1501.08	3707.66	4000.00	
PC12	2W XFMR	P21	P22	6004.31	14830.65	16000.00	
PC13	2W XFMR	P10	P11	3002.16	7415.33	8000.00	
PC14	2W XFMR	P15	P16	3002.16	7415.33	8000.00	
PC15	2W XFMR	P49	P50	3002.16	7415.33	8000.00	
PC16	2W XFMR	P58	P59	3002.16	7415.33	8000.00	
PC17	2W XFMR	P19	P20	1386.75	2080.13	2500.00	
PC18	2W XFMR	P42	P43	3002.16	7415.33	8000.00	
PC19	2W XFMR	P38	P39	1501.08	3707.66	4000.00	
PC20	2W XFMR	P8	P9	1501.08	3707.66	4000.00	
PC21	2W XFMR	P17	P18	1501.08	3707.66	4000.00	
PC22	2W XFMR	P25	P26	1501.08	3707.66	4000.00	
PC23	2W XFMR	P29	P30	1501.08	3707.66	4000.00	
PC24	2W XFMR	P54	P55	769.76	2378.55	2500.00	
PC25	2W XFMR	P60	P61	3002.16	7415.33	8000.00	
PC26	2W XFMR	P62	P63	615.80	1902.84	2000.00	
PC27	2W XFMR	P45	P46	1501.08	3707.66	4000.00	
PC28	2W XFMR	P52	P53	1501.08	3707.66	4000.00	
PC29	2W XFMR	P40	P41	1501.08	3707.66	4000.00	
PC30	2W XFMR	AL5	AL6	1501.08	3707.66	4000.00	
PC31	2W XFMR	AL7	AL8	3002.16	7415.33	8000.00	
PC32	2W XFMR	AL9	AL10	3002.16	7415.33	8000.00	
PC33	2W XFMR	AL11	AL38	1501.08	3707.66	4000.00	
PC34	2W XFMR	AL39	AL14	1501.08	3707.66	4000.00	
PC35	2W XFMR	AL15	AL16	1501.08	3707.66	4000.00	
PC36	2W XFMR	AL18	AL17	1501.08	3707.66	4000.00	
PC37	2W XFMR	AL19	AL20	3002.16	7415.33	8000.00	

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PC38	2W XFMR	AL21	AL22	1501.08	3707.66	4000.00	
PC39	2W XFMR	AL23	AL24	1501.08	3707.66	4000.00	
PC40	2W XFMR	AL26	AL27	3002.16	7415.33	8000.00	
PC41	2W XFMR	AL29	AL30	1501.08	3707.66	4000.00	
PC42	2W XFMR	AL28	AL31	1501.08	3707.66	4000.00	
PC43	2W XFMR	AL32	AL34	3002.16	7415.33	8000.00	
PC44	2W XFMR	AL35	AL36	1501.08	3707.66	4000.00	
PC45	2W XFMR	P34	P35	1501.08	3707.66	4000.00	
PC46	2W XFMR	P64	P65	1501.08	3707.66	4000.00	
PC47	2W XFMR	P73	P74	1501.08	3707.66	4000.00	
PC48	2W XFMR	P67	P68	1501.08	3707.66	4000.00	
PC49	2W XFMR	P69	P70	3002.16	7415.33	8000.00	
PC50	2W XFMR	P71	P72	3002.16	7415.33	8000.00	
PC_56 MAJU TAMBAK SUMUR	2W XFMR	P177	P168	51.37	308.25	312.50	
PC57	2W XFMR	P90	P91	4437.60	6656.40	8000.00	
PC58	2W XFMR	P88	P89	4437.60	6656.40	8000.00	
PC59	2W XFMR	P94	P95	4437.60	6656.40	8000.00	
PC60	2W XFMR	P96	P97	4437.60	6656.40	8000.00	
PC61	2W XFMR	P98	P99	4437.60	6656.40	8000.00	
PC_62	2W XFMR	P86	P87	4437.60	6656.40	8000.00	
PC_63	2W XFMR	P130	P131	4437.60	6656.40	8000.00	
PC79	2W XFMR	P134	P135	4437.60	6656.40	8000.00	
PC80	2W XFMR	P76	P77	4437.60	6656.40	8000.00	
PC81	2W XFMR	P136	P137	4437.60	6656.40	8000.00	
PC82	2W XFMR	P138	P139	4437.60	6656.40	8000.00	
PC86	2W XFMR	P80	P81	4437.60	6656.40	8000.00	
PC87	2W XFMR	P126	P127	4437.60	6656.40	8000.00	
PC88	2W XFMR	P128	P129	4437.60	6656.40	8000.00	
PC89	2W XFMR	P132	P133	4437.60	6656.40	8000.00	
PC90	2W XFMR	P92	P93	4437.60	6656.40	8000.00	
PC96	2W XFMR	P173	P172	4437.60	6656.40	8000.00	
PC97	2W XFMR	P182	P183	4437.60	6656.40	8000.00	
PC103	2W XFMR	P180	P165	4437.60	6656.40	8000.00	
PC104	2W XFMR	P179	P166	4437.60	6656.40	8000.00	
PC105	2W XFMR	P178	P167	4437.60	6656.40	8000.00	
PC153	2W XFMR	P181	P164	4437.60	6656.40	8000.00	
PC154	2W XFMR	P186	P187	4437.60	6656.40	8000.00	
PC155	2W XFMR	P190	P191	4437.60	6656.40	8000.00	
PC164	2W XFMR	P142	P143	4437.60	6656.40	8000.00	

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PC165	2W XFMR	P84	P85	4437.60	6656.40	8000.00	
PC166	2W XFMR	P82	P83	4437.60	6656.40	8000.00	
T-KA 008	2W XFMR	P103	P102	1501.08	3707.66	4000.00	
T-KA 09	2W XFMR	P115	P114	4437.60	6656.40	8000.00	
T-KA 010	2W XFMR	P121	P120	1109.40	1664.10	2000.00	
T-KA 11	2W XFMR	P141	P140	1501.08	3707.66	4000.00	
T-KA 38	2W XFMR	P117	P116	4437.60	6656.40	8000.00	
T-KA 40	2W XFMR	P123	P122	4437.60	6656.40	8000.00	
T-KA 45	2W XFMR	P119	P118	887.52	1331.28	1600.00	
T-KA 49	2W XFMR	P107	P106	8875.20	13312.80	16000.00	
T-KA 61	2W XFMR	P147	P146	4437.60	6656.40	8000.00	
T-KA 62	2W XFMR	P149	P148	4437.60	6656.40	8000.00	
T-KA 75	2W XFMR	P151	P150	4437.60	6656.40	8000.00	
T-KA 94	2W XFMR	P109	P108	4437.60	6656.40	8000.00	
T-PA 01	2W XFMR	P159	P158	4437.60	6656.40	8000.00	
T-PA 02	2W XFMR	P163	P162	1109.40	1664.10	2000.00	
T-PA 03	2W XFMR	P234	P235	4437.60	6656.40	8000.00	
T-PA 04	2W XFMR	P196	P189	4437.60	6656.40	8000.00	
T-PA 05	2W XFMR	P262	P261	4437.60	6656.40	8000.00	
T-PA 06	2W XFMR	P194	P193	4437.60	6656.40	8000.00	
T-PA 07	2W XFMR	P201	P200	1501.08	3707.66	4000.00	
T-PA 08	2W XFMR	P211	P208	4437.60	6656.40	8000.00	
T-PA 10	2W XFMR	P210	P209	4437.60	6656.40	8000.00	
T-PA 12	2W XFMR	P222	P221	4437.60	6656.40	8000.00	
T-PA 13	2W XFMR	P197	P188	4437.60	6656.40	8000.00	
T-PA 14	2W XFMR	P203	P202	1501.08	3707.66	4000.00	
T-PA 014	2W XFMR	P233	P232	4437.60	6656.40	8000.00	
T-PA 16	2W XFMR	P157	P156	4437.60	6656.40	8000.00	
T-PA 17	2W XFMR	P155	P154	4437.60	6656.40	8000.00	
T-PA 18	2W XFMR	P153	P152	4437.60	6656.40	8000.00	
T-PA 19	2W XFMR	P195	P192	4437.60	6656.40	8000.00	
T-PA 20	2W XFMR	P223	P220	4437.60	6656.40	8000.00	
T-PA 021	2W XFMR	P215	P214	1109.40	1664.10	2000.00	
T-PA 022	2W XFMR	P227	P226	1109.40	1664.10	2000.00	
T-PA 23	2W XFMR	P263	P260	4437.60	6656.40	8000.00	
T-PD 01	2W XFMR	P255	P254	4437.60	6656.40	8000.00	
T-PD 02	2W XFMR	P269	P268	4437.60	6656.40	8000.00	
T-PD 03	2W XFMR	P292	P293	4437.60	6656.40	8000.00	
T-PD 04	2W XFMR	P312	P313	2218.80	3328.20	4000.00	

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T-PD 05	2W XFMR	P316	P317	4437.60	6656.40	8000.00	
T-PD 06	2W XFMR	P251	P250	4437.60	6656.40	8000.00	
T-PD 07	2W XFMR	P298	P299	4437.60	6656.40	8000.00	
T-PD 08	2W XFMR	P243	P242	4437.60	6656.40	8000.00	
T-PD 12	2W XFMR	P253	P252	4437.60	6656.40	8000.00	
T-PD 13	2W XFMR	P305	P304	1501.08	3707.66	4000.00	
T-PD 14	2W XFMR	P328	P329	4437.60	6656.40	8000.00	
T-PD 16	2W XFMR	P326	P325	4437.60	6656.40	8000.00	
T-PD 17	2W XFMR	P273	P272	4437.60	6656.40	8000.00	
T-PD 18	2W XFMR	P283	P282	4437.60	6656.40	8000.00	
T-PD 19	2W XFMR	P267	P266	4437.60	6656.40	8000.00	
T-PD 020	2W XFMR	P314	P315	4437.60	6656.40	8000.00	
T-PD 21	2W XFMR	P247	P246	8875.20	13312.80	16000.00	
T-PD 22	2W XFMR	P296	P297	4437.60	6656.40	8000.00	
T-PD 23	2W XFMR	P327	P324	4437.60	6656.40	8000.00	
T-PD 024	2W XFMR	P239	P238	1109.40	1664.10	2000.00	
T51	2W XFMR	Bus97	Bus37	4437.60	6656.40	8000.00	
T56	2W XFMR	Bus122	Bus121	0.93	41.66	41.67	
T187	2W XFMR	Bus429	Bus428	615.80	1902.84	2000.00	
T188	2W XFMR	Bus431	Bus430	615.80	1902.84	2000.00	
T189	2W XFMR	Bus432	Bus433	615.80	1902.84	2000.00	
Trafo #2	2W XFMR	Bus24-1	Bus25-1	0.46	20.83	20.83	
Cable13	Cable	AL32	Bus432	8.06	6.25	10.20	
Cable14	Cable	Bus432	Bus429	8.06	6.25	10.20	
Cable15	Cable	Bus432	Bus431	8.06	6.25	10.20	
Outgoing	Cable	Bus25-1	TL1	0.04	0.07	0.09	
SKTM_AL	Cable	AL1	AL3	0.00	0.00	0.00	
SKTM_AL2	Cable	AL3	P173	0.00	0.00	0.00	
SKTM_AL4	Cable	P173	P181	0.00	0.00	0.00	
line	Line	P49	P48	2.48	4.13	4.82	
line1	Line	P42	P38	3.97	6.61	7.71	
Line1	Line	Bus1	Bus2	89.27	148.73	173.46	
Line1-1	Line	P2	P3	12.40	20.66	24.09	
Line1-2	Line	P10	AL1	2.25	3.75	4.38	
line2	Line	P44	P42	2.48	4.13	4.82	
Line2	Line	P3	P4	9.92	16.53	19.27	
Line2-2	Line	AL5	P181	2.25	3.75	4.38	
Line3	Line	P3	P6	7.44	12.39	14.45	
Line3-2	Line	AL5	P186	2.25	3.75	4.38	

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ID	Type	From Bus	To Bus	R	X	Z	Y
Line4-1	Line	AL7	P186	2.25	3.75	4.38	
Line5	Line	P8	P6	2.48	4.13	4.82	
Line5-2	Line	AL9	AL11	2.25	3.75	4.38	
Line6	Line	P36	P76	2.98	4.96	5.78	
Line6-2	Line	AL39	AL11	2.25	3.75	4.38	
Line7	Line	P10	P8	2.48	4.13	4.82	
Line7-2	Line	AL15	AL39	2.25	3.75	4.38	
Line8-2	Line	AL15	AL18	2.25	3.75	4.38	
Line9	Line	P12	P10	4.96	8.26	9.64	
Line9-2	Line	AL18	AL19	2.25	3.75	4.38	
Line10	Line	P132	P128	2.98	4.96	5.78	
Line10-2	Line	AL21	AL19	2.25	3.75	4.38	
Line11	Line	P14	P12	4.96	8.26	9.64	
Line11-2	Line	AL23	AL21	2.25	3.75	4.38	
Line12	Line	P130	P134	2.98	4.96	5.78	
Line12-2	Line	AL26	AL23	2.25	3.75	4.38	
Line13	Line	P14	P15	3.47	5.78	6.75	
Line13-2	Line	AL28	AL25	2.25	3.75	4.38	
Line14	Line	P14	P19	9.92	16.53	19.27	
Line14-2	Line	AL29	AL25	2.25	3.75	4.38	
Line15	Line	P21	P14	7.44	12.39	14.45	
Line15-2	Line	AL25	AL23	2.25	3.75	4.38	
Line16	Line	P17	P14	9.92	16.53	19.27	
Line16-2	Line	AL32	AL28	2.25	3.75	4.38	
Line17-2	Line	AL35	AL32	2.25	3.75	4.38	
Line18	Line	P98	P80	2.98	4.96	5.78	
Line20	Line	P25	P23	4.96	8.26	9.64	
Line21	Line	Bus2	P2	4.96	8.26	9.64	
Line22	Line	P86	P84	2.98	4.96	5.78	
Line23	Line	P29	P27	4.96	8.26	9.64	
Line24	Line	P27	P25	7.44	12.39	14.45	
Line25	Line	P31	P29	4.96	8.26	9.64	
Line26	Line	P88	P96	2.98	4.96	5.78	
Line27	Line	P33	P31	3.72	6.20	7.23	
Line28	Line	P33	P34	3.47	5.78	6.75	
Line29	Line	P36	P33	3.72	6.20	7.23	
Line30	Line	P90	P94	2.98	4.96	5.78	
Line31	Line	P60	P36	4.96	8.26	9.64	
Line32	Line	P103	Bus121	2.94	4.17	5.10	0.0006345

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Line33	Line	P60	P62	2.48	4.13	4.82	
Line34	Line	P62	P64	4.96	8.26	9.64	
Line35	Line	P64	P66	1.24	2.07	2.41	
Line36	Line	P126	P130	2.98	4.96	5.78	
Line37	Line	P128	P130	2.98	4.96	5.78	
Line38	Line	P67	P66	1.24	2.07	2.41	
Line39	Line	P66	P73	2.48	4.13	4.82	
Line40	Line	P69	P67	4.96	8.26	9.64	
Line41	Line	P71	P69	2.98	4.96	5.78	
Line42	Line	P38	P36	2.98	4.96	5.78	
Line43	Line	P38	P40	4.96	8.26	9.64	
Line44	Line	P84	P82	2.98	4.96	5.78	
Line45	Line	P136	P138	2.98	4.96	5.78	
Line46	Line	P44	P45	4.96	8.26	9.64	
Line47	Line	P96	P98	2.98	4.96	5.78	
Line48	Line	P92	P90	2.98	4.96	5.78	
Line49	Line	P48	P44	3.47	5.78	6.75	
Line50	Line	P58	P49	6.94	11.57	13.49	
Line51	Line	P51	P52	7.44	12.39	14.45	
Line52	Line	P54	P51	2.48	4.13	4.82	
Line53	Line	P51	P49	2.98	4.96	5.78	
Line54	Line	P56	P54	2.48	4.13	4.82	
Line55	Line	P134	P98	2.98	4.96	5.78	
Line56	Line	P94	P88	2.98	4.96	5.78	
Line57	Line	P98	P86	2.98	4.96	5.78	
Line58	Line	P76	P92	2.98	4.96	5.78	
Line60	Line	P94	P136	2.98	4.96	5.78	
Line61	Line	P107	P109	1.38	1.96	2.40	0.0002983
Line62	Line	P136	P142	2.98	4.96	5.78	
Line63	Line	P109	P115	1.44	2.04	2.49	0.0003100
Line64	Line	P115	P117	4.72	6.69	8.19	0.0010187
Line65	Line	P117	Bus123	1.12	1.59	1.94	0.0002416
Line66	Line	Bus123	P121	0.99	1.40	1.72	0.0002139
Line67	Line	Bus123	P119	8.53	6.21	10.55	0.0008835
Line68	Line	P121	Bus124	2.53	3.58	4.39	0.0005457
Line70	Line	Bus124	Bus126	3.71	5.26	6.43	0.0008004
Line71	Line	Bus126	P141	6.56	4.78	8.11	0.0006796
Line72	Line	P141	P147	3.34	4.73	5.79	0.0007203
Line73	Line	P147	P149	4.04	5.73	7.02	0.0008732

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Line74	Line	P151	P153	14.15	20.07	24.56	0.0030560
Line75	Line	P153	P155	5.39	7.64	9.36	0.0011642
Line76	Line	P178	P177	2.98	4.96	5.78	
Line77	Line	P179	P178	2.98	4.96	5.78	
Line78	Line	P180	P179	2.98	4.96	5.78	
Line79	Line	P182	P180	2.98	4.96	5.78	
Line80	Line	P155	P157	25.95	36.79	45.02	0.0056027
Line81	Line	P157	P159	5.73	8.12	9.94	0.0012370
Line82	Line	AL7	P190	2.98	4.96	5.78	
Line84	Line	P190	P182	2.98	4.96	5.78	
Line86	Line	P177	AL9	2.98	4.96	5.78	
Line160	Line	P132	Bus37	63.97	106.59	124.31	
Line161	Line	Bus128	Bus129	7.87	5.73	9.74	0.0008155
Line162	Line	Bus129	P215	11.81	8.60	14.61	0.0012232
Line164	Line	P223	P222	5.04	3.67	6.23	0.0005219
Line166	Line	P222	Bus130	12.59	9.17	15.58	0.0013048
Line168	Line	Bus130	P227	3.87	2.82	4.79	0.0004010
Line170	Line	P234	P233	13.77	10.03	17.04	0.0014271
Line171	Line	Bus130	P234	9.18	6.69	11.36	0.0009514
Line172	Line	P233	Bus137	4.83	3.52	5.97	0.0005002
Line174	Line	Bus131	P239	1.98	1.44	2.45	0.0002052
Line175	Line	Bus131	P243	0.94	0.69	1.17	0.0000979
Line176	Line	P243	P247	20.99	15.29	25.97	0.0021747
Line177	Line	P247	P251	8.66	6.31	10.71	0.0008970
Line178	Line	P251	P253	2.16	1.58	2.68	0.0002243
Line179	Line	P253	P255	4.26	3.11	5.27	0.0004417
Line181	Line	P103	P107	1.16	1.64	2.01	0.0002503
Line183	Line	Bus124	P123	2.53	3.58	4.39	0.0005457
Line184	Line	P149	Bus134	0.94	1.34	1.64	0.0002037
Line185	Line	Bus134	P151	10.45	14.81	18.13	0.0022556
Line187	Line	P159	Bus128	1.69	2.39	2.92	0.0003638
Line190	Line	Bus128	P163	3.37	4.78	5.85	0.0007276
Line191	Line	P163	P197	5.06	7.17	8.77	0.0010914
Line193	Line	P197	P196	0.83	1.18	1.44	0.0001790
Line196	Line	P196	Bus135	2.19	3.11	3.80	0.0004730
Line198	Line	P263	P262	2.72	3.85	4.71	0.0005865
Line200	Line	Bus135	P263	2.19	3.11	3.80	0.0004730
Line202	Line	P262	P195	4.72	6.69	8.19	0.0010187
Line204	Line	P195	P194	4.72	6.69	8.19	0.0010187

