Electrical Transient Analyzer Program

Load Flow Analysis

Loading Category (1): Design

Generation Category (1): Design

Load Diversity Factor: None

	Swing	V-Control	Load	Total
Number of Buses:	2	0	302	304

	XFMR2	XFMR3	Reactor	Line/Cable	Impedance	Tie PD	Total
Number of Branches:	55	0	0	247	0	0	302

Method of Solution:	Newton-Raphson Method
Maximum No. of Iteration:	100
Precision of Solution:	0.0001000
System Frequency:	60.00 Hz
Unit System:	English
Project Filename:	first-ETAP
Output Filename:	C:\Users\Ibrahim\Desktop\FINAL PROJECT_TEST_final\TEST\FINAL-1-TEST.lfr

Adjustments

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

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

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
Bus1	33.000	1	100.0	0.0								
Bus 2	33.000	2	100.0	0.0								
Bus3	11.000	2	100.0	0.0								
Bus4	11.000	2	100.0	0.0								
Bus 5	11.000	2	100.0	0.0								
Bus6	11.000	1	100.0	0.0								
Bus7	11.000	1	100.0	0.0								
Bus 8	11.000	1	100.0	0.0								
Bus 9	11.000	1	100.0	0.0								
Bus10	11.000	1	100.0	0.0								
Bus11	11.000	1	100.0	0.0								
Bus12	11.000	1	100.0	0.0								
Bus13	11.000	1	100.0	0.0								
Bus15	11.000	1	100.0	0.0								
Bus16	11.000	1	100.0	0.0								
Bus17	11.000	1	100.0	0.0								
Bus18	11.000	1	100.0	0.0								
Bus19	11.000	1	100.0	0.0								
Bus 20	0.400	1	100.0	0.0								
Bus 21	11.000	1	100.0	0.0								
Bus22	0.400	1	100.0	0.0								
Bus 23	0.400	1	100.0	0.0								
Bus 23	0.400	1	100.0	0.0								
Bus 24	0.400	1	100.0	0.0								
Bus25	0.400	1	100.0	0.0								
Bus 25	0.400	1	100.0	0.0								
Bus 26	0.400	1	100.0	0.0								
Bus26	0.400	1	100.0	0.0								
Bus 27	0.400	1	100.0	0.0								
Bus27	0.400	1	100.0	0.0								
Bus 28	0.400	1	100.0	0.0								
Bus28	0.400	1	100.0	0.0								
Bus29	0.400	1	100.0	0.0								

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
Bus 29	0.400	1	100.0	0.0								
Bus 30	0.400	1	100.0	0.0								
Bus 32	0.400	1	100.0	0.0								
Bus34	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus 34	0.400	1	100.0	0.0								
Bus 35	0.400	1	100.0	0.0								
Bus35	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus 36	0.400	1	100.0	0.0								
Bus36	11.000	2	100.0	0.0								
Bus37	11.000	2	100.0	0.0								
Bus 37	0.400	1	100.0	0.0								
Bus 38	0.400	1	100.0	0.0								
Bus38	11.000	2	100.0	0.0								
Bus39	11.000	2	100.0	0.0								
Bus 39	0.400	1	100.0	0.0								
Bus 41	0.400	2	100.0	0.0								
Bus41	11.000	2	100.0	0.0								
Bus43	11.000	2	100.0	0.0								
Bus 43	0.400	2	100.0	0.0								
Bus 44	0.400	2	100.0	0.0								
Bus44	11.000	2	100.0	0.0								
Bus45	0.400	2	100.0	0.0								
Bus 46	0.400	2	100.0	0.0								
Bus46	11.000	2	100.0	0.0								
Bus47	11.000	2	100.0	0.0								
Bus 47	0.400	2	100.0	0.0								
Bus48	11.000	2	100.0	0.0								
Bus 48	0.400	2	100.0	0.0								
Bus49	0.400	2	100.0	0.0								
Bus50	11.000	2	100.0	0.0								
Bus 51	0.400	2	100.0	0.0								
Bus51	11.000	2	100.0	0.0								
Bus52	11.000	2	100.0	0.0								
Bus 53	0.400	2	100.0	0.0								
Bus53	11.000	2	100.0	0.0								

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
Bus54	11.000	2	100.0	0.0								
Bus 54	0.400	2	100.0	0.0								
Bus55	11.000	1	100.0	0.0								
Bus 55	0.400	2	100.0	0.0								
Bus56	11.000	1	100.0	0.0								
Bus 56	0.400	2	100.0	0.0								
Bus58	11.000	1	100.0	0.0								
Bus 58	0.400	2	100.0	0.0								
Bus59	11.000	1	100.0	0.0								
Bus 59	0.400	2	100.0	0.0								
Bus 60	0.400	2	100.0	0.0								
Bus60	11.000	1	100.0	0.0								
Bus61	11.000	1	100.0	0.0								
Bus 61	0.400	2	100.0	0.0								
Bus64	11.000	1	100.0	0.0								
Bus 64	0.400	2	100.0	0.0								
Bus65	0.400	2	100.0	0.0								
Bus 66	0.400	2	100.0	0.0								
Bus66	11.000	1	100.0	0.0								
Bus 68	0.400	2	100.0	0.0								
Bus68	11.000	1	100.0	0.0								
Bus 69	0.400	2	100.0	0.0								
Bus69	11.000	1	100.0	0.0								
Bus 70	0.400	2	100.0	0.0								
Bus70	11.000	1	100.0	0.0								
Bus72	11.000	1	100.0	0.0								
Bus 77	0.400	1	100.0	0.0								
Bus77	11.000	1	100.0	0.0								
Bus 79	0.400	2	100.0	0.0								
Bus79	11.000	1	100.0	0.0								
Bus 80	0.400	2	100.0	0.0								
Bus80	11.000	1	100.0	0.0								
Bus82	11.000	1	100.0	0.0								
Bus 82	0.400	2	100.0	0.0								
Bus 84	0.400	2	100.0	0.0								

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
Bus84	11.000	1	100.0	0.0								
Bus85	11.000	1	100.0	0.0								
Bus 85	0.400	2	100.0	0.0								
Bus87	11.000	1	100.0	0.0								
Bus 87	0.400	2	100.0	0.0								
Bus88	11.000	1	100.0	0.0								
Bus89	11.000	1	100.0	0.0								
Bus90	11.000	1	100.0	0.0								
Bus91	11.000	1	100.0	0.0								
Bus92	11.000	2	100.0	0.0								
Bus93	11.000	2	100.0	0.0								
Bus94	11.000	2	100.0	0.0								
Bus95	11.000	2	100.0	0.0								
Bus96	11.000	2	100.0	0.0								
Bus97	11.000	2	100.0	0.0								
Bus98	11.000	2	100.0	0.0								
Bus99	11.000	2	100.0	0.0								
Bus100	11.000	2	100.0	0.0								
Bus101	11.000	2	100.0	0.0								
Bus102	11.000	2	100.0	0.0								
Bus103	11.000	2	100.0	0.0								
Bus104	11.000	2	100.0	0.0								
Bus105	11.000	2	100.0	0.0								
Bus106	11.000	2	100.0	0.0								
Bus107	11.000	2	100.0	0.0								
Bus108	11.000	2	100.0	0.0								
Bus109	11.000	2	100.0	0.0								
Bus110	11.000	2	100.0	0.0								
Bus111	11.000	2	100.0	0.0								
Bus112	11.000	2	100.0	0.0								
Bus113	11.000	2	100.0	0.0								
Bus114	11.000	2	100.0	0.0								
Bus115	11.000	2	100.0	0.0								
Bus116	11.000	2	100.0	0.0								
Bus117	11.000	2	100.0	0.0								

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
Bus118	11.000	2	100.0	0.0								
Bus119	11.000	2	100.0	0.0								
Bus120	11.000	2	100.0	0.0								
Bus121	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus122	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus123	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus124	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus125	0.400	1	100.0	0.0	0.358	0.222	0.089	0.055				
Bus126	0.400	1	100.0	0.0	0.358	0.222	0.089	0.055				
Bus127	0.400	1	100.0	0.0	0.358	0.222	0.089	0.055				
Bus128	0.400	1	100.0	0.0	0.501	0.311	0.125	0.078				
Bus129	0.400	1	100.0	0.0	0.515	0.319	0.129	0.080				
Bus130	0.400	1	100.0	0.0	0.537	0.333	0.134	0.083				
Bus131	0.400	1	100.0	0.0	0.086	0.053	0.129	0.080				
Bus132	0.400	1	100.0	0.0	0.129	0.080	0.086	0.053				
Bus133	0.400	1	100.0	0.0	0.171	0.106	0.043	0.027				
Bus134	0.400	1	100.0	0.0	0.129	0.080	0.086	0.053				
Bus135	0.400	1	100.0	0.0	0.043	0.027	0.171	0.106				
Bus136	0.400	1	100.0	0.0	0.086	0.053	0.129	0.080				
Bus137	0.400	1	100.0	0.0	0.171	0.106	0.043	0.027				
Bus138	0.400	1	100.0	0.0	0.043	0.027	0.171	0.106				
Bus139	0.400	1	100.0	0.0	0.071	0.044	0.107	0.066				
Bus140	0.400	1	100.0	0.0	0.171	0.106	0.043	0.027				
Bus141	0.400	1	100.0	0.0	0.129	0.080	0.086	0.053				
Bus142	0.400	1	100.0	0.0	0.129	0.080	0.086	0.053				
Bus143	0.400	1	100.0	0.0	0.143	0.088	0.036	0.022				
Bus144	0.400	1	100.0	0.0	0.043	0.027	0.171	0.106				
Bus145	0.400	1	100.0	0.0	0.171	0.106	0.043	0.027				
Bus146	0.400	1	100.0	0.0	0.143	0.089	0.036	0.022				
Bus147	0.400	1	100.0	0.0	0.129	0.080	0.086	0.053				
Bus148	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus149	0.400	1	100.0	0.0	0.072	0.044	0.108	0.067				
Bus150	0.400	1	100.0	0.0	0.171	0.106	0.043	0.027				
Bus151	0.400	1	100.0	0.0	0.043	0.027	0.172	0.107				
Bus152	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				

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
Bus153	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus154	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus155	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus156	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus157	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus158	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus159	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus160	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus161	0.400	1	100.0	0.0	0.258	0.160	0.064	0.040				
Bus162	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus163	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus164	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus165	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus166	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus167	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus168	0.400	1	100.0	0.0	0.178	0.110	0.045	0.028				
Bus169	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus170	0.400	1	100.0	0.0	0.172	0.107	0.043	0.027				
Bus171	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus172	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus173	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus174	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus175	0.400	2	100.0	0.0	0.035	0.021	0.009	0.005				
Bus176	0.400	2	100.0	0.0	0.018	0.011	0.004	0.003				
Bus177	0.400	2	100.0	0.0	0.008	0.005	0.002	0.001				
Bus178	0.400	2	100.0	0.0	0.018	0.011	0.004	0.003				
Bus179	0.400	2	100.0	0.0	0.029	0.018	0.007	0.004				
Bus180	0.400	2	100.0	0.0	0.029	0.018	0.007	0.004				
Bus181	0.400	2	100.0	0.0	0.029	0.018	0.007	0.004				
Bus182	0.400	2	100.0	0.0	0.029	0.018	0.007	0.004				
Bus183	0.400	2	100.0	0.0	0.035	0.021	0.009	0.005				
Bus184	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus185	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus186	0.400	2	100.0	0.0	0.039	0.024	0.010	0.006				
Bus187	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				