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Line206	Line	P194	P201	3.20	4.54	5.55	0.0006912
Line208	Line	P201	P203	0.86	1.22	1.50	0.0001863
Line210	Line	P203	P211	4.38	6.21	7.60	0.0009459
Line212	Line	P211	P210	7.08	10.03	12.28	0.0015280
Line214	Line	P210	Bus136	12.13	17.20	21.05	0.0026195
Line216	Line	Bus129	P223	3.28	2.39	4.06	0.0003398
Line218	Line	Bus137	Bus131	3.10	2.26	3.83	0.0003208
Line219	Line	Bus139	P255	13.12	9.56	16.23	0.0013592
Line221	Line	P255	P267	1.78	1.30	2.21	0.0001848
Line223	Line	P267	P269	3.69	2.69	4.56	0.0003819
Line225	Line	P269	Bus138	5.48	3.99	6.78	0.0005681
Line227	Line	Bus138	P273	22.30	16.25	27.59	0.0023106
Line229	Line	P273	P277	5.67	4.13	7.01	0.0005872
Line231	Line	P292	Bus139	13.12	9.56	16.23	0.0013592
Line233	Line	P277	P286	5.85	4.26	7.24	0.0006062
Line235	Line	P286	P288	5.85	4.26	7.24	0.0006062
Line237	Line	P288	P283	3.08	2.25	3.81	0.0003194
Line239	Line	P283	P138	164.89	120.12	204.00	0.0170847
Line241	Line	P292	P296	11.81	8.60	14.61	0.0012232
Line243	Line	P296	P298	5.35	3.90	6.62	0.0005545
Line245	Line	P298	P305	4.01	2.92	4.97	0.0004159
Line247	Line	P305	P312	2.14	1.56	2.65	0.0002215
Line249	Line	P312	P314	22.30	16.25	27.59	0.0023106
Line251	Line	P314	P316	4.93	3.59	6.10	0.0005110
Line254	Line	P327	P326	16.40	11.95	20.29	0.0016990
Line255	Line	P328	P327	3.07	2.24	3.80	0.0003180
Line257	Line	P316	P328	9.18	6.69	11.36	0.0009514
P_Cuaca	Line	Bus1	TL1	0.52	0.86	1.00	
LBS KAMPUNG BARU	Tie Switch	P123	Bus125				

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LOAD FLOW REPORT

Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
AL1	20.000	98.535	-4.7	0	0	0.000	-3.107	AL3	2.714	1.800	95.4	83.3	
								P10	-2.724	1.301	88.4	-90.2	
								AL2	0.011	0.007	0.4	84.7	
AL2	0.400	97.717	-5.0	0	0	0.010	0.007	AL1	-0.010	-0.007	18.2	85.0	
AL3	20.000	98.535	-4.7	0	0	0	0	AL1	-2.714	-1.800	95.4	83.3	
								P173	2.201	1.471	77.6	83.1	
								AL4	0.513	0.328	17.8	84.2	
AL4	0.400	97.338	-5.5	0	0	0.511	0.317	AL3	-0.511	-0.317	891.8	85.0	
AL5	20.000	98.432	-4.7	0	0	0	0	P181	-2.125	-1.422	75.0	83.1	
								P186	2.097	1.404	74.0	83.1	
								AL6	0.028	0.018	1.0	84.6	
AL6	0.400	97.327	-5.2	0	0	0.028	0.017	AL5	-0.028	-0.017	49.2	85.0	
AL7	20.000	98.231	-4.8	0	0	0	0	P186	-2.057	-1.375	72.7	83.1	
								P190	2.028	1.357	71.7	83.1	
								AL8	0.029	0.018	1.0	84.1	
AL8	0.400	95.983	-5.7	0	0	0.028	0.017	AL7	-0.028	-0.017	49.9	85.0	
AL9	20.000	97.451	-5.0	0	0	0	0	AL11	0.552	0.358	19.5	83.9	
								P177	-0.558	-0.362	19.7	83.9	
								AL10	0.006	0.004	0.2	84.8	
AL10	0.400	96.954	-5.2	0	0	0.006	0.004	AL9	-0.006	-0.004	11.1	85.0	
AL11	20.000	97.425	-5.0	0	0	0	0	AL9	-0.552	-0.358	19.5	83.9	
								AL39	0.538	0.350	19.0	83.9	
								AL38	0.014	0.008	0.5	84.8	
AL14	0.400	97.029	-5.2	0	0	0.009	0.006	AL39	-0.009	-0.006	16.5	85.0	
AL15	20.000	97.373	-5.0	0	0	0	0	AL39	-0.529	-0.343	18.7	83.9	
								AL18	0.514	0.334	18.2	83.8	
								AL16	0.015	0.009	0.5	84.8	
AL16	0.400	96.795	-5.3	0	0	0.015	0.009	AL15	-0.015	-0.009	25.8	85.0	
AL17	0.400	96.793	-5.3	0	0	0.014	0.009	AL18	-0.014	-0.009	24.8	85.0	
AL18	20.000	97.349	-5.0	0	0	0	0	AL15	-0.514	-0.334	18.2	83.8	
								AL19	0.500	0.325	17.7	83.8	
								AL17	0.014	0.009	0.5	84.8	
AL19	20.000	97.325	-5.0	0	0	0	0	AL18	-0.500	-0.325	17.7	83.8	
								AL21	0.495	0.322	17.5	83.8	
								AL20	0.004	0.003	0.1	84.9	
AL20	0.400	97.006	-5.2	0	0	0.004	0.003	AL19	-0.004	-0.003	7.1	85.0	

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Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
AL21	20.000	97.301	-5.0	0	0	0	0	AL19	-0.495	-0.322	17.5	83.8	
								AL23	0.486	0.316	17.2	83.8	
								AL22	0.010	0.006	0.3	84.8	
AL22	0.400	96.919	-5.2	0	0	0.010	0.006	AL21	-0.010	-0.006	17.0	85.0	
AL23	20.000	97.277	-5.0	0	0	0	0	AL21	-0.486	-0.316	17.2	83.8	
								AL26	0.003	0.002	0.1	84.9	
								AL25	0.471	0.307	16.7	83.8	
AL24	0.400	96.843	-5.2	0	0	0.011	0.007	AL24	0.011	0.007	0.4	84.8	
								AL23	-0.011	-0.007	19.4	85.0	
								AL28	0.465	0.303	16.5	83.8	
AL25	20.000	97.254	-5.1	0	0	0	0	AL29	0.006	0.004	0.2	84.9	
								AL23	-0.471	-0.307	16.7	83.8	
								AL23	-0.003	-0.002	0.1	84.9	
AL26	20.000	97.277	-5.0	0	0	0	0	AL27	0.003	0.002	0.1	84.9	
								AL26	-0.003	-0.002	6.0	85.0	
								AL25	-0.464	-0.303	16.5	83.8	
AL27	0.400	97.008	-5.2	0	0	0.003	0.002	AL32	0.453	0.296	16.1	83.7	
								AL31	0.011	0.007	0.4	84.8	
								AL25	-0.006	-0.004	0.2	84.9	
AL28	20.000	97.232	-5.1	0	0	0	0	AL30	0.006	0.004	0.2	84.9	
								AL29	-0.006	-0.004	11.2	85.0	
								AL28	-0.011	-0.007	19.9	85.0	
AL29	20.000	97.254	-5.1	0	0	0	0	Bus432	0.439	0.287	15.6	83.7	
								AL28	-0.453	-0.296	16.1	83.7	
								AL35	0.008	0.005	0.3	84.9	
AL30	0.400	97.002	-5.2	0	0	0.006	0.004	AL34	0.007	0.004	0.2	84.8	
								AL32	-0.007	-0.004	11.5	85.0	
								AL32	-0.008	-0.005	0.3	84.9	
AL31	0.400	96.787	-5.3	0	0	0.011	0.007	AL36	0.008	0.005	0.3	84.9	
								AL35	-0.008	-0.005	13.9	85.0	
								AL11	-0.013	-0.008	23.6	85.0	
AL32	20.000	97.210	-5.1	0	0	0	0	AL11	-0.538	-0.349	19.0	83.9	
								AL15	0.529	0.344	18.7	83.9	
								AL14	0.009	0.006	0.3	84.9	
AL33	0.400	96.694	-5.3	0	0	0.007	0.004	Bus2	3.123	-0.916	93.8	-96.0	
								TL1	-3.123	0.916	93.8	-96.0	
								Bus1	-3.029	1.073	93.8	-94.3	
AL34	20.000	97.210	-5.1	0	0	0	0	P2	3.029	-1.073	93.8	-94.3	
								Bus25-1	3.124	-0.893	12.5	-96.2	
* Bus24-1	150.000	100.000	0.0	3.124	-0.893	0	0						

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Bus		Voltage		Generation		Load		Load Flow						XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap	
Bus25-1	20.000	100.174	-0.4	0	0	0	0	TL1	3.124	-0.915	93.8	-96.0		
								Bus24-1	-3.124	0.915	93.8	-96.0		
Bus37	20.000	97.813	-5.4	0	0	0	0	P132	-0.015	-0.010	0.5	84.7		
								Bus97	0.015	0.010	0.5	84.7		
Bus97	0.400	96.472	-5.8	0	0	0.015	0.009	Bus37	-0.015	-0.009	26.6	85.0		
Bus121	20.000	100.064	-0.5	0	0	0	0	P103	2.167	-0.211	62.8	-99.5		
								Bus122	-2.167	0.211	62.8	-99.5		
* Bus122	150.000	100.000	0.0	2.167	-0.191	0	0	Bus121	2.167	-0.191	8.4	-99.6		
Bus123	20.000	99.836	-0.8	0	0	0	0	P117	-2.085	0.264	60.8	-99.2		
								P121	1.972	-0.335	57.8	-98.6		
								P119	0.113	0.070	3.8	84.8		
Bus124	20.000	99.787	-0.8	0	0	0	0	P121	-1.900	0.380	56.1	-98.1		
								Bus126	1.885	-0.389	55.7	-97.9		
								P123	0.015	0.009	0.5	86.0		
Bus125	20.000	99.786	-0.8	0	0	0	0	P123	0.000	0.000	0.0	0.0		
Bus126	20.000	99.737	-0.9	0	0	0	0	Bus124	-1.884	0.390	55.7	-97.9		
								P141	1.884	-0.390	55.7	-97.9		
Bus128	20.000	98.784	-2.2	0	0	0	0	Bus129	1.498	-0.626	47.4	-92.3		
								P159	-1.747	0.480	52.9	-96.4		
								P163	0.249	0.146	8.4	86.3		
Bus129	20.000	98.701	-2.3	0	0	0	0	Bus128	-1.496	0.627	47.4	-92.2		
								P215	0.066	0.041	2.3	85.3		
								P223	1.430	-0.667	46.1	-90.6		
Bus130	20.000	98.509	-2.5	0	0	0	0	P222	-1.394	0.688	45.6	-89.7		
								P227	0.091	0.057	3.1	84.7		
								P234	1.303	-0.745	44.0	-86.8		
Bus131	20.000	98.277	-2.8	0	0	0	0	P239	0.074	0.046	2.6	84.7		
								P243	1.195	-0.811	42.4	-82.7		
								Bus137	-1.269	0.764	43.5	-85.7		
Bus134	20.000	99.527	-1.1	0	0	0	0	P149	-1.828	0.426	54.4	-97.4		
								P151	1.828	-0.426	54.4	-97.4		
Bus135	20.000	98.747	-2.2	0	0	0	0	P196	-0.127	-0.071	4.3	87.3		
								P263	0.127	0.071	4.3	87.3		
Bus136	20.000	98.710	-2.2	0	0	0	0	P210	0.000	0.000	0.0	0.0		
Bus137	20.000	98.299	-2.8	0	0	0	0	P233	-1.269	0.764	43.5	-85.7		
								Bus131	1.269	-0.764	43.5	-85.7		
Bus138	20.000	98.050	-3.3	0	0	0	0	P269	-0.891	0.988	39.2	-67.0		
								P273	0.891	-0.988	39.2	-67.0		
Bus139	20.000	98.034	-3.2	0	0	0	0	P255	-0.189	-0.110	6.4	86.4		

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Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								P292	0.189	0.110	6.4	86.4	
Bus428	0.400	94.390	-6.4	0	0	0.143	0.089	Bus429	-0.143	-0.089	257.2	85.0	
Bus429	20.000	97.137	-5.1	0	0	0	0	Bus432	-0.145	-0.095	5.1	83.7	
								Bus428	0.145	0.095	5.1	83.7	
Bus430	0.400	94.325	-6.5	0	0	0.146	0.091	Bus431	-0.146	-0.091	263.3	85.0	
Bus431	20.000	97.137	-5.1	0	0	0	0	Bus432	-0.148	-0.097	5.3	83.7	
								Bus430	0.148	0.097	5.3	83.7	
Bus432	20.000	97.155	-5.1	0	0	0	0	AL32	-0.438	-0.286	15.6	83.7	
								Bus429	0.145	0.095	5.1	83.7	
								Bus431	0.148	0.097	5.3	83.7	
								Bus433	0.145	0.095	5.1	83.7	
Bus433	0.400	94.409	-6.4	0	0	0.143	0.089	Bus432	-0.143	-0.089	257.2	85.0	
P2	20.000	98.830	-3.7	0	0	0	0	P3	3.024	-1.082	93.8	-94.2	
								Bus2	-3.024	1.082	93.8	-94.2	
P3	20.000	98.679	-4.2	0	0	0	0	P2	-3.011	1.103	93.8	-93.9	
								P4	0.030	0.019	1.0	84.5	
								P6	2.981	-1.122	93.2	-93.6	
P4	20.000	98.673	-4.2	0	0	0	0	P3	-0.030	-0.019	1.0	84.5	
								P5	0.030	0.019	1.0	84.5	
P5	0.400	97.513	-4.7	0	0	0.030	0.018	P4	-0.030	-0.018	51.7	85.0	
P6	20.000	98.597	-4.4	0	0	0	0	P3	-2.973	1.135	93.2	-93.4	
								P8	2.930	-1.162	92.3	-93.0	
								P7	0.043	0.027	1.5	84.6	
P7	0.400	97.616	-4.9	0	0	0.043	0.026	P6	-0.043	-0.026	74.0	85.0	
P8	20.000	98.572	-4.5	0	0	0	0	P6	-2.928	1.166	92.3	-92.9	
								P10	2.914	-1.175	92.0	-92.7	
								P9	0.014	0.009	0.5	84.8	
P9	0.400	98.025	-4.8	0	0	0.014	0.009	P8	-0.014	-0.009	24.4	85.0	
P10	20.000	98.548	-4.6	0	0	0	0	AL1	2.726	-1.297	88.4	-90.3	
								P8	-2.911	1.179	92.0	-92.7	
								P12	0.157	0.100	5.5	84.4	
								P11	0.028	0.018	1.0	84.1	
P11	0.400	96.367	-5.5	0	0	0.027	0.017	P10	-0.027	-0.017	48.5	85.0	
P12	20.000	98.532	-4.6	0	0	0	0	P10	-0.157	-0.100	5.5	84.4	
								P14	0.105	0.067	3.6	84.4	
								P13	0.053	0.033	1.8	84.5	
P13	0.400	97.323	-5.2	0	0	0.052	0.032	P12	-0.052	-0.032	91.1	85.0	
P14	20.000	98.521	-4.6	0	0	0	0	P12	-0.105	-0.067	3.6	84.4	
								P15	0.023	0.015	0.8	84.3	