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
Bus188	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus189	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus190	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus191	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus192	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus193	0.400	2	100.0	0.0	0.046	0.028	0.011	0.007				
Bus194	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus195	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus196	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus197	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus198	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus199	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus200	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus201	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus202	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus203	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus204	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus205	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus206	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus207	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus208	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus209	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus210	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus211	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus212	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus213	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus214	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus215	0.400	2	100.0	0.0	0.035	0.021	0.009	0.005				
Bus216	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus217	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus218	0.400	2	100.0	0.0	0.058	0.036	0.014	0.009				
Bus219	0.400	2	100.0	0.0	0.044	0.027	0.011	0.007				
Bus220	0.400	2	100.0	0.0	0.129	0.080	0.032	0.020				
Bus221	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus222	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				

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
Bus223	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus224	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus225	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus226	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus227	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus228	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus229	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus230	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus231	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus232	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus233	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus234	0.400	2	100.0	0.0	0.114	0.070	0.028	0.018				
Bus235	0.400	2	100.0	0.0	0.114	0.071	0.029	0.018				
Bus236	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus237	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus238	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus239	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus240	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus241	0.400	2	100.0	0.0	0.114	0.071	0.029	0.018				
Bus242	0.400	2	100.0	0.0	0.114	0.071	0.029	0.018				
Bus243	0.400	2	100.0	0.0	0.115	0.071	0.029	0.018				
Bus244	0.400	2	100.0	0.0	0.043	0.027	0.064	0.040				
Bus246	0.400	2	100.0	0.0	0.064	0.040	0.043	0.027				
Bus247	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus248	0.400	2	100.0	0.0	0.018	0.011	0.071	0.044				
Bus249	0.400	2	100.0	0.0	0.100	0.062	0.025	0.015				
Bus250	0.400	2	100.0	0.0	0.075	0.046	0.050	0.031				
Bus251	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus252	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus253	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus254	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus255	0.400	2	100.0	0.0	0.100	0.062	0.025	0.015				
Bus256	0.400	2	100.0	0.0	0.064	0.040	0.043	0.027				
Bus257	0.400	2	100.0	0.0	0.071	0.044	0.018	0.011				
Bus258	0.400	2	100.0	0.0	0.025	0.015	0.100	0.062				

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
Bus259	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus260	0.400	2	100.0	0.0	0.021	0.013	0.086	0.053				
Bus261	0.400	2	100.0	0.0	0.090	0.056	0.023	0.014				
Bus262	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus263	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus264	0.400	2	100.0	0.0	0.071	0.044	0.018	0.011				
Bus265	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus266	0.400	2	100.0	0.0	0.054	0.033	0.036	0.022				
Bus267	0.400	2	100.0	0.0	0.071	0.044	0.018	0.011				
Bus268	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus269	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus270	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus271	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus272	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus273	0.400	2	100.0	0.0	0.018	0.011	0.071	0.044				
Bus274	0.400	2	100.0	0.0	0.086	0.053	0.021	0.013				
Bus275	0.400	2	100.0	0.0	0.036	0.022	0.054	0.033				
Bus276	0.400	2	100.0	0.0	0.071	0.044	0.018	0.011				
Bus277	0.400	2	100.0	0.0	0.100	0.062	0.025	0.015				
Grid Bus1	33.000	1	100.0	0.0								
Grid Bus2	33.000	2	100.0	0.0								
Main Bus1	11.000	1	100.0	0.0								
Main Bus2	11.000	2	100.0	0.0								
Cable9~	11.000		100.0	0.0								
Cable11~	11.000		100.0	0.0								
Cable10~	11.000		100.0	0.0								
Total Number of Buses: 304					18.386	11.395	6.727	4.169	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
Grid Bus1	33.000	Swing	1	100.0	0.0					
Grid Bus2	33.000	Swing	2	100.0	0.0					
						0.000	0.000			

Line/Cable Input Data

Line/Cable			Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)						
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable1	11NCUS3	25	131.2	0.0	1	75	0.269489	0.047183	0.0000248
Cable1(GridTOsubstation)	33NCUS1	70	5249.3	0.0	1	75	0.099714	0.055230	0.0000177
Cable3	11NCUS1	50	131.2	0.0	1	75	0.143611	0.050475	0.0000290
Cable4	11NCUS1	50	689.0	0.0	1	75	0.143611	0.050475	0.0000290
Cable5	11NCUS1	50	787.4	0.0	1	75	0.143611	0.050475	0.0000290
Cable6	11NCUS1	50	1115.5	0.0	1	75	0.143611	0.050475	0.0000290
Cable7	11NCUS1	50	32.8	0.0	1	75	0.143611	0.050475	0.0000290
Cable8	11NCUS1	50	213.3	0.0	1	75	0.143611	0.050475	0.0000290
Cable12	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290
Cable13	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290
Cable14	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290
Cable 15	11NCUS3	25	164.0	0.0	1	75	0.269489	0.047183	0.0000248
Cable 16	11NCUS3	25	131.2	0.0	1	75	0.269489	0.047183	0.0000248
Cable16	11NCUS1	50	262.5	0.0	1	75	0.143611	0.050475	0.0000290
Cable17	11NCUS3	25	131.2	0.0	1	75	0.269489	0.047183	0.0000248
Cable18	11NCUS1	50	131.2	0.0	1	75	0.143611	0.050475	0.0000290
Cable19	11NCUS3	25	196.9	0.0	1	75	0.269489	0.047183	0.0000248
Cable20	11NCUS3	25	131.2	0.0	1	75	0.269489	0.047183	0.0000248
Cable21	11NCUS1	50	131.2	0.0	1	75	0.143611	0.050475	0.0000290
Cable22	11NCUS3	25	164.0	0.0	1	75	0.269489	0.047183	0.0000248
Cable23	11NCUS3	25	164.0	0.0	1	75	0.269489	0.047183	0.0000248
Cable24	11NCUS1	50	196.9	0.0	1	75	0.143611	0.050475	0.0000290
Cable25	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable37	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable38	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable39	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable40	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable41	11NCUS1	50	196.9	0.0	1	75	0.143611	0.050475	0.0000290
Cable42	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable43	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable44	11NCUS1	50	164.0	0.0	1	75	0.143611	0.050475	0.0000290
Cable45	11NCUS3	25	114.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable46	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable47	11NCUS1	50	131.2	0.0	1	75	0.143611	0.050475	0.0000290

Line/Cable							Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)		
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable48	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable49	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable50	11NCUS1	50	164.0	0.0	1	75	0.143611	0.050475	0.0000290
Cable51	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable52	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable53	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable54	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable55	11NCUS1	50	196.9	0.0	1	75	0.143611	0.050475	0.0000290
Cable56	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable57	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable58	11NCUS1	50	98.4	0.0	1	75	0.143611	0.050475	0.0000290
Cable59	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable60	11NCUS3	25	164.0	0.0	1	75	0.269489	0.047183	0.0000248
Cable61	11NCUS1	50	196.9	0.0	1	75	0.143611	0.050475	0.0000290
Cable62	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable63	11NCUS3	25	131.2	0.0	1	75	0.269489	0.047183	0.0000248
Cable64	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable65	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290
Cable66	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable67	11NCUS3	25	147.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable68	11NCUS1	50	229.7	0.0	1	75	0.143611	0.050475	0.0000290
Cable69	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable70	11NCUS3	25	49.2	0.0	1	75	0.269489	0.047183	0.0000248
Cable71	11NCUS1	50	131.2	0.0	1	75	0.143611	0.050475	0.0000290
Cable72	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable73	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable74	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable75	11NCUS3	25	82.0	0.0	1	75	0.269489	0.047183	0.0000248
Cable76	11NCUS1	50	442.9	0.0	1	75	0.143611	0.050475	0.0000290
Cable77	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable78	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable79	11NCUS1	50	328.1	0.0	1	75	0.143611	0.050475	0.0000290
Cable80	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable81	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable82	11NCUS1	50	49.2	0.0	1	75	0.143611	0.050475	0.0000290
Cable83	11NCUS3	25	16.4	0.0	1	75	0.269489	0.047183	0.0000248

Line/Cable			Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)						
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable84	11NCUS3	25	16.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable85	11NCUS3	25	16.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable86	11NCUS3	25	180.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable87	11NCUS1	50	114.8	0.0	1	75	0.143611	0.050475	0.0000290
Cable88	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable89	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable90	11NCUS1	50	196.9	0.0	1	75	0.143611	0.050475	0.0000290
Cable91	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable92	11NCUS3	25	82.0	0.0	1	75	0.269489	0.047183	0.0000248
Cable93	11NCUS1	50	295.3	0.0	1	75	0.143611	0.050475	0.0000290
Cable94	11NCUS3	25	32.8	0.0	1	75	0.269489	0.047183	0.0000248
Cable95	11NCUS3	25	65.6	0.0	1	75	0.269489	0.047183	0.0000248
Cable96	11NCUS1	70	98.4	0.0	1	75	0.099714	0.047549	0.0000331
Cable97	11NCUS3	25	16.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable98	11NCUS3	25	98.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable99	11NCUS1	50	82.0	0.0	1	75	0.143611	0.050475	0.0000290
Cable100	11NCUS3	25	16.4	0.0	1	75	0.269489	0.047183	0.0000248
Cable101	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable102	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable103	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable104	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable105	0.6NCUN1	185	49.2	0.0	1	75	0.036027	0.033540	
Cable106	0.6NCUN1	185	49.2	0.0	1	75	0.036027	0.033540	
Cable107	0.6NCUN1	185	49.2	0.0	1	75	0.036027	0.033540	
Cable108	0.6NCUN1	185	49.2	0.0	1	75	0.036027	0.033540	
Cable109	0.6NCUN1	185	49.2	0.0	1	75	0.036027	0.033540	
Cable110	0.6NCUN1	185	49.2	0.0	1	75	0.036027	0.033540	
Cable111	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable112	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable113	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable114	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable115	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable116	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable117	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable118	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable119	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	

Line/Cable			Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)						
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable120	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable121	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable122	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable123	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable124	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable125	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable126	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable127	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable128	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable129	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable130	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable131	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable132	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable133	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable134	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable135	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable136	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable137	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable138	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable139	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable140	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable141	0.6NCUN1	70	49.2	0.0	1	75	0.094701	0.034784	
Cable142	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable143	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable144	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable145	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable146	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable147	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable148	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable149	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable150	0.6NCUN1	35	49.2	0.0	1	75	0.188824	0.036430	
Cable151	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable152	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable153	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable154	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable155	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	

Line/Cable			Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)						
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable156	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable157	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable158	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable159	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable160	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable161	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable162	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable163	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable164	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable165	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable166	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable167	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable168	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable169	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable170	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable171	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable172	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable173	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable174	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable175	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable176	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable177	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable178	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable179	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable180	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable181	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable182	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable183	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable184	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable185	0.6NCUN3	35	49.2	0.0	1	75	0.188824	0.030358	
Cable186	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable187	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable188	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable189	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable190	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable191	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	

Line/Cable			Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)						
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable192	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable193	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable194	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable195	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable196	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable197	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable198	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable199	0.6NCUN3	16	49.2	0.0	1	75	0.412394	0.032992	
Cable200	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable201	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable202	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable203	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable204	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable205	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable206	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable207	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable208	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable209	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable210	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable211	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable212	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable213	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable214	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable215	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable216	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable217	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable218	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable219	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable220	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable221	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable222	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable223	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable224	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable225	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable226	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable227	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	

Line/Cable			Ohms or Siemens/1000 ft per Conductor (Cable) or per Phase (Line)						
			Length						
ID	Library	Size	Adj. (ft)	% Tol.	#/Phase	T (°C)	R	X	Y
Cable228	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable229	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable230	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable231	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable232	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable233	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable234	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable235	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable236	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable237	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable238	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable239	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable240	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable241	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable242	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable243	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable244	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable245	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable246	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable247	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable248	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable249	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable250	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable251	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable252	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable253	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable254	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable255	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cable256	0.6NCUN1	16	49.2	0.0	1	75	0.412394	0.039575	
Cablel 2	33NCUS1	70	1968.5	0.0	1	75	0.099714	0.055230	0.0000177
Cable9	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290
Cable11	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290
Cable10	11NCUS1	50	65.6	0.0	1	75	0.143611	0.050475	0.0000290

Line / Cable resistances are listed at the specified temperatures.

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
T1	3-Phase	40.000	33.000	11.000	7.00	27.30	0	0	0	0	0	7.0000	Dd	0.000
T2	3-Phase	40.000	33.000	11.000	7.00	27.30	0	0	0	0	0	7.0000	Dd	0.000
T3	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T 4	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T 5	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T6	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T7	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T8	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T9	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T10	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T11	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T 12	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T 14	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T15	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T16	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T17	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T18	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T19	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T20	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T22	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T23	3-Phase	0.800	11.000	0.400	5.75	5.79	0	0	0	0	0	5.7500	Dyn	0.000
T24	3-Phase	0.800	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T25	3-Phase	0.800	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T26	3-Phase	0.800	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T27	3-Phase	0.800	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T28	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T30	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T31	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T32	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T33	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T34	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T35	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T36	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T37	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000

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
T38	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T40	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T41	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T42	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T43	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T45	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T46	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T47	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T48	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T51	3-Phase	0.250	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T52	3-Phase	0.400	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T54	3-Phase	0.400	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T55	3-Phase	0.400	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T56	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T60	3-Phase	0.800	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T62	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T63	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000
T65	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T67	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T68	3-Phase	0.600	11.000	0.400	5.75	3.96	0	0	0	0	0	5.7500	Dyn	0.000
T70	3-Phase	0.500	11.000	0.400	5.20	5.10	0	0	0	0	0	5.2000	Dyn	0.000

Branch Connections

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
T1	2W XFMR	Bus1	Main Bus1	0.64	17.49	17.50	
T2	2W XFMR	Bus 2	Main Bus2	0.64	17.49	17.50	
T3	2W XFMR	Bus 21	Bus22	122.33	708.26	718.75	
T 4	2W XFMR	Bus7	Bus 20	122.33	708.26	718.75	
T 5	2W XFMR	Bus10	Bus 24	122.33	708.26	718.75	
T6	2W XFMR	Bus 9	Bus 23	234.64	929.17	958.33	
T7	2W XFMR	Bus13	Bus26	234.64	929.17	958.33	
T8	2W XFMR	Bus12	Bus25	234.64	929.17	958.33	
T9	2W XFMR	Bus17	Bus28	122.33	708.26	718.75	
T10	2W XFMR	Bus16	Bus 27	122.33	708.26	718.75	
T11	2W XFMR	Bus19	Bus29	122.33	708.26	718.75	
T 12	2W XFMR	Bus56	Bus 23	122.33	708.26	718.75	
T 14	2W XFMR	Bus58	Bus 25	122.33	708.26	718.75	
T15	2W XFMR	Bus60	Bus 26	122.33	708.26	718.75	
T16	2W XFMR	Bus61	Bus27	122.33	708.26	718.75	
T17	2W XFMR	Bus66	Bus 28	122.33	708.26	718.75	
T18	2W XFMR	Bus68	Bus 29	122.33	708.26	718.75	
T19	2W XFMR	Bus70	Bus 30	122.33	708.26	718.75	
T20	2W XFMR	Bus77	Bus 32	122.33	708.26	718.75	
T22	2W XFMR	Bus79	Bus 34	122.33	708.26	718.75	
T23	2W XFMR	Bus82	Bus 35	122.33	708.26	718.75	
T24	2W XFMR	Bus84	Bus 36	175.98	696.87	718.75	
T25	2W XFMR	Bus87	Bus 37	175.98	696.87	718.75	
T26	2W XFMR	Bus88	Bus 38	175.98	696.87	718.75	
T27	2W XFMR	Bus90	Bus 39	175.98	696.87	718.75	
T28	2W XFMR	Bus105	Bus 41	200.11	1020.57	1040.00	
T30	2W XFMR	Bus106	Bus 43	200.11	1020.57	1040.00	
T31	2W XFMR	Bus108	Bus 44	200.11	1020.57	1040.00	
T32	2W XFMR	Bus109	Bus45	200.11	1020.57	1040.00	
T33	2W XFMR	Bus111	Bus 46	200.11	1020.57	1040.00	
T34	2W XFMR	Bus112	Bus 47	200.11	1020.57	1040.00	
T35	2W XFMR	Bus114	Bus 48	200.11	1020.57	1040.00	
T36	2W XFMR	Bus115	Bus49	200.11	1020.57	1040.00	
T37	2W XFMR	Bus117	Bus65	200.11	1020.57	1040.00	
T38	2W XFMR	Bus118	Bus 51	200.11	1020.57	1040.00	
T40	2W XFMR	Bus93	Bus 53	234.64	929.17	958.33	
T41	2W XFMR	Bus94	Bus 54	234.64	929.17	958.33	

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
T42	2W XFMR	Bus96	Bus 55	234.64	929.17	958.33	
T43	2W XFMR	Bus97	Bus 56	234.64	929.17	958.33	
T45	2W XFMR	Bus99	Bus 58	234.64	929.17	958.33	
T46	2W XFMR	Bus100	Bus 59	234.64	929.17	958.33	
T47	2W XFMR	Bus102	Bus 60	234.64	929.17	958.33	
T48	2W XFMR	Bus103	Bus 61	234.64	929.17	958.33	
T51	2W XFMR	Bus37	Bus 64	400.22	2041.13	2080.00	
T52	2W XFMR	Bus38	Bus 66	250.14	1275.71	1300.00	
T54	2W XFMR	Bus41	Bus 68	250.14	1275.71	1300.00	
T55	2W XFMR	Bus43	Bus 69	250.14	1275.71	1300.00	
T56	2W XFMR	Bus46	Bus 70	200.11	1020.57	1040.00	
T60	2W XFMR	Bus91	Bus 77	175.98	696.87	718.75	
T62	2W XFMR	Bus47	Bus 79	200.11	1020.57	1040.00	
T63	2W XFMR	Bus50	Bus 80	200.11	1020.57	1040.00	
T65	2W XFMR	Bus51	Bus 82	234.64	929.17	958.33	
T67	2W XFMR	Bus53	Bus 84	234.64	929.17	958.33	
T68	2W XFMR	Bus54	Bus 85	234.64	929.17	958.33	
T70	2W XFMR	Bus120	Bus 87	200.11	1020.57	1040.00	
Cable1	Cable	Bus 21	Bus6	2.92	0.51	2.97	0.0003944
Cable1(GridTOsubstation)	Cable	Grid Bus1	Bus1	4.81	2.66	5.49	0.1011986
Cable3	Cable	Main Bus1	Bus6	1.56	0.55	1.65	0.0004600
Cable4	Cable	Main Bus1	Bus55	8.18	2.87	8.67	0.0024150
Cable5	Cable	Main Bus1	Bus72	9.35	3.28	9.91	0.0027600
Cable6	Cable	Bus52	Main Bus2	13.24	4.65	14.03	0.0039099
Cable7	Cable	Bus101	Main Bus2	0.39	0.14	0.41	0.0001150
Cable8	Cable	Bus119	Main Bus2	2.53	0.89	2.68	0.0007475
Cable12	Cable	Bus3	Bus36	0.78	0.27	0.83	0.0002300
Cable13	Cable	Bus4	Bus92	0.78	0.27	0.83	0.0002300
Cable14	Cable	Bus 5	Bus104	0.78	0.27	0.83	0.0002300
Cable 15	Cable	Bus6	Bus7	3.65	0.64	3.71	0.0004930
Cable 16	Cable	Bus 8	Bus 9	2.92	0.51	2.97	0.0003944
Cable16	Cable	Bus6	Bus 8	3.12	1.09	3.30	0.0009200
Cable17	Cable	Bus10	Bus 8	2.92	0.51	2.97	0.0003944
Cable18	Cable	Bus 8	Bus11	1.56	0.55	1.65	0.0004600
Cable19	Cable	Bus11	Bus12	4.38	0.77	4.45	0.0005915
Cable20	Cable	Bus13	Bus11	2.92	0.51	2.97	0.0003944
Cable21	Cable	Bus11	Bus15	1.56	0.55	1.65	0.0004600
Cable22	Cable	Bus15	Bus16	3.65	0.64	3.71	0.0004930
Cable23	Cable	Bus17	Bus15	3.65	0.64	3.71	0.0004930