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Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P15	20.000	98.519	-4.6	0	0	0	0	P19	0.025	0.016	0.9	84.8	
								P21	0.016	0.010	0.5	84.0	
								P17	0.041	0.026	1.4	84.4	
								P14	-0.023	-0.015	0.8	84.3	
								P16	0.023	0.015	0.8	84.3	
P16	0.400	96.731	-5.4	0	0	0.023	0.014	P15	-0.023	-0.014	39.8	85.0	
P17	20.000	98.512	-4.6	0	0	0	0	P14	-0.041	-0.026	1.4	84.4	
P18	0.400	96.916	-5.3	0	0	0.041	0.025	P18	0.041	0.026	1.4	84.4	
								P17	-0.041	-0.025	71.0	85.0	
								P14	-0.025	-0.016	0.9	84.8	
P19	20.000	98.515	-4.6	0	0	0	0	P20	0.025	0.016	0.9	84.8	
P20	0.400	97.828	-4.8	0	0	0.025	0.016	P19	-0.025	-0.016	43.6	85.0	
P21	20.000	98.518	-4.6	0	0	0	0	P14	-0.016	-0.010	0.5	84.0	
P22	0.400	96.051	-5.7	0	0	0.015	0.010	P22	0.016	0.010	0.5	84.0	
								P21	-0.015	-0.010	27.4	85.0	
								P25	-0.025	-0.016	0.9	84.2	
P23	20.000	97.986	-5.5	0	0	0	0	P24	0.025	0.016	0.9	84.2	
P24	0.400	95.996	-6.4	0	0	0.025	0.015	P23	-0.025	-0.015	44.2	85.0	
P25	20.000	97.989	-5.5	0	0	0	0	P23	0.025	0.016	0.9	84.2	
P26	0.400	96.853	-6.0	0	0	0.029	0.018	P27	-0.054	-0.035	1.9	84.4	
								P26	0.029	0.018	1.0	84.6	
								P25	-0.029	-0.018	50.6	85.0	
								P29	-0.084	-0.053	2.9	84.4	
								P25	0.054	0.035	1.9	84.4	
P27	20.000	97.997	-5.5	0	0	0	0	P28	0.029	0.019	1.0	84.5	
P28	0.400	96.850	-6.0	0	0	0.029	0.018	P27	-0.029	-0.018	51.1	85.0	
P29	20.000	98.006	-5.5	0	0	0	0	P27	0.084	0.053	2.9	84.4	
P30	0.400	96.779	-6.1	0	0	0.031	0.019	P31	-0.115	-0.073	4.0	84.5	
								P30	0.031	0.020	1.1	84.5	
								P29	-0.031	-0.019	54.7	85.0	
								P29	0.115	0.073	4.0	84.5	
								P33	-0.160	-0.101	5.6	84.4	
P32	0.400	96.264	-6.3	0	0	0.044	0.027	P32	0.045	0.029	1.6	84.3	
								P31	-0.044	-0.027	78.1	85.0	
								P31	0.160	0.101	5.6	84.4	
P33	20.000	98.030	-5.5	0	0	0	0	P34	0.004	0.002	0.1	84.9	
P34	20.000	98.030	-5.5	0	0	0	0	P36	-0.164	-0.104	5.7	84.4	
								P33	-0.004	-0.002	0.1	84.9	
								P35	0.004	0.002	0.1	84.9	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P35	0.400	97.875	-5.6	0	0	0.004	0.002	P34	-0.004	-0.002	6.9	85.0	
P36	20.000	98.043	-5.5	0	0	0.000	-1.538	P76	-0.558	1.184	38.5	-42.7	
								P33	0.164	0.104	5.7	84.4	
								P60	0.102	0.064	3.6	84.7	
								P38	0.205	0.130	7.2	84.4	
								P37	0.087	0.056	3.0	84.1	
P37	0.400	96.018	-6.5	0	0	0.086	0.053	P36	-0.086	-0.053	152.2	85.0	
P38	20.000	98.030	-5.5	0	0	0	0	P42	0.163	0.103	5.7	84.4	
								P36	-0.205	-0.130	7.2	84.4	
								P40	0.022	0.014	0.8	84.7	
								P39	0.021	0.013	0.7	84.7	
P39	0.400	97.225	-5.9	0	0	0.021	0.013	P38	-0.021	-0.013	35.9	85.0	
P40	20.000	98.028	-5.5	0	0	0	0	P38	-0.022	-0.014	0.8	84.7	
								P41	0.022	0.014	0.8	84.7	
P41	0.400	97.168	-5.9	0	0	0.022	0.014	P40	-0.022	-0.014	38.3	85.0	
P42	20.000	98.017	-5.5	0	0	0	0	P38	-0.163	-0.103	5.7	84.4	
								P44	0.138	0.088	4.8	84.4	
								P43	0.024	0.015	0.8	84.3	
P43	0.400	96.125	-6.3	0	0	0.024	0.015	P42	-0.024	-0.015	42.1	85.0	
P44	20.000	98.010	-5.5	0	0	0	0	P42	-0.138	-0.088	4.8	84.4	
								P45	0.013	0.008	0.4	84.8	
								P48	0.126	0.080	4.4	84.4	
P45	20.000	98.008	-5.5	0	0	0	0	P44	-0.013	-0.008	0.4	84.8	
								P46	0.013	0.008	0.4	84.8	
P46	0.400	97.515	-5.7	0	0	0.013	0.008	P45	-0.013	-0.008	22.0	85.0	
P47	0.400	95.912	-6.4	0	0	0.013	0.008	P48	-0.013	-0.008	23.2	85.0	
P48	20.000	98.000	-5.5	0	0	0	0	P49	0.113	0.072	3.9	84.4	
								P44	-0.126	-0.080	4.4	84.4	
								P47	0.013	0.009	0.5	84.2	
P49	20.000	97.995	-5.5	0	0	0	0	P48	-0.113	-0.072	3.9	84.4	
								P58	0.029	0.019	1.0	84.1	
								P51	0.076	0.048	2.7	84.5	
								P50	0.007	0.005	0.3	84.8	
P50	0.400	97.433	-5.8	0	0	0.007	0.004	P49	-0.007	-0.004	12.5	85.0	
P51	20.000	97.990	-5.5	0	0	0	0	P52	0.019	0.012	0.7	84.7	
								P54	0.057	0.036	2.0	84.4	
								P49	-0.076	-0.048	2.7	84.5	
P52	20.000	97.987	-5.5	0	0	0	0	P51	-0.019	-0.012	0.7	84.7	
								P53	0.019	0.012	0.7	84.7	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P53	0.400	97.240	-5.9	0	0	0.019	0.012	P52	-0.019	-0.012	33.3	85.0	
P54	20.000	97.987	-5.5	0	0	0	0	P51	-0.057	-0.036	2.0	84.4	
								P56	0.047	0.030	1.6	84.3	
								P55	0.010	0.006	0.4	84.9	
P55	0.400	97.749	-5.7	0	0	0.010	0.006	P54	-0.010	-0.006	18.0	85.0	
P56	20.000	97.984	-5.5	0	0	0	0	P54	-0.047	-0.030	1.6	84.3	
								P57	0.047	0.030	1.6	84.3	
P57	0.400	96.146	-6.3	0	0	0.046	0.029	P56	-0.046	-0.029	81.8	85.0	
P58	20.000	97.990	-5.5	0	0	0	0	P49	-0.029	-0.019	1.0	84.1	
								P59	0.029	0.019	1.0	84.1	
P59	0.400	95.704	-6.5	0	0	0.029	0.018	P58	-0.029	-0.018	50.8	85.0	
P60	20.000	98.033	-5.5	0	0	0	0	P36	-0.102	-0.064	3.6	84.7	
								P62	0.094	0.059	3.3	84.7	
								P61	0.008	0.005	0.3	84.7	
P61	0.400	97.390	-5.8	0	0	0.008	0.005	P60	-0.008	-0.005	14.3	85.0	
P62	20.000	98.028	-5.5	0	0	0	0	P60	-0.094	-0.059	3.3	84.7	
								P64	0.064	0.040	2.2	84.7	
								P63	0.030	0.019	1.1	84.7	
P63	0.400	97.470	-5.8	0	0	0.030	0.019	P62	-0.030	-0.019	52.6	85.0	
P64	20.000	98.021	-5.5	0	0	0	0	P62	-0.064	-0.040	2.2	84.7	
								P66	0.047	0.029	1.6	84.7	
								P65	0.017	0.011	0.6	84.7	
P65	0.400	97.364	-5.8	0	0	0.017	0.010	P64	-0.017	-0.010	29.3	85.0	
P66	20.000	98.020	-5.5	0	0	0	0	P64	-0.047	-0.029	1.6	84.7	
								P67	0.036	0.023	1.3	84.7	
								P73	0.011	0.007	0.4	84.8	
P67	20.000	98.019	-5.5	0	0	0	0	P66	-0.036	-0.023	1.3	84.7	
								P69	0.018	0.011	0.6	84.7	
								P68	0.018	0.011	0.6	84.7	
P68	0.400	97.316	-5.8	0	0	0.018	0.011	P67	-0.018	-0.011	31.4	85.0	
P69	20.000	98.017	-5.5	0	0	0	0	P67	-0.018	-0.011	0.6	84.7	
								P71	0.007	0.004	0.2	84.8	
								P70	0.011	0.007	0.4	84.7	
P70	0.400	97.136	-5.9	0	0	0.011	0.007	P69	-0.011	-0.007	19.6	85.0	
P71	20.000	98.017	-5.5	0	0	0	0	P69	-0.007	-0.004	0.2	84.8	
								P72	0.007	0.004	0.2	84.8	
P72	0.400	97.484	-5.8	0	0	0.007	0.004	P71	-0.007	-0.004	11.9	85.0	
P73	20.000	98.019	-5.5	0	0	0	0	P66	-0.011	-0.007	0.4	84.8	
								P74	0.011	0.007	0.4	84.8	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P74	0.400	97.605	-5.7	0	0	0.011	0.007	P73	-0.011	-0.007	18.5	85.0	
P76	20.000	98.000	-5.5	0	0	0	0	P36	0.559	-1.183	38.5	-42.7	
								P92	-0.575	1.173	38.5	-44.0	
								P77	0.016	0.010	0.6	84.6	
P77	0.400	96.566	-5.9	0	0	0.016	0.010	P76	-0.016	-0.010	28.4	85.0	
P80	20.000	97.844	-5.4	0	0	0	0	P98	-0.037	-0.024	1.3	84.2	
								P81	0.037	0.024	1.3	84.2	
P81	0.400	94.589	-6.3	0	0	0.036	0.022	P80	-0.036	-0.022	64.3	85.0	
P82	20.000	97.843	-5.4	0	0	0	0	P84	-0.010	-0.006	0.3	84.8	
								P83	0.010	0.006	0.3	84.8	
P83	0.400	96.962	-5.6	0	0	0.010	0.006	P82	-0.010	-0.006	17.4	85.0	
P84	20.000	97.843	-5.4	0	0	0	0	P86	-0.020	-0.012	0.7	84.8	
								P82	0.010	0.006	0.3	84.8	
								P85	0.010	0.006	0.3	84.8	
P85	0.400	97.009	-5.6	0	0	0.009	0.006	P84	-0.009	-0.006	16.5	85.0	
P86	20.000	97.844	-5.4	0	0	0	0	P84	0.020	0.012	0.7	84.8	
								P98	-0.027	-0.017	0.9	84.8	
								P87	0.007	0.004	0.2	84.8	
P87	0.400	97.231	-5.5	0	0	0.007	0.004	P86	-0.007	-0.004	12.1	85.0	
P88	20.000	97.866	-5.4	0	0	0	0	P96	0.167	0.105	5.8	84.6	
								P94	-0.175	-0.111	6.1	84.6	
								P89	0.008	0.005	0.3	84.8	
P89	0.400	97.122	-5.6	0	0	0.008	0.005	P88	-0.008	-0.005	14.7	85.0	
P90	20.000	97.917	-5.4	0	0	0	0	P94	-0.595	1.159	38.4	-45.7	
								P92	0.586	-1.164	38.4	-45.0	
								P91	0.008	0.005	0.3	84.8	
P91	0.400	97.180	-5.6	0	0	0.008	0.005	P90	-0.008	-0.005	14.6	85.0	
P92	20.000	97.958	-5.5	0	0	0	0	P90	-0.586	1.165	38.4	-44.9	
								P76	0.576	-1.172	38.5	-44.1	
								P93	0.010	0.006	0.4	84.8	
P93	0.400	97.065	-5.7	0	0	0.010	0.006	P92	-0.010	-0.006	17.7	85.0	
P94	20.000	97.877	-5.4	0	0	0	0	P90	0.595	-1.158	38.4	-45.7	
								P88	0.175	0.111	6.1	84.6	
								P136	-0.777	1.044	38.4	-59.7	
								P95	0.006	0.004	0.2	84.9	
P95	0.400	97.316	-5.5	0	0	0.006	0.004	P94	-0.006	-0.004	11.1	85.0	
P96	20.000	97.855	-5.4	0	0	0	0	P88	-0.167	-0.105	5.8	84.6	
								P98	0.150	0.094	5.2	84.6	
								P97	0.017	0.011	0.6	84.6	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P97	0.400	96.357	-5.8	0	0	0.017	0.010	P96	-0.017	-0.010	29.7	85.0	
P98	20.000	97.846	-5.4	0	0	0	0	P80	0.037	0.024	1.3	84.2	
								P96	-0.150	-0.094	5.2	84.6	
								P134	0.073	0.046	2.5	84.7	
								P86	0.027	0.017	0.9	84.8	
								P99	0.014	0.009	0.5	84.7	
P99	0.400	96.608	-5.7	0	0	0.014	0.009	P98	-0.014	-0.009	24.5	85.0	
P102	0.400	99.007	-1.0	0	0	0.026	0.016	P103	-0.026	-0.016	44.6	85.0	
P103	20.000	100.009	-0.6	0	0	0	0	Bus121	-2.165	0.212	62.8	-99.5	
								P107	2.139	-0.229	62.1	-99.4	
								P102	0.026	0.016	0.9	84.6	
P106	0.400	98.725	-0.9	0	0	0.007	0.005	P107	-0.007	-0.005	12.5	85.0	
P107	20.000	99.988	-0.6	0	0	0	0	P109	2.131	-0.234	61.9	-99.4	
								P103	-2.139	0.229	62.1	-99.4	
								P106	0.007	0.005	0.3	84.7	
P108	0.400	98.832	-0.9	0	0	0.013	0.008	P109	-0.013	-0.008	22.4	85.0	
P109	20.000	99.963	-0.6	0	0	0	0	P107	-2.131	0.234	61.9	-99.4	
								P115	2.117	-0.243	61.5	-99.4	
								P108	0.013	0.008	0.4	84.7	
P114	0.400	98.589	-1.0	0	0	0.016	0.010	P115	-0.016	-0.010	26.7	85.0	
P115	20.000	99.937	-0.6	0	0	0	0	P109	-2.117	0.243	61.5	-99.3	
								P117	2.101	-0.253	61.1	-99.3	
								P114	0.016	0.010	0.5	84.7	
P116	0.400	98.652	-1.0	0	0	0.014	0.009	P117	-0.014	-0.009	23.8	85.0	
P117	20.000	99.855	-0.7	0	0	0	0	P115	-2.099	0.255	61.1	-99.3	
								Bus123	2.085	-0.264	60.8	-99.2	
								P116	0.014	0.009	0.5	84.7	
P118	0.400	97.870	-1.3	0	0	0.111	0.069	P119	-0.111	-0.069	193.1	85.0	
P119	20.000	99.822	-0.8	0	0	0	0	Bus123	-0.113	-0.071	3.9	84.5	
								P118	0.113	0.071	3.9	84.5	
P120	0.400	98.315	-1.2	0	0	0.069	0.043	P121	-0.069	-0.043	119.3	85.0	
P121	20.000	99.821	-0.8	0	0	0	0	Bus123	-1.971	0.335	57.8	-98.6	
								Bus124	1.901	-0.379	56.1	-98.1	
								P120	0.070	0.044	2.4	84.6	
P122	0.400	98.450	-1.2	0	0	0.015	0.010	P123	-0.015	-0.010	26.5	85.0	
P123	20.000	99.786	-0.8	0	0	0	0	Bus124	-0.015	-0.010	0.5	84.7	
								P122	0.015	0.010	0.5	84.7	
								Bus125	0.000	0.000	0.0	0.0	
P126	20.000	97.837	-5.4	0	0	0	0	P130	-0.009	-0.006	0.3	84.8	

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Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								P127	0.009	0.006	0.3	84.8	
P127	0.400	97.055	-5.6	0	0	0.009	0.005	P126	-0.009	-0.005	15.5	85.0	
P128	20.000	97.836	-5.4	0	0	0	0	P132	0.028	0.017	1.0	84.7	
								P130	-0.036	-0.022	1.2	84.7	
								P129	0.008	0.005	0.3	84.8	
P129	0.400	97.157	-5.6	0	0	0.008	0.005	P128	-0.008	-0.005	13.4	85.0	
P130	20.000	97.838	-5.4	0	0	0	0	P134	-0.060	-0.038	2.1	84.7	
								P126	0.009	0.006	0.3	84.8	
								P128	0.036	0.022	1.2	84.7	
								P131	0.015	0.010	0.5	84.7	
P131	0.400	96.476	-5.7	0	0	0.015	0.009	P130	-0.015	-0.009	27.0	85.0	
P132	20.000	97.834	-5.4	0	0	0	0	P128	-0.028	-0.017	1.0	84.7	
								Bus37	0.015	0.010	0.5	84.7	
								P133	0.013	0.008	0.4	84.7	
P133	0.400	96.726	-5.7	0	0	0.013	0.008	P132	-0.013	-0.008	21.9	85.0	
P134	20.000	97.842	-5.4	0	0	0	0	P130	0.060	0.038	2.1	84.7	
								P98	-0.073	-0.046	2.5	84.7	
								P135	0.013	0.008	0.4	84.7	
P135	0.400	96.732	-5.7	0	0	0.013	0.008	P134	-0.013	-0.008	22.0	85.0	
P136	20.000	97.848	-5.3	0	0	0	0	P138	-0.809	1.023	38.5	-62.0	
								P94	0.778	-1.043	38.4	-59.8	
								P142	0.015	0.009	0.5	84.7	
								P137	0.016	0.010	0.6	84.7	
P137	0.400	96.440	-5.7	0	0	0.016	0.010	P136	-0.016	-0.010	27.9	85.0	
P138	20.000	97.820	-5.3	0	0	0	0	P136	0.809	-1.022	38.5	-62.1	
								P283	-0.819	1.017	38.5	-62.7	
								P139	0.010	0.006	0.3	84.8	
P139	0.400	96.986	-5.5	0	0	0.009	0.006	P138	-0.009	-0.006	16.5	85.0	
P140	0.400	98.718	-1.3	0	0	0.024	0.015	P141	-0.024	-0.015	40.8	85.0	
P141	20.000	99.632	-1.0	0	0	0	0	Bus126	-1.881	0.391	55.7	-97.9	
								P147	1.857	-0.406	55.1	-97.7	
								P140	0.024	0.015	0.8	84.6	
P142	20.000	97.847	-5.3	0	0	0	0	P136	-0.015	-0.009	0.5	84.7	
								P143	0.015	0.009	0.5	84.7	
P143	0.400	96.524	-5.7	0	0	0.015	0.009	P142	-0.015	-0.009	26.2	85.0	
P146	0.400	98.768	-1.2	0	0	0.009	0.006	P147	-0.009	-0.006	16.3	85.0	
P147	20.000	99.589	-1.0	0	0	0	0	P141	-1.856	0.407	55.1	-97.7	
								P149	1.847	-0.413	54.8	-97.6	
								P146	0.010	0.006	0.3	84.8	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P148	0.400	98.049	-1.5	0	0	0.017	0.011	P149	-0.017	-0.011	29.5	85.0	
P149	20.000	99.538	-1.1	0	0	0	0	P147	-1.845	0.414	54.8	-97.6	
								Bus134	1.828	-0.425	54.4	-97.4	
								P148	0.017	0.011	0.6	84.6	
P150	0.400	98.827	-1.4	0	0	0.007	0.004	P151	-0.007	-0.004	11.3	85.0	
P151	20.000	99.398	-1.3	0	0	0	0	P153	1.817	-0.433	54.3	-97.3	
								Bus134	-1.824	0.429	54.4	-97.3	
								P150	0.007	0.004	0.2	84.9	
P152	0.400	98.320	-1.8	0	0	0.010	0.006	P153	-0.010	-0.006	18.0	85.0	
P153	20.000	99.228	-1.5	0	0	0	0	P151	-1.812	0.437	54.2	-97.2	
								P155	1.802	-0.443	54.0	-97.1	
								P152	0.010	0.007	0.4	84.8	
P154	0.400	98.170	-1.9	0	0	0.011	0.007	P155	-0.011	-0.007	19.7	85.0	
P155	20.000	99.164	-1.6	0	0	0	0	P153	-1.800	0.445	54.0	-97.1	
								P157	1.788	-0.452	53.7	-97.0	
								P154	0.011	0.007	0.4	84.8	
P156	0.400	97.520	-2.4	0	0	0.015	0.009	P157	-0.015	-0.009	26.6	85.0	
P157	20.000	98.866	-2.1	0	0	0	0	P155	-1.779	0.459	53.7	-96.8	
								P159	1.764	-0.469	53.3	-96.6	
								P156	0.015	0.010	0.5	84.7	
P158	0.400	97.523	-2.5	0	0	0.015	0.009	P159	-0.015	-0.009	25.3	85.0	
P159	20.000	98.802	-2.2	0	0	0	0	P157	-1.762	0.471	53.3	-96.6	
								Bus128	1.747	-0.480	52.9	-96.4	
								P158	0.015	0.009	0.5	84.7	
P162	0.400	96.769	-2.7	0	0	0.090	0.056	P163	-0.090	-0.056	158.3	85.0	
P163	20.000	98.768	-2.2	0	0	0	0	Bus128	-0.249	-0.146	8.4	86.2	
								P197	0.157	0.088	5.3	87.2	
								P162	0.092	0.058	3.2	84.5	
P164	0.400	95.276	-5.6	0	0	0.036	0.022	P181	-0.036	-0.022	64.4	85.0	
P165	0.400	94.593	-5.8	0	0	0.036	0.022	P180	-0.036	-0.022	64.3	85.0	
P166	0.400	94.471	-5.8	0	0	0.036	0.022	P179	-0.036	-0.022	64.3	85.0	
P167	0.400	94.351	-5.8	0	0	0.036	0.022	P178	-0.036	-0.022	64.3	85.0	
P168	0.400	94.164	-7.2	0	0	1.263	0.783	P177	-1.263	-0.783	2278.4	85.0	
P172	0.400	95.276	-5.6	0	0	0.036	0.022	P173	-0.036	-0.022	64.4	85.0	
P173	20.000	98.535	-4.7	0	0	0	0	AL3	-2.201	-1.471	77.6	83.1	
								P181	2.164	1.448	76.3	83.1	
								P172	0.037	0.024	1.3	84.2	
P177	20.000	97.487	-5.0	0	0	0	0	P178	-1.835	-1.222	65.3	83.2	
								AL9	0.558	0.362	19.7	83.9	

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Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P178	20.000	97.605	-5.0	0	0	0	0	P168	1.276	0.860	45.6	82.9	
								P177	1.836	1.225	65.3	83.2	
								P179	-1.873	-1.248	66.6	83.2	
								P167	0.037	0.023	1.3	84.2	
P179	20.000	97.725	-4.9	0	0	0	0	P178	1.874	1.251	66.6	83.2	
								P180	-1.911	-1.274	67.9	83.2	
								P166	0.037	0.023	1.3	84.2	
								P179	1.913	1.277	67.9	83.2	
P180	20.000	97.848	-4.9	0	0	0	0	P182	-1.949	-1.301	69.1	83.2	
								P165	0.037	0.024	1.3	84.2	
								P173	-2.164	-1.448	76.3	83.1	
								AL5	2.127	1.424	75.0	83.1	
P181	20.000	98.535	-4.7	0	0	0	0	P164	0.037	0.024	1.3	84.2	
								P180	1.951	1.304	69.1	83.2	
								P190	-1.988	-1.327	70.4	83.2	
								P183	0.037	0.024	1.3	84.2	
P183	0.400	94.718	-5.7	0	0	0.036	0.022	P182	-0.036	-0.022	64.3	85.0	
P186	20.000	98.331	-4.8	0	0	0	0	AL5	-2.095	-1.401	74.0	83.1	
								AL7	2.058	1.377	72.7	83.1	
								P187	0.037	0.024	1.3	84.2	
								P186	-0.036	-0.022	64.4	85.0	
P187	0.400	95.073	-5.6	0	0	0.036	0.022	P187	-0.036	-0.022	64.4	85.0	
P188	0.400	97.620	-2.5	0	0	0.013	0.008	P197	-0.013	-0.008	22.5	85.0	
P189	0.400	97.247	-2.6	0	0	0.017	0.011	P196	-0.017	-0.011	29.8	85.0	
P190	20.000	98.101	-4.8	0	0	0	0	AL7	-2.026	-1.354	71.7	83.2	
								P182	1.990	1.330	70.4	83.1	
								P191	0.037	0.024	1.3	84.2	
								P190	-0.036	-0.022	64.4	85.0	
P191	0.400	94.845	-5.7	0	0	0.036	0.022	P190	-0.036	-0.022	64.4	85.0	
P192	0.400	97.328	-2.6	0	0	0.016	0.010	P195	-0.016	-0.010	27.7	85.0	
P193	0.400	98.199	-2.4	0	0	0.006	0.004	P194	-0.006	-0.004	10.3	85.0	
P194	20.000	98.719	-2.2	0	0	0	0	P195	-0.091	-0.052	3.1	87.0	
								P201	0.085	0.048	2.9	87.2	
								P193	0.006	0.004	0.2	84.9	
								P262	-0.107	-0.061	3.6	87.0	
P195	20.000	98.727	-2.2	0	0	0	0	P194	0.091	0.051	3.0	87.4	
								P192	0.016	0.010	0.6	84.7	
								P197	-0.144	-0.081	4.8	87.1	
								Bus135	0.127	0.071	4.2	87.4	
P196	20.000	98.752	-2.2	0	0	0	0	P189	0.017	0.011	0.6	84.6	
								P163	-0.157	-0.089	5.3	86.9	
P197	20.000	98.754	-2.2	0	0	0	0						

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Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P200	0.400	97.326	-2.8	0	0	0.035	0.022	P196	0.144	0.081	4.8	87.1	
								P188	0.013	0.008	0.4	84.7	
								P201	-0.035	-0.022	61.8	85.0	
								P194	-0.085	-0.048	2.9	86.9	
								P203	0.049	0.026	1.6	88.6	
P201	20.000	98.714	-2.2	0	0	0	0	P200	0.036	0.023	1.2	84.5	
								P203	-0.024	-0.015	42.3	85.0	
								P201	-0.049	-0.026	1.6	88.4	
								P211	0.025	0.011	0.8	92.0	
								P202	0.024	0.015	0.8	84.6	
P202	0.400	97.765	-2.6	0	0	0.024	0.015	P211	-0.011	-0.007	19.1	85.0	
								P210	-0.014	-0.009	23.9	85.0	
								P211	-0.014	-0.006	0.4	91.4	
								Bus136	0.000	-0.003	0.1	0.0	
								P209	0.014	0.009	0.5	84.7	
P203	20.000	98.713	-2.2	0	0	0	0	P203	-0.025	-0.012	0.8	90.7	
								P210	0.014	0.005	0.4	94.8	
								P208	0.011	0.007	0.4	84.8	
								P215	-0.066	-0.041	114.6	85.0	
								Bus129	-0.066	-0.042	2.3	84.6	
P208	0.400	97.749	-2.5	0	0	0.011	0.007	P214	0.066	0.042	2.3	84.6	
								P223	-0.017	-0.011	29.7	85.0	
								P222	-0.013	-0.008	22.9	85.0	
								P223	-1.410	0.679	45.8	-90.1	
								Bus130	1.397	-0.687	45.6	-89.7	
P209	0.400	97.503	-2.5	0	0	0.014	0.009	P221	0.013	0.008	0.5	84.7	
								P222	1.412	-0.678	45.8	-90.1	
								Bus129	-1.429	0.667	46.1	-90.6	
								P220	0.017	0.011	0.6	84.6	
								P227	-0.089	-0.055	157.1	85.0	
P210	20.000	98.710	-2.2	0	0	0	0	Bus130	-0.091	-0.057	3.1	84.5	
								P226	0.091	0.057	3.1	84.5	
								P233	-0.016	-0.010	28.6	85.0	
								P234	-1.287	0.753	43.8	-86.3	
								Bus137	1.270	-0.764	43.5	-85.7	
P211	20.000	98.711	-2.2	0	0	0	0	P232	0.017	0.010	0.6	84.6	
								P233	1.290	-0.752	43.8	-86.4	
								Bus130	-1.301	0.745	44.0	-86.8	
								P235	0.011	0.007	0.4	84.8	
P214	0.400	97.242	-2.7	0	0	0.066	0.041						
P215	20.000	98.689	-2.3	0	0	0	0						
P220	0.400	97.171	-2.7	0	0	0.017	0.011						
P221	0.400	97.469	-2.7	0	0	0.013	0.008						
P222	20.000	98.623	-2.4	0	0	0	0						
P223	20.000	98.670	-2.3	0	0	0	0						
P226	0.400	96.519	-3.0	0	0	0.089	0.055						
P227	20.000	98.503	-2.5	0	0	0	0						
P232	0.400	96.888	-3.1	0	0	0.016	0.010						
P233	20.000	98.334	-2.7	0	0	0	0						
P234	20.000	98.438	-2.6	0	0	0	0						

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P235	0.400	97.462	-2.8	0	0	0.011	0.007	P234	-0.011	-0.007	19.3	85.0	
P238	0.400	96.653	-3.2	0	0	0.073	0.045	P239	-0.073	-0.045	128.4	85.0	
P239	20.000	98.274	-2.8	0	0	0	0	Bus131	-0.074	-0.047	2.6	84.6	
								P238	0.074	0.047	2.6	84.6	
P242	0.400	96.132	-3.4	0	0	0.024	0.015	P243	-0.024	-0.015	42.3	85.0	
P243	20.000	98.271	-2.8	0	0	0	0	Bus131	-1.194	0.811	42.4	-82.7	
								P247	1.170	-0.826	42.1	-81.7	
								P242	0.024	0.015	0.8	84.5	
P246	0.400	94.931	-3.9	0	0	0.018	0.011	P247	-0.018	-0.011	31.8	85.0	
P247	20.000	98.150	-3.0	0	0	0	0	P243	-1.166	0.827	42.0	-81.5	
								P251	1.147	-0.839	41.8	-80.7	
								P246	0.018	0.012	0.6	84.2	
P250	0.400	97.020	-3.4	0	0	0.012	0.008	P251	-0.012	-0.008	21.4	85.0	
P251	20.000	98.103	-3.1	0	0	0	0	P247	-1.146	0.839	41.8	-80.7	
								P253	1.133	-0.847	41.6	-80.1	
								P250	0.012	0.008	0.4	84.7	
P252	0.400	96.750	-3.5	0	0	0.015	0.009	P253	-0.015	-0.009	26.6	85.0	
P253	20.000	98.091	-3.1	0	0	0	0	P251	-1.133	0.847	41.6	-80.1	
								P255	1.117	-0.857	41.4	-79.4	
								P252	0.015	0.010	0.5	84.7	
P254	0.400	96.436	-3.6	0	0	0.018	0.011	P255	-0.018	-0.011	32.3	85.0	
P255	20.000	98.070	-3.2	0	0	0	0	P253	-1.117	0.857	41.4	-79.3	
								Bus139	0.189	0.109	6.4	86.7	
								P267	0.909	-0.977	39.3	-68.1	
								P254	0.019	0.012	0.6	84.6	
P260	0.400	97.707	-2.5	0	0	0.012	0.007	P263	-0.012	-0.007	20.5	85.0	
P261	0.400	98.051	-2.4	0	0	0.008	0.005	P262	-0.008	-0.005	13.6	85.0	
P262	20.000	98.736	-2.2	0	0	0	0	P263	-0.115	-0.065	3.9	87.2	
								P195	0.107	0.060	3.6	87.4	
								P261	0.008	0.005	0.3	84.8	
P263	20.000	98.742	-2.2	0	0	0	0	P262	0.115	0.064	3.8	87.4	
								Bus135	-0.127	-0.071	4.3	87.1	
								P260	0.012	0.007	0.4	84.7	
P266	0.400	97.295	-3.4	0	0	0.009	0.005	P267	-0.009	-0.005	15.3	85.0	
P267	20.000	98.066	-3.2	0	0	0	0	P255	-0.909	0.977	39.3	-68.1	
								P269	0.900	-0.983	39.2	-67.5	
								P266	0.009	0.006	0.3	84.8	
P268	0.400	97.447	-3.4	0	0	0.007	0.004	P269	-0.007	-0.004	12.1	85.0	
P269	20.000	98.060	-3.2	0	0	0	0	P267	-0.899	0.983	39.2	-67.5	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P272	0.400	97.061	-3.7	0	0	0.011	0.007	Bus138	0.892	-0.987	39.2	-67.0	
								P268	0.007	0.004	0.2	84.8	
								P273	-0.011	-0.007	18.8	85.0	
P273	20.000	98.011	-3.5	0	0	0	0	Bus138	-0.887	0.988	39.1	-66.8	
P277	20.000	98.003	-3.5	0	0	0	0	P277	0.876	-0.995	39.1	-66.1	
								P272	0.011	0.007	0.4	84.8	
								P273	-0.875	0.995	39.0	-66.0	
								P286	0.875	-0.995	39.0	-66.0	
P282	0.400	95.840	-4.3	0	0	0.024	0.015	P283	-0.024	-0.015	42.4	85.0	
P283	20.000	97.980	-3.7	0	0	0	0	P288	-0.873	0.996	39.0	-65.9	
P286	20.000	97.994	-3.6	0	0	0	0	P138	0.848	-1.011	38.9	-64.3	
								P282	0.024	0.015	0.8	84.5	
								P277	-0.874	0.996	39.0	-66.0	
								P288	0.874	-0.996	39.0	-66.0	
P288	20.000	97.985	-3.7	0	0	0	0	P286	-0.873	0.996	39.0	-65.9	
P292	20.000	97.998	-3.2	0	0	0	0	P283	0.873	-0.996	39.0	-65.9	
								Bus139	-0.189	-0.111	6.5	86.2	
								P296	0.172	0.100	5.9	86.3	
								P293	0.017	0.011	0.6	84.6	
P293	0.400	96.490	-3.6	0	0	0.017	0.011	P292	-0.017	-0.011	29.8	85.0	
P296	20.000	97.969	-3.2	0	0	0	0	P292	-0.172	-0.101	5.9	86.1	
P297	0.400	96.819	-3.5	0	0	0.013	0.008	P298	0.158	0.093	5.4	86.2	
								P297	0.013	0.008	0.5	84.7	
								P296	-0.013	-0.008	22.8	85.0	
								P298	-0.158	-0.094	5.4	86.1	
P299	0.400	96.575	-3.5	0	0	0.016	0.010	P305	0.143	0.084	4.9	86.2	
								P299	0.016	0.010	0.5	84.7	
								P298	-0.016	-0.010	27.4	85.0	
								P304	-0.041	-0.026	73.0	85.0	
P304	0.400	96.308	-3.9	0	0	0.041	0.026	P305	-0.041	-0.026	73.0	85.0	
P305	20.000	97.948	-3.2	0	0	0	0	P298	-0.143	-0.084	4.9	86.1	
P312	20.000	97.945	-3.2	0	0	0	0	P312	0.101	0.058	3.4	86.8	
								P304	0.042	0.027	1.5	84.4	
								P305	-0.101	-0.058	3.4	86.7	
								P314	0.078	0.044	2.6	87.3	
P313	0.400	96.938	-3.4	0	0	0.023	0.014	P313	0.023	0.014	0.8	84.8	
								P312	-0.023	-0.014	39.9	85.0	
								P312	-0.078	-0.046	2.7	86.3	
								P316	0.058	0.033	2.0	86.8	
P314	20.000	97.920	-3.2	0	0	0	0	P315	0.020	0.012	0.7	84.6	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
P315	0.400	96.185	-3.6	0	0	0.019	0.012	P314	-0.019	-0.012	34.3	85.0	
P316	20.000	97.915	-3.2	0	0	0	0	P314	-0.058	-0.034	2.0	86.5	
								P328	0.044	0.025	1.5	87.1	
								P317	0.014	0.009	0.5	84.7	
P317	0.400	96.700	-3.5	0	0	0.014	0.008	P316	-0.014	-0.008	24.1	85.0	
P324	0.400	96.221	-3.6	0	0	0.019	0.012	P327	-0.019	-0.012	33.4	85.0	
P325	0.400	97.088	-3.4	0	0	0.009	0.006	P326	-0.009	-0.006	16.2	85.0	
P326	20.000	97.906	-3.2	0	0	0	0	P327	-0.009	-0.006	0.3	84.8	
								P325	0.009	0.006	0.3	84.8	
P327	20.000	97.908	-3.2	0	0	0	0	P326	0.009	0.004	0.3	91.2	
								P328	-0.028	-0.016	1.0	86.8	
								P324	0.019	0.012	0.7	84.6	
P328	20.000	97.909	-3.2	0	0	0	0	P327	0.028	0.016	1.0	87.2	
								P316	-0.044	-0.026	1.5	86.3	
								P329	0.016	0.010	0.6	84.7	
P329	0.400	96.508	-3.6	0	0	0.016	0.010	P328	-0.016	-0.010	27.8	85.0	
TL1	21.000	95.403	-0.4	0	0	0	0	Bus25-1	-3.124	0.915	93.8	-96.0	
								Bus1	3.124	-0.915	93.8	-96.0	

* Indicates a voltage regulated bus (voltage controlled or swing type machine connected to it)