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
Cable24	Cable	Bus15	Bus18	2.34	0.82	2.48	0.0006900
Cable25	Cable	Bus19	Bus18	1.46	0.26	1.48	0.0001972
Cable37	Cable	Bus22	Bus34	291.28	106.99	310.31	
Cable38	Cable	Bus22	Bus35	291.28	106.99	310.31	
Cable39	Cable	Bus37	Bus36	0.73	0.13	0.74	0.0000986
Cable40	Cable	Bus36	Bus38	0.73	0.13	0.74	0.0000986
Cable41	Cable	Bus36	Bus39	2.34	0.82	2.48	0.0006900
Cable42	Cable	Bus41	Bus39	0.73	0.13	0.74	0.0000986
Cable43	Cable	Bus39	Bus43	0.73	0.13	0.74	0.0000986
Cable44	Cable	Bus39	Bus44	1.95	0.68	2.06	0.0005750
Cable45	Cable	Bus46	Bus44	2.56	0.45	2.60	0.0003451
Cable46	Cable	Bus44	Bus47	0.73	0.13	0.74	0.0000986
Cable47	Cable	Bus44	Bus48	1.56	0.55	1.65	0.0004600
Cable48	Cable	Bus50	Bus48	2.19	0.38	2.23	0.0002958
Cable49	Cable	Bus48	Bus51	1.46	0.26	1.48	0.0001972
Cable50	Cable	Bus48	Bus52	1.95	0.68	2.06	0.0005750
Cable51	Cable	Bus53	Bus52	0.73	0.13	0.74	0.0000986
Cable52	Cable	Bus52	Bus54	1.46	0.26	1.48	0.0001972
Cable53	Cable	Bus56	Bus55	2.19	0.38	2.23	0.0002958
Cable54	Cable	Bus55	Bus58	1.46	0.26	1.48	0.0001972
Cable55	Cable	Bus55	Bus59	2.34	0.82	2.48	0.0006900
Cable56	Cable	Bus60	Bus59	2.19	0.38	2.23	0.0002958
Cable57	Cable	Bus59	Bus61	2.19	0.38	2.23	0.0002958
Cable58	Cable	Bus59	Bus64	1.17	0.41	1.24	0.0003450
Cable59	Cable	Bus66	Bus64	0.73	0.13	0.74	0.0000986
Cable60	Cable	Bus64	Bus68	3.65	0.64	3.71	0.0004930
Cable61	Cable	Bus64	Bus69	2.34	0.82	2.48	0.0006900
Cable62	Cable	Bus70	Bus69	0.73	0.13	0.74	0.0000986
Cable63	Cable	Bus77	Bus72	2.92	0.51	2.97	0.0003944
Cable64	Cable	Bus72	Bus79	2.19	0.38	2.23	0.0002958
Cable65	Cable	Bus72	Bus80	0.78	0.27	0.83	0.0002300
Cable66	Cable	Bus82	Bus80	0.73	0.13	0.74	0.0000986
Cable67	Cable	Bus80	Bus84	3.29	0.58	3.34	0.0004437
Cable68	Cable	Bus80	Bus85	2.73	0.96	2.89	0.0008050
Cable69	Cable	Bus87	Bus85	2.19	0.38	2.23	0.0002958
Cable70	Cable	Bus85	Bus88	1.10	0.19	1.11	0.0001479
Cable71	Cable	Bus85	Bus89	1.56	0.55	1.65	0.0004600
Cable72	Cable	Bus90	Bus89	0.73	0.13	0.74	0.0000986
Cable73	Cable	Bus89	Bus91	0.73	0.13	0.74	0.0000986

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
Cable74	Cable	Bus93	Bus92	0.73	0.13	0.74	0.0000986
Cable75	Cable	Bus92	Bus94	1.83	0.32	1.85	0.0002465
Cable76	Cable	Bus92	Bus95	5.26	1.85	5.57	0.0015525
Cable77	Cable	Bus96	Bus95	2.19	0.38	2.23	0.0002958
Cable78	Cable	Bus95	Bus97	2.19	0.38	2.23	0.0002958
Cable79	Cable	Bus95	Bus98	3.89	1.37	4.13	0.0011500
Cable80	Cable	Bus99	Bus98	0.73	0.13	0.74	0.0000986
Cable81	Cable	Bus98	Bus100	0.73	0.13	0.74	0.0000986
Cable82	Cable	Bus98	Bus101	0.58	0.21	0.62	0.0001725
Cable83	Cable	Bus102	Bus101	0.37	0.06	0.37	0.0000493
Cable84	Cable	Bus101	Bus103	0.37	0.06	0.37	0.0000493
Cable85	Cable	Bus105	Bus104	0.37	0.06	0.37	0.0000493
Cable86	Cable	Bus104	Bus106	4.02	0.70	4.08	0.0005422
Cable87	Cable	Bus104	Bus107	1.36	0.48	1.44	0.0004025
Cable88	Cable	Bus108	Bus107	1.46	0.26	1.48	0.0001972
Cable89	Cable	Bus107	Bus109	0.73	0.13	0.74	0.0000986
Cable90	Cable	Bus107	Bus110	2.34	0.82	2.48	0.0006900
Cable91	Cable	Bus111	Bus110	1.46	0.26	1.48	0.0001972
Cable92	Cable	Bus110	Bus112	1.83	0.32	1.85	0.0002465
Cable93	Cable	Bus110	Bus113	3.50	1.23	3.71	0.0010350
Cable94	Cable	Bus114	Bus113	0.73	0.13	0.74	0.0000986
Cable95	Cable	Bus113	Bus115	1.46	0.26	1.48	0.0001972
Cable96	Cable	Bus113	Bus116	0.81	0.39	0.90	0.0003942
Cable97	Cable	Bus117	Bus116	0.37	0.06	0.37	0.0000493
Cable98	Cable	Bus116	Bus118	2.19	0.38	2.23	0.0002958
Cable99	Cable	Bus116	Bus119	0.97	0.34	1.03	0.0002875
Cable100	Cable	Bus120	Bus119	0.37	0.06	0.37	0.0000493
Cable101	Cable	Bus 20	Bus121	291.28	106.99	310.31	
Cable102	Cable	Bus 20	Bus122	291.28	106.99	310.31	
Cable103	Cable	Bus 24	Bus123	291.28	106.99	310.31	
Cable104	Cable	Bus 24	Bus124	291.28	106.99	310.31	
Cable105	Cable	Bus 23	Bus125	110.81	103.16	151.40	
Cable106	Cable	Bus26	Bus126	110.81	103.16	151.40	
Cable107	Cable	Bus25	Bus127	110.81	103.16	151.40	
Cable108	Cable	Bus28	Bus128	110.81	103.16	151.40	
Cable109	Cable	Bus 27	Bus129	110.81	103.16	151.40	
Cable110	Cable	Bus29	Bus130	110.81	103.16	151.40	
Cable111	Cable	Bus 25	Bus131	580.78	112.05	591.49	
Cable112	Cable	Bus 25	Bus132	580.78	112.05	591.49	

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
Cable113	Cable	Bus 25	Bus133	580.78	112.05	591.49	
Cable114	Cable	Bus 23	Bus134	580.78	112.05	591.49	
Cable115	Cable	Bus 23	Bus135	580.78	112.05	591.49	
Cable116	Cable	Bus 23	Bus136	580.78	112.05	591.49	
Cable117	Cable	Bus27	Bus137	580.78	112.05	591.49	
Cable118	Cable	Bus27	Bus138	580.78	112.05	591.49	
Cable119	Cable	Bus27	Bus139	580.78	112.05	591.49	
Cable120	Cable	Bus 26	Bus140	580.78	93.38	588.24	
Cable121	Cable	Bus 26	Bus141	580.78	112.05	591.49	
Cable122	Cable	Bus 26	Bus142	580.78	112.05	591.49	
Cable123	Cable	Bus 28	Bus143	580.78	112.05	591.49	
Cable124	Cable	Bus 28	Bus144	580.78	112.05	591.49	
Cable125	Cable	Bus 28	Bus145	580.78	112.05	591.49	
Cable126	Cable	Bus 29	Bus146	580.78	112.05	591.49	
Cable127	Cable	Bus 29	Bus147	580.78	112.05	591.49	
Cable128	Cable	Bus 29	Bus148	580.78	112.05	591.49	
Cable129	Cable	Bus 30	Bus149	580.78	112.05	591.49	
Cable130	Cable	Bus 30	Bus150	580.78	112.05	591.49	
Cable131	Cable	Bus 30	Bus151	580.78	112.05	591.49	
Cable132	Cable	Bus 34	Bus152	291.28	106.99	310.31	
Cable133	Cable	Bus 34	Bus153	291.28	106.99	310.31	
Cable134	Cable	Bus 32	Bus154	291.28	106.99	310.31	
Cable135	Cable	Bus 32	Bus155	291.28	106.99	310.31	
Cable136	Cable	Bus 35	Bus156	291.28	106.99	310.31	
Cable137	Cable	Bus 35	Bus157	291.28	106.99	310.31	
Cable138	Cable	Bus 36	Bus158	291.28	106.99	310.31	
Cable139	Cable	Bus 36	Bus159	291.28	106.99	310.31	
Cable140	Cable	Bus 37	Bus160	291.28	106.99	310.31	
Cable141	Cable	Bus 37	Bus161	291.28	106.99	310.31	
Cable142	Cable	Bus 38	Bus162	580.78	112.05	591.49	
Cable143	Cable	Bus 38	Bus163	580.78	112.05	591.49	
Cable144	Cable	Bus 38	Bus164	580.78	112.05	591.49	
Cable145	Cable	Bus 39	Bus165	580.78	112.05	591.49	
Cable146	Cable	Bus 39	Bus166	580.78	112.05	591.49	
Cable147	Cable	Bus 39	Bus167	580.78	112.05	591.49	
Cable148	Cable	Bus 77	Bus168	580.78	112.05	591.49	
Cable149	Cable	Bus 77	Bus169	580.78	112.05	591.49	
Cable150	Cable	Bus 77	Bus170	580.78	112.05	591.49	
Cable151	Cable	Bus 66	Bus171	1268.44	101.48	1272.49	

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
Cable152	Cable	Bus 66	Bus172	1268.44	101.48	1272.49	
Cable153	Cable	Bus 66	Bus173	1268.44	101.48	1272.49	
Cable154	Cable	Bus 66	Bus174	1268.44	101.48	1272.49	
Cable155	Cable	Bus 66	Bus175	1268.44	101.48	1272.49	
Cable156	Cable	Bus 64	Bus177	1268.44	101.48	1272.49	
Cable157	Cable	Bus 64	Bus176	1268.44	101.48	1272.49	
Cable158	Cable	Bus 64	Bus178	1268.44	101.48	1272.49	
Cable159	Cable	Bus 64	Bus179	1268.44	101.48	1272.49	
Cable160	Cable	Bus 64	Bus180	1268.44	101.48	1272.49	
Cable161	Cable	Bus 64	Bus181	1268.44	101.48	1272.49	
Cable162	Cable	Bus 64	Bus182	1268.44	101.48	1272.49	
Cable163	Cable	Bus 69	Bus183	1268.44	101.48	1272.49	
Cable164	Cable	Bus 69	Bus184	1268.44	101.48	1272.49	
Cable165	Cable	Bus 69	Bus185	1268.44	101.48	1272.49	
Cable166	Cable	Bus 69	Bus186	1268.44	101.48	1272.49	
Cable167	Cable	Bus 69	Bus187	1268.44	101.48	1272.49	
Cable168	Cable	Bus 70	Bus188	580.78	93.38	588.24	
Cable169	Cable	Bus 70	Bus189	580.78	93.38	588.24	
Cable170	Cable	Bus 70	Bus190	580.78	93.38	588.24	
Cable171	Cable	Bus 70	Bus191	580.78	93.38	588.24	
Cable172	Cable	Bus 70	Bus192	580.78	93.38	588.24	
Cable173	Cable	Bus 70	Bus193	580.78	93.38	588.24	
Cable174	Cable	Bus 79	Bus194	580.78	93.38	588.24	
Cable175	Cable	Bus 79	Bus195	580.78	93.38	588.24	
Cable176	Cable	Bus 79	Bus196	580.78	93.38	588.24	
Cable177	Cable	Bus 79	Bus197	580.78	93.38	588.24	
Cable178	Cable	Bus 79	Bus198	580.78	93.38	588.24	
Cable179	Cable	Bus 79	Bus199	580.78	93.38	588.24	
Cable180	Cable	Bus 80	Bus200	580.78	93.38	588.24	
Cable181	Cable	Bus 80	Bus201	580.78	93.38	588.24	
Cable182	Cable	Bus 80	Bus202	580.78	93.38	588.24	
Cable183	Cable	Bus 80	Bus203	580.78	93.38	588.24	
Cable184	Cable	Bus 80	Bus204	580.78	93.38	588.24	
Cable185	Cable	Bus 80	Bus205	580.78	93.38	588.24	
Cable186	Cable	Bus 82	Bus206	1268.44	121.73	1274.27	
Cable187	Cable	Bus 82	Bus207	1268.44	121.73	1274.27	
Cable188	Cable	Bus 82	Bus208	1268.44	121.73	1274.27	
Cable189	Cable	Bus 84	Bus209	1268.44	121.73	1274.27	
Cable190	Cable	Bus 84	Bus210	1268.44	121.73	1274.27	