Indicates a bus with a load mismatch of more than 0.1 MVA

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Bus Loading Summary Report

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
AL1	20.000		0	0	0	-3.107	0	0	0	0	4.132	65.9	121.1	
AL2	0.400		0.004	0.003	0.006	0.004	0	0	0	0	0.012	85.0	18.2	
AL3	20.000		0	0	0	0	0	0	0	0	3.256	83.3	95.4	
AL4	0.400		0.211	0.131	0.300	0.186	0	0	0	0	0.601	85.0	891.8	
AL5	20.000		0	0	0	0	0	0	0	0	2.557	83.1	75.0	
AL6	0.400		0.012	0.007	0.017	0.010	0	0	0	0	0.033	85.0	49.2	
AL7	20.000		0	0	0	0	0	0	0	0	2.474	83.1	72.7	
AL8	0.400		0.017	0.011	0.011	0.007	0	0	0	0	0.033	85.0	49.9	
AL9	20.000		0	0	0	0	0	0	0	0	0.665	83.9	19.7	
AL10	0.400		0.003	0.002	0.004	0.002	0	0	0	0	0.007	85.0	11.1	
AL11	20.000		0	0	0	0	0	0	0	0	0.658	83.9	19.5	
AL14	0.400		0.004	0.002	0.006	0.003	0	0	0	0	0.011	85.0	16.5	
AL15	20.000		0	0	0	0	0	0	0	0	0.630	83.9	18.7	
AL16	0.400		0.006	0.004	0.009	0.005	0	0	0	0	0.017	85.0	25.8	
AL17	0.400		0.011	0.007	0.003	0.002	0	0	0	0	0.017	85.0	24.8	
AL18	20.000		0	0	0	0	0	0	0	0	0.613	83.8	18.2	
AL19	20.000		0	0	0	0	0	0	0	0	0.596	83.8	17.7	
AL20	0.400		0.002	0.001	0.002	0.001	0	0	0	0	0.005	85.0	7.1	
AL21	20.000		0	0	0	0	0	0	0	0	0.591	83.8	17.5	
AL22	0.400		0.004	0.003	0.006	0.004	0	0	0	0	0.011	85.0	17.0	
AL23	20.000		0	0	0	0	0	0	0	0	0.579	83.8	17.2	
AL24	0.400		0.005	0.003	0.006	0.004	0	0	0	0	0.013	85.0	19.4	
AL25	20.000		0	0	0	0	0	0	0	0	0.562	83.8	16.7	
AL26	20.000		0	0	0	0	0	0	0	0	0.004	84.9	0.1	
AL27	0.400		0.002	0.001	0.001	0.001	0	0	0	0	0.004	85.0	6.0	
AL28	20.000		0	0	0	0	0	0	0	0	0.554	83.8	16.5	
AL29	20.000		0	0	0	0	0	0	0	0	0.008	84.9	0.2	
AL30	0.400		0.004	0.002	0.002	0.002	0	0	0	0	0.008	85.0	11.2	
AL31	0.400		0.007	0.004	0.004	0.003	0	0	0	0	0.013	85.0	19.9	
AL32	20.000		0	0	0	0	0	0	0	0	0.541	83.7	16.1	
AL34	0.400		0.004	0.003	0.003	0.002	0	0	0	0	0.008	85.0	11.5	
AL35	20.000		0	0	0	0	0	0	0	0	0.009	84.9	0.3	
AL36	0.400		0.005	0.003	0.003	0.002	0	0	0	0	0.009	85.0	13.9	
AL38	0.400		0.006	0.003	0.008	0.005	0	0	0	0	0.016	85.0	23.6	
AL39	20.000		0	0	0	0	0	0	0	0	0.642	83.9	19.0	
Bus1	21.000		0	0	0	0	0	0	0	0	3.255	96.0	93.8	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
Bus2	21.000		0	0	0	0	0	0	0	0	3.214	94.3	93.8	
Bus24-1	150.000		0	0	0	0	0	0	0	0	3.250	96.2	12.5	
Bus25-1	20.000		0	0	0	0	0	0	0	0	3.255	96.0	93.8	
Bus37	20.000		0	0	0	0	0	0	0	0	0.018	84.7	0.5	
Bus97	0.400		0.012	0.008	0.003	0.002	0	0	0	0	0.018	85.0	26.6	
Bus121	20.000		0	0	0	0	0	0	0	0	2.177	99.5	62.8	
Bus122	150.000		0	0	0	0	0	0	0	0	2.175	99.6	8.4	
Bus123	20.000		0	0	0	0	0	0	0	0	2.111	98.7	61.0	
Bus124	20.000		0	0	0	0	0	0	0	0	1.940	98.0	56.1	
Bus125	20.000		0	0	0	0	0	0	0	0	0	0.0	0.0	
Bus126	20.000		0	0	0	0	0	0	0	0	1.924	97.9	55.7	
Bus128	20.000		0	0	0	0	0	0	0	0	1.856	94.1	54.2	
Bus129	20.000		0	0	0	0	0	0	0	0	1.638	91.3	47.9	
Bus130	20.000		0	0	0	0	0	0	0	0	1.580	88.2	46.3	
Bus131	20.000		0	0	0	0	0	0	0	0	1.505	84.3	44.2	
Bus134	20.000		0	0	0	0	0	0	0	0	1.876	97.4	54.4	
Bus135	20.000		0	0	0	0	0	0	0	0	0.145	87.3	4.3	
Bus136	20.000		0	0	0	0	0	0	0	0	0	0.0	0.0	
Bus137	20.000		0	0	0	0	0	0	0	0	1.482	85.7	43.5	
Bus138	20.000		0	0	0	0	0	0	0	0	1.330	67.0	39.2	
Bus139	20.000		0	0	0	0	0	0	0	0	0.218	86.4	6.4	
Bus428	0.400		0.061	0.038	0.082	0.051	0	0	0	0	0.168	85.0	257.2	
Bus429	20.000		0	0	0	0	0	0	0	0	0.173	83.7	5.1	
Bus430	0.400		0.092	0.057	0.054	0.034	0	0	0	0	0.172	85.0	263.3	
Bus431	20.000		0	0	0	0	0	0	0	0	0.177	83.7	5.3	
Bus432	20.000		0	0	0	0	0	0	0	0	0.524	83.7	15.6	
Bus433	0.400		0.061	0.038	0.082	0.051	0	0	0	0	0.168	85.0	257.2	
P2	20.000		0	0	0	0	0	0	0	0	3.212	94.2	93.8	
P3	20.000		0	0	0	0	0	0	0	0	3.213	93.7	94.0	
P4	20.000		0	0	0	0	0	0	0	0	0.035	84.5	1.0	
P5	0.400		0.012	0.008	0.017	0.011	0	0	0	0	0.035	85.0	51.7	
P6	20.000		0	0	0	0	0	0	0	0	3.192	93.1	93.5	
P7	0.400		0.018	0.011	0.025	0.016	0	0	0	0	0.050	85.0	74.0	
P8	20.000		0	0	0	0	0	0	0	0	3.155	92.8	92.4	
P9	0.400		0.009	0.005	0.005	0.003	0	0	0	0	0.017	85.0	24.4	
P10	20.000		0	0	0	0	0	0	0	0	3.187	91.3	93.4	
P11	0.400		0.017	0.011	0.011	0.007	0	0	0	0	0.032	85.0	48.5	
P12	20.000		0	0	0	0	0	0	0	0	0.186	84.4	5.5	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
P13	0.400		0.032	0.020	0.020	0.013	0	0	0	0	0.061	85.0	91.1	
P14	20.000		0	0	0	0	0	0	0	0	0.124	84.4	3.6	
P15	20.000		0	0	0	0	0	0	0	0	0.027	84.3	0.8	
P16	0.400		0.009	0.006	0.013	0.008	0	0	0	0	0.027	85.0	39.8	
P17	20.000		0	0	0	0	0	0	0	0	0.048	84.4	1.4	
P18	0.400		0.017	0.010	0.024	0.015	0	0	0	0	0.048	85.0	71.0	
P19	20.000		0	0	0	0	0	0	0	0	0.030	84.8	0.9	
P20	0.400		0.010	0.006	0.015	0.009	0	0	0	0	0.030	85.0	43.6	
P21	20.000		0	0	0	0	0	0	0	0	0.019	84.0	0.5	
P22	0.400		0.010	0.006	0.006	0.004	0	0	0	0	0.018	85.0	27.4	
P23	20.000		0	0	0	0	0	0	0	0	0.030	84.2	0.9	
P24	0.400		0.010	0.007	0.015	0.009	0	0	0	0	0.029	85.0	44.2	
P25	20.000		0	0	0	0	0	0	0	0	0.064	84.4	1.9	
P26	0.400		0.012	0.007	0.017	0.010	0	0	0	0	0.034	85.0	50.6	
P27	20.000		0	0	0	0	0	0	0	0	0.099	84.4	2.9	
P28	0.400		0.012	0.008	0.017	0.011	0	0	0	0	0.034	85.0	51.1	
P29	20.000		0	0	0	0	0	0	0	0	0.136	84.5	4.0	
P30	0.400		0.019	0.012	0.012	0.007	0	0	0	0	0.037	85.0	54.7	
P31	20.000		0	0	0	0	0	0	0	0	0.189	84.4	5.6	
P32	0.400		0.019	0.011	0.026	0.016	0	0	0	0	0.052	85.0	78.1	
P33	20.000		0	0	0	0	0	0	0	0	0.194	84.4	5.7	
P34	20.000		0	0	0	0	0	0	0	0	0.005	84.9	0.1	
P35	0.400		0.002	0.002	0.002	0.001	0	0	0	0	0.005	85.0	6.9	
P36	20.000		0	0	0	-1.538	0	0	0	0	1.636	34.1	48.2	
P37	0.400		0.036	0.022	0.050	0.031	0	0	0	0	0.101	85.0	152.2	
P38	20.000		0	0	0	0	0	0	0	0	0.243	84.4	7.2	
P39	0.400		0.013	0.008	0.008	0.005	0	0	0	0	0.024	85.0	35.9	
P40	20.000		0	0	0	0	0	0	0	0	0.026	84.7	0.8	
P41	0.400		0.018	0.011	0.004	0.003	0	0	0	0	0.026	85.0	38.3	
P42	20.000		0	0	0	0	0	0	0	0	0.193	84.4	5.7	
P43	0.400		0.015	0.009	0.009	0.006	0	0	0	0	0.028	85.0	42.1	
P44	20.000		0	0	0	0	0	0	0	0	0.164	84.4	4.8	
P45	20.000		0	0	0	0	0	0	0	0	0.015	84.8	0.4	
P46	0.400		0.010	0.006	0.002	0.002	0	0	0	0	0.015	85.0	22.0	
P47	0.400		0.006	0.003	0.008	0.005	0	0	0	0	0.015	85.0	23.2	
P48	20.000		0	0	0	0	0	0	0	0	0.149	84.4	4.4	
P49	20.000		0	0	0	0	0	0	0	0	0.133	84.4	3.9	
P50	0.400		0.003	0.002	0.004	0.003	0	0	0	0	0.008	85.0	12.5	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
P51	20.000		0	0	0	0	0	0	0	0	0.090	84.5	2.7	
P52	20.000		0	0	0	0	0	0	0	0	0.023	84.7	0.7	
P53	0.400		0.012	0.007	0.007	0.005	0	0	0	0	0.022	85.0	33.3	
P54	20.000		0	0	0	0	0	0	0	0	0.068	84.4	2.0	
P55	0.400		0.004	0.003	0.006	0.004	0	0	0	0	0.012	85.0	18.0	
P56	20.000		0	0	0	0	0	0	0	0	0.056	84.3	1.6	
P57	0.400		0.019	0.012	0.027	0.017	0	0	0	0	0.054	85.0	81.8	
P58	20.000		0	0	0	0	0	0	0	0	0.034	84.1	1.0	
P59	0.400		0.012	0.007	0.017	0.010	0	0	0	0	0.034	85.0	50.8	
P60	20.000		0	0	0	0	0	0	0	0	0.121	84.7	3.6	
P61	0.400		0.007	0.004	0.002	0.001	0	0	0	0	0.010	85.0	14.3	
P62	20.000		0	0	0	0	0	0	0	0	0.111	84.7	3.3	
P63	0.400		0.018	0.011	0.012	0.007	0	0	0	0	0.036	85.0	52.6	
P64	20.000		0	0	0	0	0	0	0	0	0.075	84.7	2.2	
P65	0.400		0.007	0.004	0.010	0.006	0	0	0	0	0.020	85.0	29.3	
P66	20.000		0	0	0	0	0	0	0	0	0.055	84.7	1.6	
P67	20.000		0	0	0	0	0	0	0	0	0.043	84.7	1.3	
P68	0.400		0.011	0.007	0.007	0.004	0	0	0	0	0.021	85.0	31.4	
P69	20.000		0	0	0	0	0	0	0	0	0.021	84.7	0.6	
P70	0.400		0.005	0.003	0.007	0.004	0	0	0	0	0.013	85.0	19.6	
P71	20.000		0	0	0	0	0	0	0	0	0.008	84.8	0.2	
P72	0.400		0.003	0.002	0.004	0.002	0	0	0	0	0.008	85.0	11.9	
P73	20.000		0	0	0	0	0	0	0	0	0.013	84.8	0.4	
P74	0.400		0.004	0.003	0.006	0.004	0	0	0	0	0.013	85.0	18.5	
P76	20.000		0	0	0	0	0	0	0	0	1.315	43.7	38.7	
P77	0.400		0.007	0.004	0.009	0.006	0	0	0	0	0.019	85.0	28.4	
P80	20.000		0	0	0	0	0	0	0	0	0.044	84.2	1.3	
P81	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.042	85.0	64.3	
P82	20.000		0	0	0	0	0	0	0	0	0.012	84.8	0.3	
P83	0.400		0.004	0.003	0.006	0.004	0	0	0	0	0.012	85.0	17.4	
P84	20.000		0	0	0	0	0	0	0	0	0.023	84.8	0.7	
P85	0.400		0.004	0.002	0.006	0.003	0	0	0	0	0.011	85.0	16.5	
P86	20.000		0	0	0	0	0	0	0	0	0.031	84.8	0.9	
P87	0.400		0.003	0.002	0.004	0.003	0	0	0	0	0.008	85.0	12.1	
P88	20.000		0	0	0	0	0	0	0	0	0.207	84.6	6.1	
P89	0.400		0.003	0.002	0.005	0.003	0	0	0	0	0.010	85.0	14.7	
P90	20.000		0	0	0	0	0	0	0	0	1.307	45.5	38.5	
P91	0.400		0.003	0.002	0.005	0.003	0	0	0	0	0.010	85.0	14.6	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
P92	20.000		0	0	0	0	0	0	0	0	1.310	44.7	38.6	
P93	0.400		0.004	0.003	0.006	0.004	0	0	0	0	0.012	85.0	17.7	
P94	20.000		0	0	0	0	0	0	0	0	1.395	55.7	41.1	
P95	0.400		0.003	0.002	0.004	0.002	0	0	0	0	0.007	85.0	11.1	
P96	20.000		0	0	0	0	0	0	0	0	0.197	84.6	5.8	
P97	0.400		0.007	0.004	0.010	0.006	0	0	0	0	0.020	85.0	29.7	
P98	20.000		0	0	0	0	0	0	0	0	0.177	84.6	5.2	
P99	0.400		0.006	0.004	0.008	0.005	0	0	0	0	0.016	85.0	24.5	
P102	0.400		0.016	0.010	0.010	0.006	0	0	0	0	0.031	85.0	44.6	
P103	20.000		0	0	0	0	0	0	0	0	2.177	99.4	62.8	
P106	0.400		0.004	0.003	0.003	0.002	0	0	0	0	0.009	85.0	12.5	
P107	20.000		0	0	0	0	0	0	0	0	2.151	99.4	62.1	
P108	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.015	85.0	22.4	
P109	20.000		0	0	0	0	0	0	0	0	2.144	99.4	61.9	
P114	0.400		0.009	0.006	0.006	0.004	0	0	0	0	0.018	85.0	26.7	
P115	20.000		0	0	0	0	0	0	0	0	2.132	99.3	61.6	
P116	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.016	85.0	23.8	
P117	20.000		0	0	0	0	0	0	0	0	2.116	99.2	61.2	
P118	0.400		0.068	0.042	0.043	0.027	0	0	0	0	0.131	85.0	193.1	
P119	20.000		0	0	0	0	0	0	0	0	0.134	84.5	3.9	
P120	0.400		0.042	0.026	0.027	0.017	0	0	0	0	0.081	85.0	119.3	
P121	20.000		0	0	0	0	0	0	0	0	2.007	98.2	58.1	
P122	0.400		0.009	0.006	0.006	0.004	0	0	0	0	0.018	85.0	26.5	
P123	20.000		0	0	0	0	0	0	0	0	0.018	84.7	0.5	
P126	20.000		0	0	0	0	0	0	0	0	0.011	84.8	0.3	
P127	0.400		0.004	0.002	0.005	0.003	0	0	0	0	0.010	85.0	15.5	
P128	20.000		0	0	0	0	0	0	0	0	0.042	84.7	1.2	
P129	0.400		0.003	0.002	0.005	0.003	0	0	0	0	0.009	85.0	13.4	
P130	20.000		0	0	0	0	0	0	0	0	0.071	84.7	2.1	
P131	0.400		0.006	0.004	0.009	0.006	0	0	0	0	0.018	85.0	27.0	
P132	20.000		0	0	0	0	0	0	0	0	0.033	84.7	1.0	
P133	0.400		0.005	0.003	0.007	0.005	0	0	0	0	0.015	85.0	21.9	
P134	20.000		0	0	0	0	0	0	0	0	0.086	84.7	2.5	
P135	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.015	85.0	22.0	
P136	20.000		0	0	0	0	0	0	0	0	1.320	61.3	38.9	
P137	0.400		0.007	0.004	0.009	0.006	0	0	0	0	0.019	85.0	27.9	
P138	20.000		0	0	0	0	0	0	0	0	1.310	62.5	38.7	
P139	0.400		0.004	0.002	0.006	0.003	0	0	0	0	0.011	85.0	16.5	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
P140	0.400		0	0	0.024	0.015	0	0	0	0	0.028	85.0	40.8	
P141	20.000		0	0	0	0	0	0	0	0	1.925	97.7	55.8	
P142	20.000		0	0	0	0	0	0	0	0	0.018	84.7	0.5	
P143	0.400		0.006	0.004	0.009	0.005	0	0	0	0	0.018	85.0	26.2	
P146	0.400		0.006	0.004	0.004	0.002	0	0	0	0	0.011	85.0	16.3	
P147	20.000		0	0	0	0	0	0	0	0	1.902	97.6	55.1	
P148	0.400		0.010	0.006	0.007	0.004	0	0	0	0	0.020	85.0	29.5	
P149	20.000		0	0	0	0	0	0	0	0	1.893	97.4	54.9	
P150	0.400		0.004	0.002	0.003	0.002	0	0	0	0	0.008	85.0	11.3	
P151	20.000		0	0	0	0	0	0	0	0	1.874	97.3	54.4	
P152	0.400		0.006	0.004	0.004	0.003	0	0	0	0	0.012	85.0	18.0	
P153	20.000		0	0	0	0	0	0	0	0	1.866	97.1	54.3	
P154	0.400		0.007	0.004	0.004	0.003	0	0	0	0	0.013	85.0	19.7	
P155	20.000		0	0	0	0	0	0	0	0	1.856	97.0	54.0	
P156	0.400		0.009	0.006	0.006	0.004	0	0	0	0	0.018	85.0	26.6	
P157	20.000		0	0	0	0	0	0	0	0	1.840	96.7	53.7	
P158	0.400		0.009	0.006	0.006	0.003	0	0	0	0	0.017	85.0	25.3	
P159	20.000		0	0	0	0	0	0	0	0	1.826	96.5	53.4	
P162	0.400		0.056	0.034	0.035	0.021	0	0	0	0	0.106	85.0	158.3	
P163	20.000		0	0	0	0	0	0	0	0	0.289	86.2	8.4	
P164	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.043	85.0	64.4	
P165	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.042	85.0	64.3	
P166	0.400		0.015	0.009	0.020	0.013	0	0	0	0	0.042	85.0	64.3	
P167	0.400		0.015	0.009	0.020	0.013	0	0	0	0	0.042	85.0	64.3	
P168	0.400		0.794	0.492	0.469	0.291	0	0	0	0	1.486	85.0	2278.4	
P172	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.043	85.0	64.4	
P173	20.000		0	0	0	0	0	0	0	0	2.647	83.1	77.6	
P177	20.000		0	0	0	0	0	0	0	0	2.205	83.2	65.3	
P178	20.000		0	0	0	0	0	0	0	0	2.251	83.2	66.6	
P179	20.000		0	0	0	0	0	0	0	0	2.297	83.2	67.9	
P180	20.000		0	0	0	0	0	0	0	0	2.343	83.2	69.1	
P181	20.000		0	0	0	0	0	0	0	0	2.603	83.1	76.3	
P182	20.000		0	0	0	0	0	0	0	0	2.390	83.2	70.4	
P183	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.042	85.0	64.3	
P186	20.000		0	0	0	0	0	0	0	0	2.521	83.1	74.0	
P187	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.042	85.0	64.4	
P188	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.015	85.0	22.5	
P189	0.400		0.010	0.006	0.007	0.004	0	0	0	0	0.020	85.0	29.8	

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			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
P190	20.000		0	0	0	0	0	0	0	0	2.437	83.2	71.7	
P191	0.400		0.015	0.009	0.021	0.013	0	0	0	0	0.042	85.0	64.4	
P192	0.400		0.010	0.006	0.006	0.004	0	0	0	0	0.019	85.0	27.7	
P193	0.400		0.004	0.002	0.002	0.001	0	0	0	0	0.007	85.0	10.3	
P194	20.000		0	0	0	0	0	0	0	0	0.105	87.0	3.1	
P195	20.000		0	0	0	0	0	0	0	0	0.123	87.0	3.6	
P196	20.000		0	0	0	0	0	0	0	0	0.166	87.1	4.8	
P197	20.000		0	0	0	0	0	0	0	0	0.181	86.9	5.3	
P200	0.400		0.022	0.013	0.014	0.008	0	0	0	0	0.042	85.0	61.8	
P201	20.000		0	0	0	0	0	0	0	0	0.098	86.9	2.9	
P202	0.400		0.015	0.009	0.009	0.006	0	0	0	0	0.029	85.0	42.3	
P203	20.000		0	0	0	0	0	0	0	0	0.056	88.4	1.6	
P208	0.400		0.007	0.004	0.004	0.003	0	0	0	0	0.013	85.0	19.1	
P209	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.016	85.0	23.9	
P210	20.000		0	0	0	0	0	0	0	0	0.016	84.7	0.5	
P211	20.000		0	0	0	0	0	0	0	0	0.027	90.7	0.8	
P214	0.400		0.040	0.025	0.025	0.016	0	0	0	0	0.077	85.0	114.6	
P215	20.000		0	0	0	0	0	0	0	0	0.078	84.6	2.3	
P220	0.400		0.010	0.006	0.007	0.004	0	0	0	0	0.020	85.0	29.7	
P221	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.015	85.0	22.9	
P222	20.000		0	0	0	0	0	0	0	0	1.569	89.9	45.9	
P223	20.000		0	0	0	0	0	0	0	0	1.582	90.3	46.3	
P226	0.400		0.055	0.034	0.034	0.021	0	0	0	0	0.105	85.0	157.1	
P227	20.000		0	0	0	0	0	0	0	0	0.107	84.5	3.1	
P232	0.400		0.010	0.006	0.006	0.004	0	0	0	0	0.019	85.0	28.6	
P233	20.000		0	0	0	0	0	0	0	0	1.496	86.0	43.9	
P234	20.000		0	0	0	0	0	0	0	0	1.503	86.6	44.1	
P235	0.400		0.007	0.004	0.004	0.003	0	0	0	0	0.013	85.0	19.3	
P238	0.400		0.045	0.028	0.028	0.017	0	0	0	0	0.086	85.0	128.4	
P239	20.000		0	0	0	0	0	0	0	0	0.087	84.6	2.6	
P242	0.400		0.015	0.009	0.009	0.006	0	0	0	0	0.028	85.0	42.3	
P243	20.000		0	0	0	0	0	0	0	0	1.452	82.2	42.7	
P246	0.400		0.011	0.007	0.007	0.004	0	0	0	0	0.021	85.0	31.8	
P247	20.000		0	0	0	0	0	0	0	0	1.436	81.2	42.2	
P250	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.014	85.0	21.4	
P251	20.000		0	0	0	0	0	0	0	0	1.425	80.4	41.9	
P252	0.400		0.009	0.006	0.006	0.004	0	0	0	0	0.018	85.0	26.6	
P253	20.000		0	0	0	0	0	0	0	0	1.420	79.8	41.8	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
P254	0.400		0.011	0.007	0.007	0.004	0	0	0	0	0.022	85.0	32.3	
P255	20.000		0	0	0	0	0	0	0	0	1.484	75.2	43.7	
P260	0.400		0.007	0.004	0.005	0.003	0	0	0	0	0.014	85.0	20.5	
P261	0.400		0.005	0.003	0.003	0.002	0	0	0	0	0.009	85.0	13.6	
P262	20.000		0	0	0	0	0	0	0	0	0.132	87.2	3.9	
P263	20.000		0	0	0	0	0	0	0	0	0.146	87.1	4.3	
P266	0.400		0.005	0.003	0.003	0.002	0	0	0	0	0.010	85.0	15.3	
P267	20.000		0	0	0	0	0	0	0	0	1.339	67.9	39.4	
P268	0.400		0.004	0.003	0.003	0.002	0	0	0	0	0.008	85.0	12.1	
P269	20.000		0	0	0	0	0	0	0	0	1.336	67.3	39.3	
P272	0.400		0.007	0.004	0.004	0.003	0	0	0	0	0.013	85.0	18.8	
P273	20.000		0	0	0	0	0	0	0	0	1.333	66.5	39.3	
P277	20.000		0	0	0	0	0	0	0	0	1.326	66.0	39.0	
P282	0.400		0.015	0.009	0.009	0.006	0	0	0	0	0.028	85.0	42.4	
P283	20.000		0	0	0	0	0	0	0	0	1.336	65.3	39.4	
P286	20.000		0	0	0	0	0	0	0	0	1.325	66.0	39.0	
P288	20.000		0	0	0	0	0	0	0	0	1.324	65.9	39.0	
P292	20.000		0	0	0	0	0	0	0	0	0.219	86.2	6.5	
P293	0.400		0.010	0.006	0.006	0.004	0	0	0	0	0.020	85.0	29.8	
P296	20.000		0	0	0	0	0	0	0	0	0.199	86.1	5.9	
P297	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.015	85.0	22.8	
P298	20.000		0	0	0	0	0	0	0	0	0.184	86.1	5.4	
P299	0.400		0.010	0.006	0.006	0.004	0	0	0	0	0.018	85.0	27.4	
P304	0.400		0.026	0.016	0.016	0.010	0	0	0	0	0.049	85.0	73.0	
P305	20.000		0	0	0	0	0	0	0	0	0.166	86.1	4.9	
P312	20.000		0	0	0	0	0	0	0	0	0.116	86.7	3.4	
P313	0.400		0.014	0.009	0.009	0.005	0	0	0	0	0.027	85.0	39.9	
P314	20.000		0	0	0	0	0	0	0	0	0.090	86.3	2.7	
P315	0.400		0.012	0.007	0.007	0.005	0	0	0	0	0.023	85.0	34.3	
P316	20.000		0	0	0	0	0	0	0	0	0.067	86.5	2.0	
P317	0.400		0.008	0.005	0.005	0.003	0	0	0	0	0.016	85.0	24.1	
P324	0.400		0.012	0.007	0.007	0.004	0	0	0	0	0.022	85.0	33.4	
P325	0.400		0.006	0.004	0.004	0.002	0	0	0	0	0.011	85.0	16.2	
P326	20.000		0	0	0	0	0	0	0	0	0.011	84.8	0.3	
P327	20.000		0	0	0	0	0	0	0	0	0.033	86.8	1.0	
P328	20.000		0	0	0	0	0	0	0	0	0.051	86.3	1.5	
P329	0.400		0.010	0.006	0.006	0.004	0	0	0	0	0.019	85.0	27.8	
TL1	21.000		0	0	0	0	0	0	0	0	3.255	96.0	93.8	

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* Indicates operating load of a bus exceeds the bus critical limit (100.0% of the Continuous Ampere rating).

Indicates operating load of a bus exceeds the bus marginal limit (95.0% of the Continuous Ampere rating).

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Branch Loading Summary Report

CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
Line6	Line	266.50	38.53	14.46					
Line10	Line	266.50	0.97	0.36					
Line12	Line	266.50	2.09	0.78					
Line18	Line	266.50	1.29	0.48					
Line22	Line	266.50	0.68	0.25					
Line26	Line	266.50	5.82	2.18					
Line30	Line	266.50	38.41	14.41					
Line36	Line	266.50	0.31	0.12					
Line37	Line	266.50	1.24	0.46					
Line44	Line	266.50	0.35	0.13					
Line45	Line	266.50	38.48	14.44					
Line47	Line	266.50	5.23	1.96					
Line48	Line	266.50	38.43	14.42					
Line55	Line	266.50	2.53	0.95					
Line56	Line	266.50	6.12	2.29					
Line57	Line	266.50	0.92	0.35					
Line58	Line	266.50	38.47	14.44					
Line60	Line	266.50	38.38	14.40					
Line62	Line	266.50	0.52	0.20					
Line76	Line	266.50	65.28	24.50					
Line77	Line	266.50	66.57	24.98					
Line78	Line	266.50	67.85	25.46					
Line79	Line	266.50	69.14	25.94					
Line82	Line	266.50	71.71	26.91					
Line84	Line	266.50	70.43	26.43					
Line86	Line	266.50	19.71	7.40					
Line160	Line	266.50	0.53	0.20					
P_Cuaca	Line	426.41	93.81	22.00					
PC1	Transformer				0.160	0.103	64.6	0.101	63.3
PC2	Transformer				0.100	0.053	53.0	0.052	52.1
PC3	Transformer				0.050	0.030	60.1	0.029	58.8
PC4	Transformer				0.160	0.062	38.9	0.061	38.4
PC5	Transformer				0.100	0.035	34.7	0.034	34.3

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CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
PC_06	Transformer				2.000	0.609	30.4	0.601	30.1
PC7	Transformer				0.050	0.012	24.9	0.012	24.7
PC8	Transformer				0.160	0.051	31.6	0.050	31.3
PC9	Transformer				0.100	0.035	35.4	0.035	34.9
PC10	Transformer				0.025	0.016	63.0	0.015	61.7
PC11	Transformer				0.100	0.056	55.5	0.054	54.5
PC12	Transformer				0.025	0.019	74.8	0.018	72.9
PC13	Transformer				0.050	0.033	66.2	0.032	64.7
PC14	Transformer				0.050	0.027	54.3	0.027	53.3
PC15	Transformer				0.050	0.009	17.0	0.008	16.9
PC16	Transformer				0.050	0.034	69.0	0.034	67.3
PC17	Transformer				0.160	0.030	18.6	0.030	18.5
PC18	Transformer				0.050	0.029	57.1	0.028	56.0
PC19	Transformer				0.100	0.024	24.4	0.024	24.2
PC20	Transformer				0.100	0.017	16.7	0.017	16.6
PC21	Transformer				0.100	0.048	48.5	0.048	47.7
PC22	Transformer				0.100	0.034	34.4	0.034	34.0
PC23	Transformer				0.100	0.037	37.1	0.037	36.7
PC24	Transformer				0.160	0.012	7.6	0.012	7.6
PC25	Transformer				0.050	0.010	19.5	0.010	19.4
PC26	Transformer				0.200	0.036	17.9	0.036	17.8
PC27	Transformer				0.100	0.015	15.0	0.015	14.9
PC28	Transformer				0.100	0.023	22.6	0.022	22.5
PC29	Transformer				0.100	0.026	26.0	0.026	25.8
PC30	Transformer				0.100	0.034	33.6	0.033	33.2
PC31	Transformer				0.050	0.034	68.0	0.033	66.4
PC32	Transformer				0.050	0.007	15.0	0.007	14.9
PC33	Transformer				0.100	0.016	16.0	0.016	15.9
PC34	Transformer				0.100	0.011	11.2	0.011	11.1
PC35	Transformer				0.100	0.017	17.4	0.017	17.3
PC36	Transformer				0.100	0.017	16.7	0.017	16.6
PC37	Transformer				0.050	0.005	9.6	0.005	9.5
PC38	Transformer				0.100	0.011	11.5	0.011	11.4
PC39	Transformer				0.100	0.013	13.1	0.013	13.0
PC40	Transformer				0.050	0.004	8.1	0.004	8.1

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CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
PC41	Transformer				0.100	0.008	7.6	0.008	7.6
PC42	Transformer				0.100	0.013	13.4	0.013	13.3
PC43	Transformer				0.050	0.008	15.5	0.008	15.4
PC44	Transformer				0.100	0.009	9.3	0.009	9.3
PC45	Transformer				0.100	0.005	4.7	0.005	4.7
PC46	Transformer				0.100	0.020	19.9	0.020	19.8
PC47	Transformer				0.100	0.013	12.6	0.013	12.5
PC48	Transformer				0.100	0.021	21.3	0.021	21.1
PC49	Transformer				0.050	0.013	26.7	0.013	26.4
PC50	Transformer				0.050	0.008	16.2	0.008	16.1
* PC_56 MAJU TAMBAK SUMUR	Transformer				0.160	1.539	961.8	1.486	929.0
PC57	Transformer				0.160	0.010	6.2	0.010	6.1
PC58	Transformer				0.160	0.010	6.2	0.010	6.2
PC59	Transformer				0.160	0.008	4.7	0.007	4.7
PC60	Transformer				0.160	0.020	12.6	0.020	12.4
PC61	Transformer				0.160	0.017	10.4	0.016	10.3
PC_62	Transformer				0.160	0.008	5.1	0.008	5.1
PC_63	Transformer				0.160	0.018	11.4	0.018	11.3
PC79	Transformer				0.160	0.015	9.3	0.015	9.2
PC80	Transformer				0.160	0.019	12.1	0.019	11.9
PC81	Transformer				0.160	0.019	11.8	0.019	11.6
PC82	Transformer				0.160	0.011	7.0	0.011	6.9
PC86	Transformer				0.160	0.044	27.3	0.042	26.3
PC87	Transformer				0.160	0.011	6.6	0.010	6.5
PC88	Transformer				0.160	0.009	5.7	0.009	5.7
PC89	Transformer				0.160	0.015	9.3	0.015	9.2
PC90	Transformer				0.160	0.012	7.5	0.012	7.4
PC96	Transformer				0.160	0.044	27.5	0.043	26.6
PC97	Transformer				0.160	0.044	27.3	0.042	26.4
PC103	Transformer				0.160	0.044	27.3	0.042	26.3
PC104	Transformer				0.160	0.044	27.2	0.042	26.3
PC105	Transformer				0.160	0.043	27.2	0.042	26.3
PC153	Transformer				0.160	0.044	27.5	0.043	26.6
PC154	Transformer				0.160	0.044	27.4	0.042	26.5
PC155	Transformer				0.160	0.044	27.3	0.042	26.4

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CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
PC164	Transformer				0.160	0.018	11.1	0.018	11.0
PC165	Transformer				0.160	0.011	7.0	0.011	6.9
PC166	Transformer				0.160	0.012	7.4	0.012	7.3
T-KA 008	Transformer				0.100	0.031	30.9	0.031	30.6
T-KA 09	Transformer				0.050	0.018	37.0	0.018	36.5
T-KA 010	Transformer				0.200	0.082	41.2	0.081	40.6
T-KA 11	Transformer				0.100	0.028	28.1	0.028	27.9
T-KA 38	Transformer				0.050	0.016	33.0	0.016	32.6
T-KA 40	Transformer				0.031	0.018	58.2	0.018	57.5
T-KA 45	Transformer				0.250	0.134	53.4	0.131	52.4
T-KA 49	Transformer				0.016	0.009	55.2	0.009	54.5
T-KA 61	Transformer				0.031	0.011	35.8	0.011	35.5
T-KA 62	Transformer				0.031	0.020	64.7	0.020	63.8
T-KA 75	Transformer				0.031	0.008	24.8	0.008	24.7
T-KA 94	Transformer				0.050	0.016	31.0	0.015	30.7
T-PA 01	Transformer				0.031	0.017	55.2	0.017	54.5
T-PA 02	Transformer				0.200	0.108	54.2	0.106	53.1
T-PA 03	Transformer				0.031	0.013	42.0	0.013	41.6
T-PA 04	Transformer				0.031	0.020	64.9	0.020	63.9
T-PA 05	Transformer				0.031	0.009	29.6	0.009	29.3
T-PA 06	Transformer				0.031	0.007	22.4	0.007	22.3
T-PA 07	Transformer				0.100	0.042	42.3	0.042	41.7
T-PA 08	Transformer				0.031	0.013	41.5	0.013	41.1
T-PA 10	Transformer				0.031	0.016	52.1	0.016	51.4
T-PA 12	Transformer				0.031	0.016	49.7	0.015	49.2
T-PA 13	Transformer				0.031	0.015	48.9	0.015	48.4
T-PA 14	Transformer				0.100	0.029	28.9	0.029	28.6
T-PA 014	Transformer				0.031	0.020	62.1	0.019	61.2
T-PA 16	Transformer				0.031	0.018	58.1	0.018	57.3
T-PA 17	Transformer				0.031	0.014	43.1	0.013	42.7
T-PA 18	Transformer				0.031	0.012	39.4	0.012	39.0
T-PA 19	Transformer				0.031	0.019	60.3	0.019	59.5
T-PA 20	Transformer				0.031	0.020	64.6	0.020	63.6
T-PA 021	Transformer				0.200	0.078	39.2	0.077	38.6
T-PA 022	Transformer				0.200	0.107	53.6	0.105	52.5

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CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
T-PA 23	Transformer				0.031	0.014	44.7	0.014	44.2
T-PD 01	Transformer				0.050	0.022	43.9	0.022	43.2
T-PD 02	Transformer				0.050	0.008	16.5	0.008	16.4
T-PD 03	Transformer				0.050	0.020	40.5	0.020	39.9
T-PD 04	Transformer				0.050	0.027	54.1	0.027	53.6
T-PD 05	Transformer				0.050	0.016	32.7	0.016	32.3
T-PD 06	Transformer				0.050	0.015	29.1	0.014	28.8
T-PD 07	Transformer				0.050	0.019	37.1	0.018	36.6
T-PD 08	Transformer				0.050	0.029	57.6	0.028	56.4
T-PD 12	Transformer				0.050	0.018	36.1	0.018	35.6
T-PD 13	Transformer				0.100	0.050	49.5	0.049	48.7
T-PD 14	Transformer				0.050	0.019	37.7	0.019	37.1
T-PD 16	Transformer				0.050	0.011	22.0	0.011	21.8
T-PD 17	Transformer				0.050	0.013	25.6	0.013	25.3
T-PD 18	Transformer				0.050	0.029	57.5	0.028	56.2
T-PD 19	Transformer				0.050	0.010	20.8	0.010	20.6
T-PD 020	Transformer				0.050	0.023	46.6	0.023	45.7
* T-PD 21	Transformer				0.016	0.022	137.8	0.021	133.2
T-PD 22	Transformer				0.050	0.015	30.9	0.015	30.5
T-PD 23	Transformer				0.050	0.023	45.3	0.022	44.5
T-PD 024	Transformer				0.200	0.087	43.7	0.086	43.0
T51	Transformer				0.050	0.018	36.0	0.018	35.5
T56	Transformer				30.000	2.177	7.3	2.175	7.3
T187	Transformer				0.200	0.173	86.6	0.168	84.1
T188	Transformer				0.200	0.177	88.6	0.172	86.0
T189	Transformer				0.200	0.173	86.6	0.168	84.1
Trafo #2	Transformer				60.000	3.255	5.4	3.250	5.4

* Indicates a branch with operating load exceeding the branch capability.

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Branch Losses Summary Report

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	% Drop in Vmag
SKTM_AL	2.714	1.800	-2.714	-1.800	0.0	0.0	98.5	98.5	0.00
Line1-2	-2.724	1.301	2.726	-1.297	2.1	3.5	98.5	98.5	0.01
PC7	0.011	0.007	-0.010	-0.007	0.0	0.1	98.5	97.7	0.82
SKTM_AL2	2.201	1.471	-2.201	-1.471	0.0	0.0	98.5	98.5	0.00
PC_06	0.513	0.328	-0.511	-0.317	1.6	11.3	98.5	97.3	1.20
Line2-2	-2.125	-1.422	2.127	1.424	1.5	2.5	98.4	98.5	0.10
Line3-2	2.097	1.404	-2.095	-1.401	1.5	2.5	98.4	98.3	0.10
PC30	0.028	0.018	-0.028	-0.017	0.2	0.4	98.4	97.3	1.10
Line4-1	-2.057	-1.375	2.058	1.377	1.4	2.4	98.2	98.3	0.10
Line82	2.028	1.357	-2.026	-1.354	1.8	3.1	98.2	98.1	0.13
PC31	0.029	0.018	-0.028	-0.017	0.4	0.9	98.2	96.0	2.25
Line5-2	0.552	0.358	-0.552	-0.358	0.1	0.2	97.5	97.4	0.03
Line86	-0.558	-0.362	0.558	0.362	0.1	0.2	97.5	97.5	0.04
PC32	0.006	0.004	-0.006	-0.004	0.0	0.0	97.5	97.0	0.50
Line6-2	0.538	0.350	-0.538	-0.349	0.1	0.2	97.4	97.4	0.03
PC33	0.014	0.008	-0.013	-0.008	0.0	0.1	97.4	96.9	0.53
PC34	-0.009	-0.006	0.009	0.006	0.0	0.0	97.0	97.4	0.37
Line7-2	-0.529	-0.343	0.529	0.344	0.1	0.2	97.4	97.4	0.03
Line8-2	0.514	0.334	-0.514	-0.334	0.1	0.1	97.4	97.3	0.02
PC35	0.015	0.009	-0.015	-0.009	0.0	0.1	97.4	96.8	0.58
PC36	-0.014	-0.009	0.014	0.009	0.0	0.1	96.8	97.3	0.56
Line9-2	0.500	0.325	-0.500	-0.325	0.1	0.1	97.3	97.3	0.02
Line10-2	0.495	0.322	-0.495	-0.322	0.1	0.1	97.3	97.3	0.02
PC37	0.004	0.003	-0.004	-0.003	0.0	0.0	97.3	97.0	0.32
Line11-2	0.486	0.316	-0.486	-0.316	0.1	0.1	97.3	97.3	0.02
PC38	0.010	0.006	-0.010	-0.006	0.0	0.1	97.3	96.9	0.38
Line12-2	0.003	0.002	-0.003	-0.002	0.0	0.0	97.3	97.3	0.00
Line15-2	0.471	0.307	-0.471	-0.307	0.1	0.1	97.3	97.3	0.02
PC39	0.011	0.007	-0.011	-0.007	0.0	0.1	97.3	96.8	0.43
Line13-2	0.465	0.303	-0.464	-0.303	0.1	0.1	97.3	97.2	0.02
Line14-2	0.006	0.004	-0.006	-0.004	0.0	0.0	97.3	97.3	0.00
PC40	0.003	0.002	-0.003	-0.002	0.0	0.0	97.3	97.0	0.27
Line16-2	0.453	0.296	-0.453	-0.296	0.1	0.1	97.2	97.2	0.02
PC42	0.011	0.007	-0.011	-0.007	0.0	0.1	97.2	96.8	0.45
PC41	0.006	0.004	-0.006	-0.004	0.0	0.0	97.3	97.0	0.25