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
Cable191	Cable	Bus 84	Bus211	1268.44	121.73	1274.27	
Cable192	Cable	Bus 85	Bus212	1268.44	121.73	1274.27	
Cable193	Cable	Bus 85	Bus213	1268.44	121.73	1274.27	
Cable194	Cable	Bus 85	Bus214	1268.44	121.73	1274.27	
Cable195	Cable	Bus 68	Bus215	1268.44	101.48	1272.49	
Cable196	Cable	Bus 68	Bus216	1268.44	101.48	1272.49	
Cable197	Cable	Bus 68	Bus217	1268.44	101.48	1272.49	
Cable198	Cable	Bus 68	Bus218	1268.44	101.48	1272.49	
Cable199	Cable	Bus 68	Bus219	1268.44	101.48	1272.49	
Cable200	Cable	Bus 53	Bus220	1268.44	121.73	1274.27	
Cable201	Cable	Bus 53	Bus221	1268.44	121.73	1274.27	
Cable202	Cable	Bus 53	Bus222	1268.44	121.73	1274.27	
Cable203	Cable	Bus 54	Bus223	1268.44	121.73	1274.27	
Cable204	Cable	Bus 54	Bus224	1268.44	121.73	1274.27	
Cable205	Cable	Bus 54	Bus225	1268.44	121.73	1274.27	
Cable206	Cable	Bus 55	Bus226	1268.44	121.73	1274.27	
Cable207	Cable	Bus 55	Bus227	1268.44	121.73	1274.27	
Cable208	Cable	Bus 55	Bus228	1268.44	121.73	1274.27	
Cable209	Cable	Bus 56	Bus229	1268.44	121.73	1274.27	
Cable210	Cable	Bus 56	Bus230	1268.44	121.73	1274.27	
Cable211	Cable	Bus 56	Bus231	1268.44	121.73	1274.27	
Cable212	Cable	Bus 58	Bus234	1268.44	121.73	1274.27	
Cable213	Cable	Bus 58	Bus233	1268.44	121.73	1274.27	
Cable214	Cable	Bus 58	Bus232	1268.44	121.73	1274.27	
Cable215	Cable	Bus 59	Bus235	1268.44	121.73	1274.27	
Cable216	Cable	Bus 59	Bus236	1268.44	121.73	1274.27	
Cable217	Cable	Bus 59	Bus237	1268.44	121.73	1274.27	
Cable218	Cable	Bus 60	Bus238	1268.44	121.73	1274.27	
Cable219	Cable	Bus 60	Bus239	1268.44	121.73	1274.27	
Cable220	Cable	Bus 60	Bus240	1268.44	121.73	1274.27	
Cable221	Cable	Bus 61	Bus243	1268.44	121.73	1274.27	
Cable222	Cable	Bus 61	Bus242	1268.44	121.73	1274.27	
Cable223	Cable	Bus 61	Bus241	1268.44	121.73	1274.27	
Cable224	Cable	Bus 41	Bus277	1268.44	121.73	1274.27	
Cable225	Cable	Bus 41	Bus244	1268.44	121.73	1274.27	
Cable226	Cable	Bus 41	Bus246	1268.44	121.73	1274.27	
Cable227	Cable	Bus 43	Bus249	1268.44	121.73	1274.27	
Cable228	Cable	Bus 43	Bus248	1268.44	121.73	1274.27	
Cable229	Cable	Bus 43	Bus247	1268.44	121.73	1274.27	

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
Cable230	Cable	Bus 44	Bus250	1268.44	121.73	1274.27	
Cable231	Cable	Bus 44	Bus251	1268.44	121.73	1274.27	
Cable232	Cable	Bus 44	Bus252	1268.44	121.73	1274.27	
Cable233	Cable	Bus45	Bus254	1268.44	121.73	1274.27	
Cable234	Cable	Bus45	Bus253	1268.44	121.73	1274.27	
Cable235	Cable	Bus45	Bus255	1268.44	121.73	1274.27	
Cable236	Cable	Bus 46	Bus256	1268.44	121.73	1274.27	
Cable237	Cable	Bus 46	Bus257	1268.44	121.73	1274.27	
Cable238	Cable	Bus 46	Bus258	1268.44	121.73	1274.27	
Cable239	Cable	Bus 47	Bus259	1268.44	121.73	1274.27	
Cable240	Cable	Bus 47	Bus260	1268.44	121.73	1274.27	
Cable241	Cable	Bus 47	Bus261	1268.44	121.73	1274.27	
Cable242	Cable	Bus 48	Bus264	1268.44	121.73	1274.27	
Cable243	Cable	Bus 48	Bus263	1268.44	121.73	1274.27	
Cable244	Cable	Bus 48	Bus262	1268.44	121.73	1274.27	
Cable245	Cable	Bus49	Bus265	1268.44	121.73	1274.27	
Cable246	Cable	Bus49	Bus266	1268.44	121.73	1274.27	
Cable247	Cable	Bus49	Bus267	1268.44	121.73	1274.27	
Cable248	Cable	Bus65	Bus268	1268.44	121.73	1274.27	
Cable249	Cable	Bus65	Bus269	1268.44	121.73	1274.27	
Cable250	Cable	Bus65	Bus270	1268.44	121.73	1274.27	
Cable251	Cable	Bus 51	Bus271	1268.44	121.73	1274.27	
Cable252	Cable	Bus 51	Bus272	1268.44	121.73	1274.27	
Cable253	Cable	Bus 51	Bus273	1268.44	121.73	1274.27	
Cable254	Cable	Bus 87	Bus274	1268.44	121.73	1274.27	
Cable255	Cable	Bus 87	Bus275	1268.44	121.73	1274.27	
Cable256	Cable	Bus 87	Bus276	1268.44	121.73	1274.27	
Cablel 2	Cable	Bus 2	Grid Bus2	1.80	1.00	2.06	0.0379495
Cable9	Cable	Bus18	Cable9~	0.78	0.27	0.83	0.0002300
Cable11	Cable	Bus89	Cable11~	0.78	0.27	0.83	0.0002300
Cable10	Cable	Bus69	Cable10~	0.78	0.27	0.83	0.0002300