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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	
Cable13	0.439	0.287	-0.438	-0.286	0.2	0.2	97.2	97.2	0.05
Line17-2	0.008	0.005	-0.008	-0.005	0.0	0.0	97.2	97.2	0.00
PC43	0.007	0.004	-0.007	-0.004	0.0	0.0	97.2	96.7	0.52
PC44	0.008	0.005	-0.008	-0.005	0.0	0.0	97.2	96.9	0.31
Line1	3.123	-0.916	-3.029	1.073	94.3	157.0	95.4	94.2	1.21
P_Cuaca	-3.123	0.916	3.124	-0.915	0.5	0.9	95.4	95.4	0.01
Line21	3.029	-1.073	-3.024	1.082	5.2	8.7	94.2	98.8	0.06
Trafo #2	3.124	-0.893	-3.124	0.915	0.5	22.0	100.0	100.2	0.17
Outgoing	3.124	-0.915	-3.124	0.915	0.0	0.1	100.2	95.4	0.00
Line160	-0.015	-0.010	0.015	0.010	0.0	0.0	97.8	97.8	0.02
T51	0.015	0.010	-0.015	-0.009	0.2	0.2	97.8	96.5	1.34
Line32	2.167	-0.211	-2.165	0.212	1.4	1.3	100.1	100.0	0.05
T56	-2.167	0.211	2.167	-0.191	0.4	19.7	100.1	100.0	0.06
Line65	-2.085	0.264	2.085	-0.264	0.5	0.5	99.8	99.9	0.02
Line66	1.972	-0.335	-1.971	0.335	0.4	0.4	99.8	99.8	0.01
Line67	0.113	0.070	-0.113	-0.071	0.0	-0.9	99.8	99.8	0.01
Line68	-1.900	0.380	1.901	-0.379	1.0	0.8	99.8	99.8	0.03
Line70	1.885	-0.389	-1.884	0.390	1.4	1.2	99.8	99.7	0.05
Line183	0.015	0.009	-0.015	-0.010	0.0	-0.5	99.8	99.8	0.00
Line71	1.884	-0.390	-1.881	0.391	2.4	1.1	99.7	99.6	0.11
Line161	1.498	-0.626	-1.496	0.627	2.1	0.8	98.8	98.7	0.08
Line187	-1.747	0.480	1.747	-0.480	0.6	0.4	98.8	98.8	0.02
Line190	0.249	0.146	-0.249	-0.146	0.0	-0.7	98.8	98.8	0.02
Line162	0.066	0.041	-0.066	-0.042	0.0	-1.2	98.7	98.7	0.01
Line216	1.430	-0.667	-1.429	0.667	0.8	0.3	98.7	98.7	0.03
Line166	-1.394	0.688	1.397	-0.687	3.1	1.0	98.5	98.6	0.11
Line168	0.091	0.057	-0.091	-0.057	0.0	-0.4	98.5	98.5	0.01
Line171	1.303	-0.745	-1.301	0.745	2.1	0.6	98.5	98.4	0.07
Line174	0.074	0.046	-0.074	-0.047	0.0	-0.2	98.3	98.3	0.00
Line175	1.195	-0.811	-1.194	0.811	0.2	0.1	98.3	98.3	0.01
Line218	-1.269	0.764	1.269	-0.764	0.7	0.2	98.3	98.3	0.02
Line184	-1.828	0.426	1.828	-0.425	0.3	0.3	99.5	99.5	0.01
Line185	1.828	-0.426	-1.824	0.429	3.7	3.0	99.5	99.4	0.13
Line196	-0.127	-0.071	0.127	0.071	0.0	-0.5	98.7	98.8	0.01
Line200	0.127	0.071	-0.127	-0.071	0.0	-0.5	98.7	98.7	0.01
Line214	0.000	0.000	0.000	-0.003	0.0	-2.6	98.7	98.7	0.00
Line172	-1.269	0.764	1.270	-0.764	1.1	0.3	98.3	98.3	0.04

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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	
Line225	-0.891	0.988	0.892	-0.987	1.0	0.2	98.0	98.1	0.01
Line227	0.891	-0.988	-0.887	0.988	4.1	0.8	98.0	98.0	0.04
Line219	-0.189	-0.110	0.189	0.109	0.1	-1.3	98.0	98.1	0.04
Line231	0.189	0.110	-0.189	-0.111	0.1	-1.3	98.0	98.0	0.04
T187	-0.143	-0.089	0.145	0.095	2.0	6.0	94.4	97.1	2.75
Cable14	-0.145	-0.095	0.145	0.095	0.0	0.0	97.1	97.2	0.02
T188	-0.146	-0.091	0.148	0.097	2.0	6.3	94.3	97.1	2.81
Cable15	-0.148	-0.097	0.148	0.097	0.0	0.0	97.1	97.2	0.02
T189	0.145	0.095	-0.143	-0.089	2.0	6.0	97.2	94.4	2.75
Line1-1	3.024	-1.082	-3.011	1.103	13.1	21.8	98.8	98.7	0.15
Line2	0.030	0.019	-0.030	-0.019	0.0	0.0	98.7	98.7	0.01
Line3	2.981	-1.122	-2.973	1.135	7.8	12.9	98.7	98.6	0.08
PC9	0.030	0.019	-0.030	-0.018	0.2	0.5	98.7	97.5	1.16
Line5	2.930	-1.162	-2.928	1.166	2.5	4.2	98.6	98.6	0.02
PC8	0.043	0.027	-0.043	-0.026	0.2	0.6	98.6	97.6	0.98
Line7	2.914	-1.175	-2.911	1.179	2.5	4.2	98.6	98.5	0.02
PC20	0.014	0.009	-0.014	-0.009	0.0	0.1	98.6	98.0	0.55
Line9	0.157	0.100	-0.157	-0.100	0.0	0.0	98.5	98.5	0.02
PC13	0.028	0.018	-0.027	-0.017	0.3	0.8	98.5	96.4	2.18
Line11	0.105	0.067	-0.105	-0.067	0.0	0.0	98.5	98.5	0.01
PC4	0.053	0.033	-0.052	-0.032	0.3	0.9	98.5	97.3	1.21
Line13	0.023	0.015	-0.023	-0.015	0.0	0.0	98.5	98.5	0.00
Line14	0.025	0.016	-0.025	-0.016	0.0	0.0	98.5	98.5	0.01
Line15	0.016	0.010	-0.016	-0.010	0.0	0.0	98.5	98.5	0.00
Line16	0.041	0.026	-0.041	-0.026	0.0	0.0	98.5	98.5	0.01
PC14	0.023	0.015	-0.023	-0.014	0.2	0.6	98.5	96.7	1.79
PC21	0.041	0.026	-0.041	-0.025	0.4	0.9	98.5	96.9	1.60
PC17	0.025	0.016	-0.025	-0.016	0.1	0.2	98.5	97.8	0.69
PC12	0.016	0.010	-0.015	-0.010	0.2	0.5	98.5	96.1	2.47
Line20	-0.025	-0.016	0.025	0.016	0.0	0.0	98.0	98.0	0.00
PC3	0.025	0.016	-0.025	-0.015	0.3	0.7	98.0	96.0	1.99
Line24	-0.054	-0.035	0.054	0.035	0.0	0.0	98.0	98.0	0.01
PC22	0.029	0.018	-0.029	-0.018	0.2	0.5	98.0	96.9	1.14
Line23	-0.084	-0.053	0.084	0.053	0.0	0.0	98.0	98.0	0.01
PC5	0.029	0.019	-0.029	-0.018	0.2	0.5	98.0	96.8	1.15
Line25	-0.115	-0.073	0.115	0.073	0.0	0.0	98.0	98.0	0.01
PC23	0.031	0.020	-0.031	-0.019	0.2	0.5	98.0	96.8	1.23

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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	
Line27	-0.160	-0.101	0.160	0.101	0.0	0.0	98.0	98.0	0.01
PC2	0.045	0.029	-0.044	-0.027	0.4	1.1	98.0	96.3	1.75
Line28	0.004	0.002	-0.004	-0.002	0.0	0.0	98.0	98.0	0.00
Line29	-0.164	-0.104	0.164	0.104	0.0	0.0	98.0	98.0	0.01
PC45	0.004	0.002	-0.004	-0.002	0.0	0.0	98.0	97.9	0.15
Line6	-0.558	1.184	0.559	-1.183	0.5	0.9	98.0	98.0	0.04
Line31	0.102	0.064	-0.102	-0.064	0.0	0.0	98.0	98.0	0.01
Line42	0.205	0.130	-0.205	-0.130	0.0	0.0	98.0	98.0	0.01
PC1	0.087	0.056	-0.086	-0.053	0.9	2.6	98.0	96.0	2.03
line1	0.163	0.103	-0.163	-0.103	0.0	0.0	98.0	98.0	0.01
Line43	0.022	0.014	-0.022	-0.014	0.0	0.0	98.0	98.0	0.00
PC19	0.021	0.013	-0.021	-0.013	0.1	0.2	98.0	97.2	0.81
PC29	0.022	0.014	-0.022	-0.014	0.1	0.3	98.0	97.2	0.86
line2	0.138	0.088	-0.138	-0.088	0.0	0.0	98.0	98.0	0.01
PC18	0.024	0.015	-0.024	-0.015	0.3	0.6	98.0	96.1	1.89
Line46	0.013	0.008	-0.013	-0.008	0.0	0.0	98.0	98.0	0.00
Line49	0.126	0.080	-0.126	-0.080	0.0	0.0	98.0	98.0	0.01
PC27	0.013	0.008	-0.013	-0.008	0.0	0.1	98.0	97.5	0.49
PC10	-0.013	-0.008	0.013	0.009	0.2	0.4	95.9	98.0	2.09
line	0.113	0.072	-0.113	-0.072	0.0	0.0	98.0	98.0	0.01
Line50	0.029	0.019	-0.029	-0.019	0.0	0.0	98.0	98.0	0.00
Line53	0.076	0.048	-0.076	-0.048	0.0	0.0	98.0	98.0	0.00
PC15	0.007	0.005	-0.007	-0.004	0.0	0.1	98.0	97.4	0.56
Line51	0.019	0.012	-0.019	-0.012	0.0	0.0	98.0	98.0	0.00
Line52	0.057	0.036	-0.057	-0.036	0.0	0.0	98.0	98.0	0.00
PC28	0.019	0.012	-0.019	-0.012	0.1	0.2	98.0	97.2	0.75
Line54	0.047	0.030	-0.047	-0.030	0.0	0.0	98.0	98.0	0.00
PC24	0.010	0.006	-0.010	-0.006	0.0	0.0	98.0	97.7	0.24
PC11	0.047	0.030	-0.046	-0.029	0.5	1.2	98.0	96.1	1.84
PC16	0.029	0.019	-0.029	-0.018	0.4	0.9	98.0	95.7	2.29
Line33	0.094	0.059	-0.094	-0.059	0.0	0.0	98.0	98.0	0.00
PC25	0.008	0.005	-0.008	-0.005	0.0	0.1	98.0	97.4	0.64
Line34	0.064	0.040	-0.064	-0.040	0.0	0.0	98.0	98.0	0.01
PC26	0.030	0.019	-0.030	-0.019	0.1	0.3	98.0	97.5	0.56
Line35	0.047	0.029	-0.047	-0.029	0.0	0.0	98.0	98.0	0.00
PC46	0.017	0.011	-0.017	-0.010	0.1	0.2	98.0	97.4	0.66
Line38	0.036	0.023	-0.036	-0.023	0.0	0.0	98.0	98.0	0.00

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	MW	Mvar	MW	Mvar	kW	kvar	From	To	
Line39	0.011	0.007	-0.011	-0.007	0.0	0.0	98.0	98.0	0.00
Line40	0.018	0.011	-0.018	-0.011	0.0	0.0	98.0	98.0	0.00
PC48	0.018	0.011	-0.018	-0.011	0.1	0.2	98.0	97.3	0.70
Line41	0.007	0.004	-0.007	-0.004	0.0	0.0	98.0	98.0	0.00
PC49	0.011	0.007	-0.011	-0.007	0.1	0.1	98.0	97.1	0.88
PC50	0.007	0.004	-0.007	-0.004	0.0	0.1	98.0	97.5	0.53
PC47	0.011	0.007	-0.011	-0.007	0.0	0.1	98.0	97.6	0.41
Line58	-0.575	1.173	0.576	-1.172	0.5	0.9	98.0	98.0	0.04
PC80	0.016	0.010	-0.016	-0.010	0.2	0.3	98.0	96.6	1.43
Line18	-0.037	-0.024	0.037	0.024	0.0	0.0	97.8	97.8	0.00
PC86	0.037	0.024	-0.036	-0.022	0.9	1.3	97.8	94.6	3.26
Line44	-0.010	-0.006	0.010	0.006	0.0	0.0	97.8	97.8	0.00
PC166	0.010	0.006	-0.010	-0.006	0.1	0.1	97.8	97.0	0.88
Line22	-0.020	-0.012	0.020	0.012	0.0	0.0	97.8	97.8	0.00
PC165	0.010	0.006	-0.009	-0.006	0.1	0.1	97.8	97.0	0.83
Line57	-0.027	-0.017	0.027	0.017	0.0	0.0	97.8	97.8	0.00
PC_62	0.007	0.004	-0.007	-0.004	0.0	0.0	97.8	97.2	0.61
Line26	0.167	0.105	-0.167	-0.105	0.0	0.0	97.9	97.9	0.01
Line56	-0.175	-0.111	0.175	0.111	0.0	0.0	97.9	97.9	0.01
PC58	0.008	0.005	-0.008	-0.005	0.0	0.1	97.9	97.1	0.74
Line30	-0.595	1.159	0.595	-1.158	0.5	0.9	97.9	97.9	0.04
Line48	0.586	-1.164	-0.586	1.165	0.5	0.9	97.9	98.0	0.04
PC57	0.008	0.005	-0.008	-0.005	0.0	0.1	97.9	97.2	0.74
PC90	0.010	0.006	-0.010	-0.006	0.1	0.1	98.0	97.1	0.89
Line60	-0.777	1.044	0.778	-1.043	0.5	0.9	97.9	97.8	0.03
PC59	0.006	0.004	-0.006	-0.004	0.0	0.0	97.9	97.3	0.56
Line47	0.150	0.094	-0.150	-0.094	0.0	0.0	97.9	97.8	0.01
PC60	0.017	0.011	-0.017	-0.010	0.2	0.3	97.9	96.4	1.50
Line55	0.073	0.046	-0.073	-0.046	0.0	0.0	97.8	97.8	0.00
PC61	0.014	0.009	-0.014	-0.009	0.1	0.2	97.8	96.6	1.24
T-KA 008	-0.026	-0.016	0.026	0.016	0.1	0.4	99.0	100.0	1.00
Line181	2.139	-0.229	-2.139	0.229	0.5	0.5	100.0	100.0	0.02
T-KA 49	-0.007	-0.005	0.007	0.005	0.1	0.1	98.7	100.0	1.26
Line61	2.131	-0.234	-2.131	0.234	0.6	0.6	100.0	100.0	0.02
T-KA 94	-0.013	-0.008	0.013	0.008	0.1	0.2	98.8	100.0	1.13
Line63	2.117	-0.243	-2.117	0.243	0.7	0.6	100.0	99.9	0.03
T-KA 09	-0.016	-0.010	0.016	0.010	0.2	0.2	98.6	99.9	1.35

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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	
Line64	2.101	-0.253	-2.099	0.255	2.1	2.0	99.9	99.9	0.08
T-KA 38	-0.014	-0.009	0.014	0.009	0.1	0.2	98.7	99.9	1.20
T-KA 45	-0.111	-0.069	0.113	0.071	1.6	2.4	97.9	99.8	1.95
T-KA 010	-0.069	-0.043	0.070	0.044	0.8	1.1	98.3	99.8	1.51
T-KA 40	-0.015	-0.010	0.015	0.010	0.1	0.2	98.5	99.8	1.34
Line36	-0.009	-0.006	0.009	0.006	0.0	0.0	97.8	97.8	0.00
PC87	0.009	0.006	-0.009	-0.005	0.1	0.1	97.8	97.1	0.78
Line10	0.028	0.017	-0.028	-0.017	0.0	0.0	97.8	97.8	0.00
Line37	-0.036	-0.022	0.036	0.022	0.0	0.0	97.8	97.8	0.00
PC88	0.008	0.005	-0.008	-0.005	0.0	0.1	97.8	97.2	0.68
Line12	-0.060	-0.038	0.060	0.038	0.0	0.0	97.8	97.8	0.00
PC_63	0.015	0.010	-0.015	-0.009	0.2	0.2	97.8	96.5	1.36
PC89	0.013	0.008	-0.013	-0.008	0.1	0.2	97.8	96.7	1.11
PC79	0.013	0.008	-0.013	-0.008	0.1	0.2	97.8	96.7	1.11
Line45	-0.809	1.023	0.809	-1.022	0.5	0.9	97.8	97.8	0.03
Line62	0.015	0.009	-0.015	-0.009	0.0	0.0	97.8	97.8	0.00
PC81	0.016	0.010	-0.016	-0.010	0.2	0.2	97.8	96.4	1.41
Line239	-0.819	1.017	0.848	-1.011	29.6	5.2	97.8	98.0	0.16
PC82	0.010	0.006	-0.009	-0.006	0.1	0.1	97.8	97.0	0.83
T-KA 11	-0.024	-0.015	0.024	0.015	0.1	0.3	98.7	99.6	0.91
Line72	1.857	-0.406	-1.856	0.407	1.2	1.0	99.6	99.6	0.04
PC164	0.015	0.009	-0.015	-0.009	0.1	0.2	97.8	96.5	1.32
T-KA 61	-0.009	-0.006	0.010	0.006	0.1	0.1	98.8	99.6	0.82
Line73	1.847	-0.413	-1.845	0.414	1.5	1.2	99.6	99.5	0.05
T-KA 62	-0.017	-0.011	0.017	0.011	0.2	0.3	98.0	99.5	1.49
T-KA 75	-0.007	-0.004	0.007	0.004	0.0	0.0	98.8	99.4	0.57
Line74	1.817	-0.433	-1.812	0.437	5.0	4.1	99.4	99.2	0.17
T-PA 18	-0.010	-0.006	0.010	0.007	0.1	0.1	98.3	99.2	0.91
Line75	1.802	-0.443	-1.800	0.445	1.9	1.5	99.2	99.2	0.06
T-PA 17	-0.011	-0.007	0.011	0.007	0.1	0.1	98.2	99.2	0.99
Line80	1.788	-0.452	-1.779	0.459	9.0	7.2	99.2	98.9	0.30
T-PA 16	-0.015	-0.009	0.015	0.010	0.2	0.2	97.5	98.9	1.35
Line81	1.764	-0.469	-1.762	0.471	2.0	1.6	98.9	98.8	0.06
T-PA 01	-0.015	-0.009	0.015	0.009	0.1	0.2	97.5	98.8	1.28
T-PA 02	-0.090	-0.056	0.092	0.058	1.3	2.0	96.8	98.8	2.00
Line191	0.157	0.088	-0.157	-0.089	0.0	-1.0	98.8	98.8	0.01
PC153	-0.036	-0.022	0.037	0.024	0.9	1.3	95.3	98.5	3.26