LOAD_FLOW_REPORT

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus1	33.000	99.012	0.1	0	0	0	0	Grid Bus1	-14.621	-10.398	317.0	81.5	
								Main Bus1	14.621	10.398	317.0	81.5	
Bus 2	33.000	99.741	0.0	0	0	0	0	Grid Bus2	-10.424	-7.090	221.1	82.7	
								Main Bus2	10.424	7.090	221.1	82.7	
Bus3	11.000	97.709	-0.9	0	0	0	0	Bus36	0.000	0.000	0.0	0.0	
Bus4	11.000	98.267	-1.0	0	0	0	0	Bus92	0.000	0.000	0.0	0.0	
Bus 5	11.000	98.146	-1.0	0	0	0	0	Bus104	0.000	0.000	0.0	0.0	
Bus6	11.000	97.010	-1.4	0	0	0	0	Bus 21	0.642	0.435	41.9	82.8	
								Main Bus1	-5.192	-3.527	339.6	82.7	
								Bus7	0.642	0.435	41.9	82.8	
								Bus 8	3.909	2.657	255.7	82.7	
Bus7	11.000	96.983	-1.4	0	0	0	0	Bus6	-0.641	-0.436	42.0	82.7	
								Bus 20	0.641	0.436	42.0	82.7	
Bus 8	11.000	96.855	-1.4	0	0	0	0	Bus 9	0.444	0.300	29.0	82.9	
								Bus6	-3.901	-2.655	255.7	82.7	
								Bus10	0.641	0.435	42.0	82.7	
								Bus11	2.816	1.920	184.7	82.6	
Bus 9	11.000	96.840	-1.4	0	0	0	0	Bus 8	-0.444	-0.300	29.1	82.8	
								Bus 23	0.444	0.300	29.1	82.8	
Bus10	11.000	96.833	-1.4	0	0	0	0	Bus 8	-0.641	-0.435	42.0	82.7	
								Bus 24	0.641	0.435	42.0	82.7	
Bus11	11.000	96.798	-1.4	0	0	0	0	Bus 8	-2.814	-1.920	184.7	82.6	
								Bus12	0.444	0.300	29.1	82.9	
								Bus13	0.444	0.300	29.1	82.9	
								Bus15	1.926	1.320	126.6	82.5	
Bus12	11.000	96.776	-1.4	0	0	0	0	Bus11	-0.444	-0.300	29.1	82.8	
								Bus25	0.444	0.300	29.1	82.8	
Bus13	11.000	96.783	-1.4	0	0	0	0	Bus11	-0.444	-0.300	29.1	82.8	
								Bus26	0.444	0.300	29.1	82.8	
Bus15	11.000	96.760	-1.4	0	0	0	0	Bus11	-1.925	-1.320	126.6	82.5	
								Bus16	0.639	0.438	42.0	82.5	
								Bus17	0.621	0.425	40.8	82.5	
								Bus18	0.665	0.458	43.8	82.4	
Bus16	11.000	96.733	-1.4	0	0	0	0	Bus15	-0.639	-0.439	42.0	82.4	
								Bus 27	0.639	0.439	42.0	82.4	
Bus17	11.000	96.734	-1.4	0	0	0	0	Bus15	-0.621	-0.425	40.8	82.5	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus28	0.621	0.425	40.8	82.5	
Bus18	11.000	96.740	-1.4	0	0	0	0	Bus15	-0.665	-0.458	43.8	82.3	
								Bus19	0.665	0.458	43.8	82.3	
								Cable9~	0.000	0.000	0.0	0.0	
Bus19	11.000	96.729	-1.4	0	0	0	0	Bus18	-0.665	-0.458	43.8	82.3	
								Bus29	0.665	0.458	43.8	82.3	
Bus 20	0.400	93.085	-3.9	0	0	0	0	Bus121	0.317	0.195	576.9	85.1	
								Bus122	0.317	0.195	576.9	85.1	
								Bus7	-0.634	-0.390	1153.7	85.1	
Bus 21	11.000	96.988	-1.4	0	0	0	0	Bus6	-0.641	-0.436	42.0	82.7	
								Bus22	0.641	0.436	42.0	82.7	
Bus22	0.400	93.091	-3.9	0	0	0	0	Bus34	0.317	0.195	576.8	85.1	
								Bus35	0.317	0.195	576.8	85.1	
								Bus 21	-0.634	-0.390	1153.7	85.1	
Bus 23	0.400	93.037	-3.7	0	0	0	0	Bus134	0.205	0.125	373.0	85.3	
								Bus135	0.190	0.117	346.2	85.3	
								Bus136	0.197	0.121	358.8	85.3	
								Bus56	-0.593	-0.363	1077.9	85.3	
Bus 23	0.400	92.949	-3.6	0	0	0	0	Bus125	0.437	0.272	799.2	84.9	
								Bus 9	-0.437	-0.272	799.2	84.9	
Bus 24	0.400	92.931	-3.9	0	0	0	0	Bus123	0.317	0.195	577.5	85.1	
								Bus124	0.317	0.195	577.5	85.1	
								Bus10	-0.633	-0.390	1155.0	85.1	
Bus25	0.400	92.883	-3.5	0	0	0	0	Bus127	0.437	0.272	799.5	84.9	
								Bus12	-0.437	-0.272	799.5	84.9	
Bus 25	0.400	92.909	-3.8	0	0	0	0	Bus131	0.198	0.121	360.1	85.3	
								Bus132	0.204	0.125	371.7	85.3	
								Bus133	0.211	0.129	384.8	85.3	
								Bus58	-0.613	-0.375	1116.5	85.3	
Bus 26	0.400	92.775	-3.8	0	0	0	0	Bus140	0.211	0.129	385.1	85.3	
								Bus141	0.204	0.125	371.8	85.3	
								Bus142	0.204	0.125	371.8	85.3	
								Bus60	-0.619	-0.378	1128.7	85.3	
Bus26	0.400	92.891	-3.5	0	0	0	0	Bus126	0.437	0.272	799.5	84.9	
								Bus13	-0.437	-0.272	799.5	84.9	
Bus 27	0.400	92.806	-3.9	0	0	0	0	Bus129	0.631	0.393	1155.8	84.9	
								Bus16	-0.631	-0.393	1155.8	84.9	
Bus27	0.400	93.114	-3.6	0	0	0	0	Bus137	0.211	0.129	384.2	85.3	
								Bus138	0.191	0.117	346.3	85.3	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus139	0.164	0.101	299.1	85.2	
								Bus61	-0.566	-0.347	1029.6	85.3	
Bus 28	0.400	93.027	-3.7	0	0	0	0	Bus143	0.176	0.108	319.8	85.3	
								Bus144	0.190	0.116	346.2	85.3	
								Bus145	0.211	0.129	384.4	85.3	
								Bus66	-0.577	-0.353	1050.4	85.3	
Bus28	0.400	92.923	-3.8	0	0	0	0	Bus128	0.613	0.382	1122.6	84.9	
								Bus17	-0.613	-0.382	1122.6	84.9	
Bus29	0.400	92.630	-4.0	0	0	0	0	Bus130	0.656	0.409	1205.0	84.9	
								Bus19	-0.656	-0.409	1205.0	84.9	
Bus 29	0.400	92.901	-3.7	0	0	0	0	Bus146	0.177	0.108	321.6	85.3	
								Bus147	0.205	0.125	373.1	85.3	
								Bus148	0.212	0.130	386.3	85.3	
								Bus68	-0.594	-0.363	1081.1	85.3	
Bus 30	0.400	93.071	-3.6	0	0	0	0	Bus149	0.165	0.101	300.5	85.2	
								Bus150	0.211	0.129	384.3	85.3	
								Bus151	0.191	0.117	347.6	85.3	
								Bus70	-0.568	-0.348	1032.4	85.3	
Bus 32	0.400	92.560	-3.9	0	0	0	0	Bus154	0.316	0.195	579.1	85.1	
								Bus155	0.316	0.195	579.1	85.1	
								Bus77	-0.632	-0.390	1158.1	85.1	
Bus34	0.400	91.876	-3.8	0	0	0.312	0.193	Bus22	-0.312	-0.193	576.8	85.0	
Bus 34	0.400	92.566	-3.9	0	0	0	0	Bus152	0.316	0.195	579.0	85.1	
								Bus153	0.316	0.195	579.0	85.1	
								Bus79	-0.632	-0.390	1158.1	85.1	
Bus 35	0.400	92.537	-3.9	0	0	0	0	Bus156	0.316	0.195	579.2	85.1	
								Bus157	0.316	0.195	579.2	85.1	
								Bus82	-0.632	-0.389	1158.3	85.1	
Bus35	0.400	91.876	-3.8	0	0	0.312	0.193	Bus22	-0.312	-0.193	576.8	85.0	
Bus 36	0.400	92.202	-3.7	0	0	0	0	Bus158	0.316	0.195	580.6	85.1	
								Bus159	0.316	0.195	580.6	85.1	
								Bus84	-0.632	-0.389	1161.1	85.1	
Bus36	11.000	97.709	-0.9	0	0	0	0	Bus3	0.000	0.000	0.0	0.0	
								Bus37	0.196	0.131	12.7	83.1	
								Bus38	0.260	0.171	16.7	83.5	
								Bus39	-0.456	-0.302	29.4	83.4	
Bus37	11.000	97.708	-0.9	0	0	0	0	Bus36	-0.196	-0.131	12.7	83.1	
								Bus 64	0.196	0.131	12.7	83.1	
Bus 37	0.400	92.117	-3.7	0	0	0	0	Bus160	0.316	0.194	580.9	85.1	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus161	0.316	0.194	580.9	85.1	
								Bus87	-0.631	-0.389	1161.8	85.1	
Bus 38	0.400	92.125	-3.7	0	0	0	0	Bus162	0.212	0.129	388.5	85.3	
								Bus163	0.212	0.129	388.5	85.3	
								Bus164	0.212	0.129	388.5	85.3	
								Bus88	-0.635	-0.388	1165.6	85.3	
Bus38	11.000	97.707	-0.9	0	0	0	0	Bus36	-0.260	-0.171	16.7	83.5	
								Bus 66	0.260	0.171	16.7	83.5	
Bus39	11.000	97.723	-0.9	0	0	0	0	Bus36	0.456	0.301	29.4	83.4	
								Bus41	0.278	0.184	17.9	83.4	
								Bus43	0.255	0.168	16.4	83.6	
								Bus44	-0.989	-0.653	63.7	83.5	
Bus 39	0.400	92.101	-3.7	0	0	0	0	Bus165	0.212	0.129	388.6	85.3	
								Bus166	0.212	0.129	388.6	85.3	
								Bus167	0.212	0.129	388.6	85.3	
								Bus90	-0.635	-0.388	1165.8	85.3	
Bus 41	0.400	95.248	-2.8	0	0	0	0	Bus277	0.125	0.076	221.2	85.5	
								Bus244	0.101	0.062	179.9	85.4	
								Bus246	0.104	0.063	184.6	85.4	
								Bus105	-0.330	-0.201	585.7	85.4	
Bus41	11.000	97.721	-0.9	0	0	0	0	Bus39	-0.278	-0.184	17.9	83.4	
								Bus 68	0.278	0.184	17.9	83.4	
Bus43	11.000	97.721	-0.9	0	0	0	0	Bus39	-0.255	-0.168	16.4	83.6	
								Bus 69	0.255	0.168	16.4	83.6	
Bus 43	0.400	95.381	-2.7	0	0	0	0	Bus249	0.125	0.076	221.0	85.5	
								Bus248	0.083	0.050	146.4	85.3	
								Bus247	0.107	0.065	189.1	85.4	
								Bus106	-0.314	-0.191	556.6	85.4	
Bus 44	0.400	95.412	-2.7	0	0	0	0	Bus250	0.122	0.074	215.4	85.5	
								Bus251	0.107	0.065	189.1	85.4	
								Bus252	0.085	0.052	150.0	85.3	
								Bus108	-0.313	-0.191	554.5	85.4	
Bus44	11.000	97.747	-0.9	0	0	0	0	Bus39	0.990	0.652	63.6	83.5	
								Bus46	0.416	0.280	26.9	83.0	
								Bus47	0.431	0.291	27.9	82.9	
								Bus48	-1.836	-1.223	118.5	83.2	
Bus45	0.400	95.386	-2.7	0	0	0	0	Bus254	0.107	0.065	189.1	85.4	
								Bus253	0.085	0.052	150.0	85.3	
								Bus255	0.125	0.076	221.0	85.5	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus109	-0.316	-0.193	560.1	85.4	
Bus 46	0.400	95.490	-2.7	0	0	0	0	Bus256	0.104	0.063	184.5	85.4	
								Bus257	0.089	0.054	157.2	85.3	
								Bus258	0.116	0.070	204.5	85.4	
								Bus111	-0.309	-0.188	546.2	85.4	
Bus46	11.000	97.735	-0.9	0	0	0	0	Bus44	-0.416	-0.280	26.9	82.9	
								Bus 70	0.416	0.280	26.9	82.9	
Bus47	11.000	97.744	-0.9	0	0	0	0	Bus44	-0.431	-0.291	27.9	82.9	
								Bus 79	0.431	0.291	27.9	82.9	
Bus 47	0.400	95.399	-2.7	0	0	0	0	Bus259	0.107	0.065	189.1	85.4	
								Bus260	0.099	0.060	175.5	85.4	
								Bus261	0.113	0.069	199.7	85.4	
								Bus112	-0.319	-0.194	564.3	85.4	
Bus48	11.000	97.783	-0.9	0	0	0	0	Bus44	1.837	1.223	118.4	83.2	
								Bus50	0.431	0.291	27.9	82.9	
								Bus51	0.437	0.286	28.0	83.6	
								Bus52	-2.705	-1.800	174.4	83.2	
Bus 48	0.400	96.021	-2.4	0	0	0	0	Bus264	0.089	0.054	156.7	85.3	
								Bus263	0.085	0.052	150.2	85.3	
								Bus262	0.085	0.052	150.2	85.3	
								Bus114	-0.259	-0.159	457.0	85.3	
Bus49	0.400	95.810	-2.5	0	0	0	0	Bus265	0.107	0.065	188.6	85.4	
								Bus266	0.087	0.053	153.5	85.3	
								Bus267	0.089	0.054	156.9	85.3	
								Bus115	-0.283	-0.173	498.9	85.4	
Bus50	11.000	97.772	-0.9	0	0	0	0	Bus48	-0.431	-0.291	27.9	82.9	
								Bus 80	0.431	0.291	27.9	82.9	
Bus 51	0.400	96.091	-2.4	0	0	0	0	Bus271	0.085	0.052	150.2	85.3	
								Bus272	0.085	0.052	150.2	85.3	
								Bus273	0.084	0.051	147.0	85.3	
								Bus118	-0.254	-0.155	447.4	85.3	
Bus51	11.000	97.776	-0.9	0	0	0	0	Bus48	-0.437	-0.287	28.0	83.6	
								Bus 82	0.437	0.287	28.0	83.6	
Bus52	11.000	97.850	-0.9	0	0	0	0	Main Bus2	-3.580	-2.373	230.4	83.3	
								Bus48	2.707	1.800	174.4	83.3	
								Bus53	0.437	0.287	28.0	83.6	
								Bus54	0.437	0.286	28.0	83.6	
Bus 53	0.400	94.440	-3.2	0	0	0	0	Bus220	0.162	0.098	288.6	85.6	
								Bus221	0.142	0.086	253.2	85.5	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus222	0.142	0.086	253.2	85.5	
								Bus93	-0.445	-0.269	795.0	85.6	
Bus53	11.000	97.846	-0.9	0	0	0	0	Bus52	-0.437	-0.287	28.0	83.6	
								Bus 84	0.437	0.287	28.0	83.6	
Bus54	11.000	97.842	-0.9	0	0	0	0	Bus52	-0.437	-0.287	28.0	83.6	
								Bus 85	0.437	0.287	28.0	83.6	
Bus 54	0.400	94.611	-3.1	0	0	0	0	Bus223	0.142	0.086	252.9	85.5	
								Bus224	0.142	0.086	252.9	85.5	
								Bus225	0.142	0.086	252.9	85.5	
								Bus94	-0.425	-0.258	758.6	85.5	
Bus55	11.000	96.676	-1.4	0	0	0	0	Main Bus1	-4.182	-2.800	273.2	83.1	
								Bus56	0.600	0.402	39.2	83.1	
								Bus58	0.621	0.417	40.6	83.0	
								Bus59	2.962	1.981	193.4	83.1	
Bus 55	0.400	94.669	-3.1	0	0	0	0	Bus226	0.142	0.086	252.8	85.5	
								Bus227	0.142	0.086	252.8	85.5	
								Bus228	0.142	0.086	252.8	85.5	
								Bus96	-0.425	-0.258	758.3	85.5	
Bus56	11.000	96.661	-1.4	0	0	0	0	Bus55	-0.599	-0.402	39.2	83.0	
								Bus 23	0.599	0.402	39.2	83.0	
Bus 56	0.400	94.669	-3.1	0	0	0	0	Bus229	0.142	0.086	252.8	85.5	
								Bus230	0.142	0.086	252.8	85.5	
								Bus231	0.142	0.086	252.8	85.5	
								Bus97	-0.425	-0.258	758.3	85.5	
Bus58	11.000	96.666	-1.4	0	0	0	0	Bus55	-0.620	-0.417	40.6	83.0	
								Bus 25	0.620	0.417	40.6	83.0	
Bus 58	0.400	94.763	-3.1	0	0	0	0	Bus234	0.142	0.086	252.6	85.5	
								Bus233	0.142	0.086	252.6	85.5	
								Bus232	0.142	0.086	252.6	85.5	
								Bus99	-0.426	-0.258	757.8	85.5	
Bus59	11.000	96.588	-1.3	0	0	0	0	Bus55	-2.959	-1.980	193.5	83.1	
								Bus60	0.627	0.421	41.0	83.0	
								Bus61	0.573	0.383	37.4	83.2	
								Bus64	1.759	1.176	115.0	83.1	
Bus 59	0.400	94.725	-3.1	0	0	0	0	Bus235	0.143	0.086	254.2	85.5	
								Bus236	0.144	0.087	255.7	85.6	
								Bus237	0.144	0.087	255.7	85.6	
								Bus100	-0.430	-0.260	765.7	85.6	
Bus 60	0.400	94.739	-3.1	0	0	0	0	Bus238	0.144	0.087	255.7	85.6	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus239	0.144	0.087	255.7	85.6	
								Bus240	0.144	0.087	255.7	85.6	
								Bus102	-0.431	-0.261	767.2	85.6	
Bus60	11.000	96.572	-1.3	0	0	0	0	Bus59	-0.626	-0.422	41.0	83.0	
								Bus 26	0.626	0.422	41.0	83.0	
Bus61	11.000	96.573	-1.3	0	0	0	0	Bus59	-0.573	-0.383	37.4	83.1	
								Bus27	0.573	0.383	37.4	83.1	
Bus 61	0.400	94.754	-3.1	0	0	0	0	Bus243	0.144	0.087	255.7	85.6	
								Bus242	0.143	0.086	254.2	85.5	
								Bus241	0.143	0.086	254.2	85.5	
								Bus103	-0.429	-0.260	764.0	85.5	
Bus64	11.000	96.562	-1.3	0	0	0	0	Bus59	-1.759	-1.176	115.0	83.1	
								Bus66	0.584	0.391	38.2	83.1	
								Bus68	0.601	0.402	39.3	83.1	
								Bus69	0.574	0.383	37.5	83.2	
Bus 64	0.400	94.230	-3.1	0	0	0	0	Bus177	0.010	0.006	18.0	85.0	
								Bus176	0.022	0.013	39.0	85.1	
								Bus178	0.022	0.013	39.0	85.1	
								Bus179	0.035	0.022	63.1	85.1	
								Bus180	0.035	0.022	63.1	85.1	
								Bus181	0.035	0.022	63.1	85.1	
								Bus182	0.035	0.022	63.1	85.1	
								Bus37	-0.194	-0.119	348.4	85.1	
Bus65	0.400	95.698	-2.6	0	0	0	0	Bus268	0.107	0.065	188.7	85.4	
								Bus269	0.085	0.052	150.1	85.3	
								Bus270	0.107	0.065	188.7	85.4	
								Bus117	-0.299	-0.182	527.5	85.4	
Bus 66	0.400	94.852	-2.7	0	0	0	0	Bus171	0.054	0.033	95.9	85.2	
								Bus172	0.054	0.033	95.9	85.2	
								Bus173	0.054	0.033	95.9	85.2	
								Bus174	0.054	0.033	95.9	85.2	
								Bus175	0.043	0.026	76.4	85.2	
								Bus38	-0.258	-0.158	460.0	85.2	
Bus66	11.000	96.557	-1.3	0	0	0	0	Bus64	-0.584	-0.391	38.2	83.1	
								Bus 28	0.584	0.391	38.2	83.1	
Bus 68	0.400	94.662	-2.8	0	0	0	0	Bus215	0.043	0.026	76.5	85.2	
								Bus216	0.054	0.033	96.0	85.2	
								Bus217	0.054	0.033	96.0	85.2	
								Bus218	0.071	0.044	127.8	85.3	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus219	0.054	0.033	96.0	85.2	
								Bus41	-0.275	-0.169	492.4	85.2	
Bus68	11.000	96.536	-1.3	0	0	0	0	Bus64	-0.600	-0.403	39.3	83.0	
								Bus 29	0.600	0.403	39.3	83.0	
Bus 69	0.400	94.924	-2.7	0	0	0	0	Bus183	0.043	0.026	76.3	85.2	
								Bus184	0.054	0.033	95.9	85.2	
								Bus185	0.054	0.033	95.9	85.2	
								Bus186	0.049	0.030	86.8	85.2	
								Bus187	0.054	0.033	95.9	85.2	
								Bus43	-0.253	-0.155	450.8	85.2	
Bus69	11.000	96.545	-1.3	0	0	0	0	Bus64	-0.574	-0.384	37.5	83.1	
								Bus70	0.574	0.384	37.5	83.1	
								Cable10~	0.000	0.000	0.0	0.0	
Bus 70	0.400	94.036	-3.2	0	0	0	0	Bus188	0.071	0.044	127.9	85.1	
								Bus189	0.071	0.044	127.9	85.1	
								Bus190	0.071	0.044	127.9	85.1	
								Bus191	0.071	0.044	127.9	85.1	
								Bus192	0.071	0.044	127.9	85.1	
								Bus193	0.056	0.034	100.7	85.1	
								Bus46	-0.410	-0.253	740.1	85.1	
Bus70	11.000	96.540	-1.3	0	0	0	0	Bus69	-0.574	-0.384	37.5	83.1	
								Bus 30	0.574	0.384	37.5	83.1	
Bus72	11.000	96.495	-1.3	0	0	0	0	Main Bus1	-5.159	-3.478	338.4	82.9	
								Bus77	0.640	0.435	42.1	82.7	
								Bus79	0.640	0.435	42.1	82.7	
								Bus80	3.878	2.608	254.2	83.0	
Bus 77	0.400	92.048	-3.7	0	0	0	0	Bus168	0.219	0.134	402.7	85.3	
								Bus169	0.212	0.129	388.7	85.3	
								Bus170	0.212	0.129	388.7	85.3	
								Bus91	-0.642	-0.392	1180.2	85.3	
Bus77	11.000	96.474	-1.3	0	0	0	0	Bus72	-0.640	-0.435	42.1	82.7	
								Bus 32	0.640	0.435	42.1	82.7	
Bus 79	0.400	93.903	-3.3	0	0	0	0	Bus194	0.071	0.044	128.0	85.1	
								Bus195	0.071	0.044	128.0	85.1	
								Bus196	0.071	0.044	128.0	85.1	
								Bus197	0.071	0.044	128.0	85.1	
								Bus198	0.071	0.044	128.0	85.1	
								Bus199	0.071	0.044	128.0	85.1	
								Bus47	-0.425	-0.262	767.9	85.1	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus79	11.000	96.479	-1.3	0	0	0	0	Bus72	-0.640	-0.435	42.1	82.7	
								Bus 34	0.640	0.435	42.1	82.7	
Bus 80	0.400	93.932	-3.3	0	0	0	0	Bus200	0.071	0.044	128.0	85.1	