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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	
PC103	-0.036	-0.022	0.037	0.024	0.9	1.3	94.6	97.8	3.26
PC104	-0.036	-0.022	0.037	0.023	0.9	1.3	94.5	97.7	3.25
PC105	-0.036	-0.022	0.037	0.023	0.9	1.3	94.4	97.6	3.25
PC_56 MAJU TAMBAK SUMUR	-1.263	-0.783	1.276	0.860	12.8	76.8	94.2	97.5	3.32
PC96	-0.036	-0.022	0.037	0.024	0.9	1.3	95.3	98.5	3.26
SKTM_AL4	2.164	1.448	-2.164	-1.448	0.0	0.0	98.5	98.5	0.00
Line76	-1.835	-1.222	1.836	1.225	1.5	2.5	97.5	97.6	0.12
Line77	-1.873	-1.248	1.874	1.251	1.6	2.6	97.6	97.7	0.12
Line78	-1.911	-1.274	1.913	1.277	1.6	2.7	97.7	97.8	0.12
Line79	-1.949	-1.301	1.951	1.304	1.7	2.8	97.8	98.0	0.13
Line84	-1.988	-1.327	1.990	1.330	1.8	3.0	98.0	98.1	0.13
PC97	0.037	0.024	-0.036	-0.022	0.9	1.3	98.0	94.7	3.26
PC154	0.037	0.024	-0.036	-0.022	0.9	1.3	98.3	95.1	3.26
T-PA 13	-0.013	-0.008	0.013	0.008	0.1	0.2	97.6	98.8	1.13
T-PA 04	-0.017	-0.011	0.017	0.011	0.2	0.3	97.2	98.8	1.50
PC155	0.037	0.024	-0.036	-0.022	0.9	1.3	98.1	94.8	3.26
T-PA 19	-0.016	-0.010	0.016	0.010	0.2	0.2	97.3	98.7	1.40
T-PA 06	-0.006	-0.004	0.006	0.004	0.0	0.0	98.2	98.7	0.52
Line204	-0.091	-0.052	0.091	0.051	0.0	-1.0	98.7	98.7	0.01
Line206	0.085	0.048	-0.085	-0.048	0.0	-0.7	98.7	98.7	0.00
Line202	-0.107	-0.061	0.107	0.060	0.0	-1.0	98.7	98.7	0.01
Line193	-0.144	-0.081	0.144	0.081	0.0	-0.2	98.8	98.8	0.00
T-PA 07	-0.035	-0.022	0.036	0.023	0.3	0.7	97.3	98.7	1.39
Line208	0.049	0.026	-0.049	-0.026	0.0	-0.2	98.7	98.7	0.00
T-PA 14	-0.024	-0.015	0.024	0.015	0.1	0.3	97.8	98.7	0.95
Line210	0.025	0.011	-0.025	-0.012	0.0	-0.9	98.7	98.7	0.00
T-PA 08	-0.011	-0.007	0.011	0.007	0.1	0.1	97.7	98.7	0.96
T-PA 10	-0.014	-0.009	0.014	0.009	0.1	0.2	97.5	98.7	1.21
Line212	-0.014	-0.006	0.014	0.005	0.0	-1.5	98.7	98.7	0.00
T-PA 021	-0.066	-0.041	0.066	0.042	0.7	1.0	97.2	98.7	1.45
T-PA 20	-0.017	-0.011	0.017	0.011	0.2	0.3	97.2	98.7	1.50
T-PA 12	-0.013	-0.008	0.013	0.008	0.1	0.2	97.5	98.6	1.15
Line164	-1.410	0.679	1.412	-0.678	1.3	0.4	98.6	98.7	0.05
T-PA 022	-0.089	-0.055	0.091	0.057	1.3	2.0	96.5	98.5	1.98
T-PA 014	-0.016	-0.010	0.017	0.010	0.2	0.3	96.9	98.3	1.45
Line170	-1.287	0.753	1.290	-0.752	3.2	0.9	98.3	98.4	0.10
T-PA 03	0.011	0.007	-0.011	-0.007	0.1	0.1	98.4	97.5	0.98

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	MW	Mvar	MW	Mvar	kW	kvar	From	To	
T-PD 024	-0.073	-0.045	0.074	0.047	0.9	1.3	96.7	98.3	1.62
T-PD 08	-0.024	-0.015	0.024	0.015	0.4	0.6	96.1	98.3	2.14
Line176	1.170	-0.826	-1.166	0.827	4.5	1.1	98.3	98.2	0.12
T-PD 21	-0.018	-0.011	0.018	0.012	0.4	0.6	94.9	98.2	3.22
Line177	1.147	-0.839	-1.146	0.839	1.8	0.5	98.2	98.1	0.05
T-PD 06	-0.012	-0.008	0.012	0.008	0.1	0.1	97.0	98.1	1.08
Line178	1.133	-0.847	-1.133	0.847	0.5	0.1	98.1	98.1	0.01
T-PD 12	-0.015	-0.009	0.015	0.010	0.2	0.2	96.8	98.1	1.34
Line179	1.117	-0.857	-1.117	0.857	0.9	0.2	98.1	98.1	0.02
T-PD 01	-0.018	-0.011	0.019	0.012	0.2	0.3	96.4	98.1	1.63
Line221	0.909	-0.977	-0.909	0.977	0.3	0.1	98.1	98.1	0.00
T-PA 23	-0.012	-0.007	0.012	0.007	0.1	0.1	97.7	98.7	1.03
T-PA 05	-0.008	-0.005	0.008	0.005	0.0	0.1	98.1	98.7	0.68
Line198	-0.115	-0.065	0.115	0.064	0.0	-0.6	98.7	98.7	0.01
T-PD 19	-0.009	-0.005	0.009	0.006	0.0	0.1	97.3	98.1	0.77
Line223	0.900	-0.983	-0.899	0.983	0.7	0.1	98.1	98.1	0.01
T-PD 02	-0.007	-0.004	0.007	0.004	0.0	0.0	97.4	98.1	0.61
T-PD 17	-0.011	-0.007	0.011	0.007	0.1	0.1	97.1	98.0	0.95
Line229	0.876	-0.995	-0.875	0.995	1.0	0.2	98.0	98.0	0.01
Line233	0.875	-0.995	-0.874	0.996	1.1	0.2	98.0	98.0	0.01
T-PD 18	-0.024	-0.015	0.024	0.015	0.4	0.6	95.8	98.0	2.14
Line237	-0.873	0.996	0.873	-0.996	0.6	0.1	98.0	98.0	0.00
Line235	0.874	-0.996	-0.873	0.996	1.1	0.2	98.0	98.0	0.01
Line241	0.172	0.100	-0.172	-0.101	0.0	-1.1	98.0	98.0	0.03
T-PD 03	0.017	0.011	-0.017	-0.011	0.2	0.3	98.0	96.5	1.51
Line243	0.158	0.093	-0.158	-0.094	0.0	-0.5	98.0	98.0	0.01
T-PD 22	0.013	0.008	-0.013	-0.008	0.1	0.2	98.0	96.8	1.15
Line245	0.143	0.084	-0.143	-0.084	0.0	-0.4	98.0	97.9	0.01
T-PD 07	0.016	0.010	-0.016	-0.010	0.2	0.2	98.0	96.6	1.38
T-PD 13	-0.041	-0.026	0.042	0.027	0.4	0.9	96.3	97.9	1.64
Line247	0.101	0.058	-0.101	-0.058	0.0	-0.2	97.9	97.9	0.00
Line249	0.078	0.044	-0.078	-0.046	0.0	-2.2	97.9	97.9	0.03
T-PD 04	0.023	0.014	-0.023	-0.014	0.2	0.3	97.9	96.9	1.01
Line251	0.058	0.033	-0.058	-0.034	0.0	-0.5	97.9	97.9	0.00
T-PD 020	0.020	0.012	-0.019	-0.012	0.3	0.4	97.9	96.2	1.73
Line257	0.044	0.025	-0.044	-0.026	0.0	-0.9	97.9	97.9	0.01
T-PD 05	0.014	0.009	-0.014	-0.008	0.1	0.2	97.9	96.7	1.22

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd
	MW	Mvar	MW	Mvar	kW	kvar	From	To	% Drop in Vmag
T-PD 23	-0.019	-0.012	0.019	0.012	0.2	0.4	96.2	97.9	1.69
T-PD 16	-0.009	-0.006	0.009	0.006	0.1	0.1	97.1	97.9	0.82
Line254	-0.009	-0.006	0.009	0.004	0.0	-1.6	97.9	97.9	0.00
Line255	-0.028	-0.016	0.028	0.016	0.0	-0.3	97.9	97.9	0.00
T-PD 14	0.016	0.010	-0.016	-0.010	0.2	0.2	97.9	96.5	1.40
					297.1	465.7			

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Alert Summary Report

% Alert Settings

	<u>Critical</u>	<u>Marginal</u>
<u>Loading</u>		
Bus	100.0	95.0
Cable	100.0	95.0
Reactor	100.0	95.0
Line	100.0	95.0
Transformer	100.0	95.0
Panel	100.0	95.0
Protective Device	100.0	95.0
Generator	100.0	95.0
Inverter/Charger	100.0	95.0
<u>Bus Voltage</u>		
OverVoltage	105.0	102.0
UnderVoltage	95.0	98.0
<u>Generator Excitation</u>		
OverExcited (Q Max.)	100.0	95.0
UnderExcited (Q Min.)	100.0	

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus2	Bus	Under Voltage	21.00	kV	19.78	94.2	3-Phase
Bus428	Bus	Under Voltage	0.40	kV	0.38	94.4	3-Phase
Bus430	Bus	Under Voltage	0.40	kV	0.38	94.3	3-Phase
Bus433	Bus	Under Voltage	0.40	kV	0.38	94.4	3-Phase
P165	Bus	Under Voltage	0.40	kV	0.38	94.6	3-Phase
P166	Bus	Under Voltage	0.40	kV	0.38	94.5	3-Phase
P167	Bus	Under Voltage	0.40	kV	0.38	94.4	3-Phase
P168	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
P183	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
P191	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
P246	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
P81	Bus	Under Voltage	0.40	kV	0.38	94.6	3-Phase
PC_56 MAJU TAMBAK	Transformer	Overload	0.16	MVA	1.54	961.8	3-Phase
SUMUR T-PD 21	Transformer	Overload	0.02	MVA	0.02	137.8	3-Phase

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Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
AL10	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
AL11	Bus	Under Voltage	20.00	kV	19.48	97.4	3-Phase
AL14	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
AL15	Bus	Under Voltage	20.00	kV	19.47	97.4	3-Phase
AL16	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
AL17	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
AL18	Bus	Under Voltage	20.00	kV	19.47	97.3	3-Phase
AL19	Bus	Under Voltage	20.00	kV	19.46	97.3	3-Phase
AL2	Bus	Under Voltage	0.40	kV	0.39	97.7	3-Phase
AL20	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
AL21	Bus	Under Voltage	20.00	kV	19.46	97.3	3-Phase
AL22	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
AL23	Bus	Under Voltage	20.00	kV	19.46	97.3	3-Phase
AL24	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
AL25	Bus	Under Voltage	20.00	kV	19.45	97.3	3-Phase
AL26	Bus	Under Voltage	20.00	kV	19.46	97.3	3-Phase
AL27	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
AL28	Bus	Under Voltage	20.00	kV	19.45	97.2	3-Phase
AL29	Bus	Under Voltage	20.00	kV	19.45	97.3	3-Phase
AL30	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
AL31	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
AL32	Bus	Under Voltage	20.00	kV	19.44	97.2	3-Phase
AL34	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
AL35	Bus	Under Voltage	20.00	kV	19.44	97.2	3-Phase
AL36	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
AL38	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
AL39	Bus	Under Voltage	20.00	kV	19.48	97.4	3-Phase
AL4	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
AL6	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
AL8	Bus	Under Voltage	0.40	kV	0.38	96.0	3-Phase
AL9	Bus	Under Voltage	20.00	kV	19.49	97.5	3-Phase
Bus1	Bus	Under Voltage	21.00	kV	20.03	95.4	3-Phase
Bus37	Bus	Under Voltage	20.00	kV	19.56	97.8	3-Phase
Bus429	Bus	Under Voltage	20.00	kV	19.43	97.1	3-Phase
Bus431	Bus	Under Voltage	20.00	kV	19.43	97.1	3-Phase
Bus432	Bus	Under Voltage	20.00	kV	19.43	97.2	3-Phase

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Bus97	Bus	Under Voltage	0.40	kV	0.39	96.5	3-Phase
P11	Bus	Under Voltage	0.40	kV	0.39	96.4	3-Phase
P118	Bus	Under Voltage	0.40	kV	0.39	97.9	3-Phase
P126	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P127	Bus	Under Voltage	0.40	kV	0.39	97.1	3-Phase
P128	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P129	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P13	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
P130	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P131	Bus	Under Voltage	0.40	kV	0.39	96.5	3-Phase
P132	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P133	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
P134	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P135	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
P136	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P137	Bus	Under Voltage	0.40	kV	0.39	96.4	3-Phase
P138	Bus	Under Voltage	20.00	kV	19.56	97.8	3-Phase
P139	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
P142	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P143	Bus	Under Voltage	0.40	kV	0.39	96.5	3-Phase
P156	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P158	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P16	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
P162	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
P164	Bus	Under Voltage	0.40	kV	0.38	95.3	3-Phase
P172	Bus	Under Voltage	0.40	kV	0.38	95.3	3-Phase
P177	Bus	Under Voltage	20.00	kV	19.50	97.5	3-Phase
P178	Bus	Under Voltage	20.00	kV	19.52	97.6	3-Phase
P179	Bus	Under Voltage	20.00	kV	19.55	97.7	3-Phase
P18	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
P180	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P182	Bus	Under Voltage	20.00	kV	19.59	98.0	3-Phase
P187	Bus	Under Voltage	0.40	kV	0.38	95.1	3-Phase
P188	Bus	Under Voltage	0.40	kV	0.39	97.6	3-Phase
P189	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P192	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase

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Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
P20	Bus	Under Voltage	0.40	kV	0.39	97.8	3-Phase
P200	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
P202	Bus	Under Voltage	0.40	kV	0.39	97.8	3-Phase
P208	Bus	Under Voltage	0.40	kV	0.39	97.7	3-Phase
P209	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P214	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P22	Bus	Under Voltage	0.40	kV	0.38	96.1	3-Phase
P220	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P221	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P226	Bus	Under Voltage	0.40	kV	0.39	96.5	3-Phase
P23	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P232	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
P235	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P238	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
P24	Bus	Under Voltage	0.40	kV	0.38	96.0	3-Phase
P242	Bus	Under Voltage	0.40	kV	0.38	96.1	3-Phase
P25	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P250	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
P252	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
P254	Bus	Under Voltage	0.40	kV	0.39	96.4	3-Phase
P26	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
P260	Bus	Under Voltage	0.40	kV	0.39	97.7	3-Phase
P266	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
P268	Bus	Under Voltage	0.40	kV	0.39	97.4	3-Phase
P27	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P272	Bus	Under Voltage	0.40	kV	0.39	97.1	3-Phase
P28	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
P282	Bus	Under Voltage	0.40	kV	0.38	95.8	3-Phase
P283	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P286	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P288	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P292	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P293	Bus	Under Voltage	0.40	kV	0.39	96.5	3-Phase
P296	Bus	Under Voltage	20.00	kV	19.59	98.0	3-Phase
P297	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
P298	Bus	Under Voltage	20.00	kV	19.59	98.0	3-Phase

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Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
P299	Bus	Under Voltage	0.40	kV	0.39	96.6	3-Phase
P30	Bus	Under Voltage	0.40	kV	0.39	96.8	3-Phase
P304	Bus	Under Voltage	0.40	kV	0.39	96.3	3-Phase
P305	Bus	Under Voltage	20.00	kV	19.59	97.9	3-Phase
P312	Bus	Under Voltage	20.00	kV	19.59	97.9	3-Phase
P313	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
P314	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P315	Bus	Under Voltage	0.40	kV	0.38	96.2	3-Phase
P316	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P317	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
P32	Bus	Under Voltage	0.40	kV	0.39	96.3	3-Phase
P324	Bus	Under Voltage	0.40	kV	0.38	96.2	3-Phase
P325	Bus	Under Voltage	0.40	kV	0.39	97.1	3-Phase
P326	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P327	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P328	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P329	Bus	Under Voltage	0.40	kV	0.39	96.5	3-Phase
P35	Bus	Under Voltage	0.40	kV	0.39	97.9	3-Phase
P37	Bus	Under Voltage	0.40	kV	0.38	96.0	3-Phase
P39	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P41	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P43	Bus	Under Voltage	0.40	kV	0.38	96.1	3-Phase
P46	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P47	Bus	Under Voltage	0.40	kV	0.38	95.9	3-Phase
P49	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P5	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P50	Bus	Under Voltage	0.40	kV	0.39	97.4	3-Phase
P51	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P52	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P53	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P54	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P55	Bus	Under Voltage	0.40	kV	0.39	97.7	3-Phase
P56	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P57	Bus	Under Voltage	0.40	kV	0.38	96.1	3-Phase
P58	Bus	Under Voltage	20.00	kV	19.60	98.0	3-Phase
P59	Bus	Under Voltage	0.40	kV	0.38	95.7	3-Phase

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Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
P61	Bus	Under Voltage	0.40	kV	0.39	97.4	3-Phase
P63	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P65	Bus	Under Voltage	0.40	kV	0.39	97.4	3-Phase
P68	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
P7	Bus	Under Voltage	0.40	kV	0.39	97.6	3-Phase
P70	Bus	Under Voltage	0.40	kV	0.39	97.1	3-Phase
P72	Bus	Under Voltage	0.40	kV	0.39	97.5	3-Phase
P74	Bus	Under Voltage	0.40	kV	0.39	97.6	3-Phase
P77	Bus	Under Voltage	0.40	kV	0.39	96.6	3-Phase
P80	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P82	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P83	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
P84	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P85	Bus	Under Voltage	0.40	kV	0.39	97.0	3-Phase
P86	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P87	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P88	Bus	Under Voltage	20.00	kV	19.57	97.9	3-Phase
P89	Bus	Under Voltage	0.40	kV	0.39	97.1	3-Phase
P90	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P91	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
P92	Bus	Under Voltage	20.00	kV	19.59	98.0	3-Phase
P93	Bus	Under Voltage	0.40	kV	0.39	97.1	3-Phase
P94	Bus	Under Voltage	20.00	kV	19.58	97.9	3-Phase
P95	Bus	Under Voltage	0.40	kV	0.39	97.3	3-Phase
P96	Bus	Under Voltage	20.00	kV	19.57	97.9	3-Phase
P97	Bus	Under Voltage	0.40	kV	0.39	96.4	3-Phase
P98	Bus	Under Voltage	20.00	kV	19.57	97.8	3-Phase
P99	Bus	Under Voltage	0.40	kV	0.39	96.6	3-Phase
TL1	Bus	Under Voltage	21.00	kV	20.03	95.4	3-Phase

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SUMMARY OF TOTAL GENERATION, LOADING & DEMAND

	<u>MW</u>	<u>Mvar</u>	<u>MVA</u>	<u>% PF</u>
Source (Swing Buses):	5.292	-1.084	5.401	97.97 Leading
Source (Non-Swing Buses):	0.000	0.000	0.000	
Total Demand:	5.292	-1.084	5.401	97.97 Leading
Total Motor Load:	2.706	1.677	3.184	85.00 Lagging
Total Static Load:	2.288	-3.227	3.956	57.85 Leading
Total Constant I Load:	0.000	0.000	0.000	
Total Generic Load:	0.000	0.000	0.000	
Apparent Losses:	0.297	0.466		
System Mismatch:	0.000	0.000		

Number of Iterations: 4