								Bus201	0.071	0.044	128.0	85.1	
								Bus202	0.071	0.044	128.0	85.1	
								Bus203	0.071	0.044	128.0	85.1	
								Bus204	0.071	0.044	128.0	85.1	
								Bus205	0.071	0.044	128.0	85.1	
								Bus50	-0.425	-0.262	767.8	85.1	
Bus80	11.000	96.457	-1.3	0	0	0	0	Bus72	-3.876	-2.608	254.2	83.0	
								Bus82	0.640	0.435	42.1	82.7	
								Bus84	0.643	0.434	42.2	82.9	
								Bus85	2.593	1.739	169.9	83.0	
Bus82	11.000	96.451	-1.3	0	0	0	0	Bus80	-0.640	-0.435	42.1	82.7	
								Bus 35	0.640	0.435	42.1	82.7	
Bus 82	0.400	94.069	-3.0	0	0	0	0	Bus206	0.143	0.087	256.9	85.6	
								Bus207	0.143	0.087	256.9	85.6	
								Bus208	0.143	0.087	256.9	85.6	
								Bus51	-0.430	-0.260	770.8	85.6	
Bus 84	0.400	94.141	-3.0	0	0	0	0	Bus209	0.143	0.087	256.8	85.6	
								Bus210	0.143	0.087	256.8	85.6	
								Bus211	0.143	0.087	256.8	85.6	
								Bus53	-0.430	-0.260	770.4	85.6	
Bus84	11.000	96.432	-1.3	0	0	0	0	Bus80	-0.643	-0.434	42.2	82.9	
								Bus 36	0.643	0.434	42.2	82.9	
Bus85	11.000	96.366	-1.3	0	0	0	0	Bus80	-2.590	-1.739	169.9	83.0	
								Bus87	0.643	0.434	42.2	82.9	
								Bus88	0.646	0.433	42.4	83.1	
								Bus89	1.301	0.872	85.3	83.1	
Bus 85	0.400	94.137	-3.0	0	0	0	0	Bus212	0.143	0.087	256.8	85.6	
								Bus213	0.143	0.087	256.8	85.6	
								Bus214	0.143	0.087	256.8	85.6	
								Bus54	-0.430	-0.260	770.4	85.6	
Bus87	11.000	96.350	-1.3	0	0	0	0	Bus85	-0.643	-0.434	42.2	82.9	
								Bus 37	0.643	0.434	42.2	82.9	
Bus 87	0.400	95.895	-2.5	0	0	0	0	Bus274	0.107	0.065	188.5	85.4	
								Bus275	0.085	0.052	150.1	85.3	
								Bus276	0.089	0.054	156.8	85.3	
								Bus120	-0.281	-0.171	495.4	85.4	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus88	11.000	96.358	-1.3	0	0	0	0	Bus85	-0.646	-0.433	42.4	83.0	
								Bus 38	0.646	0.433	42.4	83.0	
Bus89	11.000	96.340	-1.3	0	0	0	0	Bus85	-1.300	-0.872	85.3	83.0	
								Bus90	0.646	0.433	42.4	83.1	
								Bus91	0.654	0.439	42.9	83.0	
								Cable11~	0.000	0.000	0.0	0.0	
Bus90	11.000	96.335	-1.3	0	0	0	0	Bus89	-0.646	-0.433	42.4	83.0	
								Bus 39	0.646	0.433	42.4	83.0	
Bus91	11.000	96.335	-1.3	0	0	0	0	Bus89	-0.654	-0.439	42.9	83.0	
								Bus 77	0.654	0.439	42.9	83.0	
Bus92	11.000	98.267	-1.0	0	0	0	0	Bus4	0.000	0.000	0.0	0.0	
								Bus93	0.452	0.297	28.9	83.6	
								Bus94	0.432	0.283	27.6	83.6	
								Bus95	-0.884	-0.580	56.5	83.6	
Bus93	11.000	98.264	-1.0	0	0	0	0	Bus92	-0.452	-0.297	28.9	83.6	
								Bus 53	0.452	0.297	28.9	83.6	
Bus94	11.000	98.259	-1.0	0	0	0	0	Bus92	-0.432	-0.283	27.6	83.6	
								Bus 54	0.432	0.283	27.6	83.6	
Bus95	11.000	98.326	-1.0	0	0	0	0	Bus92	0.885	0.579	56.4	83.7	
								Bus96	0.432	0.283	27.6	83.7	
								Bus97	0.432	0.283	27.6	83.7	
								Bus98	-1.749	-1.145	111.6	83.7	
Bus96	11.000	98.315	-1.0	0	0	0	0	Bus95	-0.432	-0.283	27.6	83.6	
								Bus 55	0.432	0.283	27.6	83.6	
Bus97	11.000	98.315	-1.0	0	0	0	0	Bus95	-0.432	-0.283	27.6	83.6	
								Bus 56	0.432	0.283	27.6	83.6	
Bus98	11.000	98.411	-1.0	0	0	0	0	Bus95	1.751	1.144	111.5	83.7	
								Bus99	0.432	0.283	27.6	83.6	
								Bus100	0.437	0.286	27.8	83.6	
								Bus101	-2.619	-1.714	166.9	83.7	
Bus99	11.000	98.407	-1.0	0	0	0	0	Bus98	-0.432	-0.283	27.6	83.6	
								Bus 58	0.432	0.283	27.6	83.6	
Bus100	11.000	98.407	-1.0	0	0	0	0	Bus98	-0.437	-0.286	27.8	83.6	
								Bus 59	0.437	0.286	27.8	83.6	
Bus101	11.000	98.430	-1.0	0	0	0	0	Main Bus2	-3.493	-2.286	222.6	83.7	
								Bus98	2.620	1.714	166.9	83.7	
								Bus102	0.437	0.287	27.9	83.6	
								Bus103	0.436	0.286	27.8	83.6	
Bus102	11.000	98.428	-1.0	0	0	0	0	Bus101	-0.437	-0.287	27.9	83.6	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								Bus 60	0.437	0.287	27.9	83.6	
Bus103	11.000	98.428	-1.0	0	0	0	0	Bus101	-0.436	-0.286	27.8	83.6	
								Bus 61	0.436	0.286	27.8	83.6	
Bus104	11.000	98.146	-1.0	0	0	0	0	Bus 5	0.000	0.000	0.0	0.0	
								Bus105	0.333	0.218	21.3	83.7	
								Bus106	0.317	0.206	20.2	83.9	
								Bus107	-0.651	-0.423	41.5	83.8	
Bus105	11.000	98.145	-1.0	0	0	0	0	Bus104	-0.333	-0.218	21.3	83.7	
								Bus 41	0.333	0.218	21.3	83.7	
Bus106	11.000	98.132	-1.0	0	0	0	0	Bus104	-0.317	-0.206	20.2	83.8	
								Bus 43	0.317	0.206	20.2	83.8	
Bus107	11.000	98.157	-1.0	0	0	0	0	Bus104	0.651	0.423	41.5	83.8	
								Bus108	0.316	0.206	20.2	83.8	
								Bus109	0.319	0.208	20.4	83.8	
								Bus110	-1.286	-0.836	82.0	83.8	
Bus108	11.000	98.152	-1.0	0	0	0	0	Bus107	-0.316	-0.206	20.2	83.8	
								Bus 44	0.316	0.206	20.2	83.8	
Bus109	11.000	98.155	-1.0	0	0	0	0	Bus107	-0.319	-0.208	20.4	83.8	
								Bus45	0.319	0.208	20.4	83.8	
Bus110	11.000	98.195	-1.0	0	0	0	0	Bus107	1.286	0.836	82.0	83.9	
								Bus111	0.311	0.202	19.9	83.8	
								Bus112	0.322	0.209	20.5	83.8	
								Bus113	-1.920	-1.248	122.4	83.8	
Bus111	11.000	98.190	-1.0	0	0	0	0	Bus110	-0.311	-0.203	19.9	83.8	
								Bus 46	0.311	0.203	19.9	83.8	
Bus112	11.000	98.188	-1.0	0	0	0	0	Bus110	-0.322	-0.210	20.5	83.8	
								Bus 47	0.322	0.210	20.5	83.8	
Bus113	11.000	98.279	-1.0	0	0	0	0	Bus110	1.921	1.247	122.3	83.9	
								Bus114	0.261	0.169	16.6	84.0	
								Bus115	0.285	0.185	18.1	83.9	
								Bus116	-2.468	-1.601	157.1	83.9	
Bus114	11.000	98.277	-1.0	0	0	0	0	Bus113	-0.261	-0.169	16.6	84.0	
								Bus 48	0.261	0.169	16.6	84.0	
Bus115	11.000	98.274	-1.0	0	0	0	0	Bus113	-0.285	-0.185	18.1	83.9	
								Bus49	0.285	0.185	18.1	83.9	
Bus116	11.000	98.306	-1.0	0	0	0	0	Bus113	2.469	1.601	157.1	83.9	
								Bus117	0.301	0.196	19.2	83.9	
								Bus118	0.256	0.165	16.3	84.1	
								Bus119	-3.026	-1.961	192.5	83.9	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus117	11.000	98.304	-1.0	0	0	0	0	Bus116	-0.301	-0.196	19.2	83.9	
								Bus65	0.301	0.196	19.2	83.9	
Bus118	11.000	98.299	-1.0	0	0	0	0	Bus116	-0.256	-0.165	16.3	84.0	
								Bus 51	0.256	0.165	16.3	84.0	
Bus119	11.000	98.342	-1.0	0	0	0	0	Main Bus2	-3.311	-2.145	210.5	83.9	
								Bus116	3.027	1.961	192.5	83.9	
								Bus120	0.283	0.183	18.0	83.9	
Bus120	11.000	98.341	-1.0	0	0	0	0	Bus119	-0.283	-0.183	18.0	83.9	
								Bus 87	0.283	0.183	18.0	83.9	
Bus121	0.400	91.870	-3.8	0	0	0.312	0.193	Bus 20	-0.312	-0.193	576.9	85.0	
Bus122	0.400	91.870	-3.8	0	0	0.312	0.193	Bus 20	-0.312	-0.193	576.9	85.0	
Bus123	0.400	91.714	-3.8	0	0	0.312	0.193	Bus 24	-0.312	-0.193	577.5	85.0	
Bus124	0.400	91.714	-3.8	0	0	0.312	0.193	Bus 24	-0.312	-0.193	577.5	85.0	
Bus125	0.400	92.126	-3.7	0	0	0.434	0.269	Bus 23	-0.434	-0.269	799.2	85.0	
Bus126	0.400	92.068	-3.6	0	0	0.433	0.269	Bus26	-0.433	-0.269	799.5	85.0	
Bus127	0.400	92.060	-3.6	0	0	0.433	0.269	Bus25	-0.433	-0.269	799.5	85.0	
Bus128	0.400	91.767	-4.0	0	0	0.607	0.376	Bus28	-0.607	-0.376	1122.6	85.0	
Bus129	0.400	91.617	-4.0	0	0	0.624	0.386	Bus 27	-0.624	-0.386	1155.8	85.0	
Bus130	0.400	91.390	-4.2	0	0	0.649	0.402	Bus29	-0.649	-0.402	1205.0	85.0	
Bus131	0.400	91.529	-3.5	0	0	0.194	0.120	Bus 25	-0.194	-0.120	360.1	85.0	
Bus132	0.400	91.485	-3.5	0	0	0.200	0.124	Bus 25	-0.200	-0.124	371.7	85.0	
Bus133	0.400	91.434	-3.5	0	0	0.207	0.128	Bus 25	-0.207	-0.128	384.8	85.0	
Bus134	0.400	91.607	-3.4	0	0	0.201	0.125	Bus 23	-0.201	-0.125	373.0	85.0	
Bus135	0.400	91.710	-3.4	0	0	0.187	0.116	Bus 23	-0.187	-0.116	346.2	85.0	
Bus136	0.400	91.661	-3.4	0	0	0.194	0.120	Bus 23	-0.194	-0.120	358.8	85.0	
Bus137	0.400	91.641	-3.3	0	0	0.207	0.128	Bus27	-0.207	-0.128	384.2	85.0	
Bus138	0.400	91.787	-3.3	0	0	0.187	0.116	Bus27	-0.187	-0.116	346.3	85.0	
Bus139	0.400	91.968	-3.4	0	0	0.162	0.100	Bus27	-0.162	-0.100	299.1	85.0	
Bus140	0.400	91.324	-3.5	0	0	0.207	0.128	Bus 26	-0.207	-0.128	385.1	85.0	
Bus141	0.400	91.349	-3.5	0	0	0.200	0.124	Bus 26	-0.200	-0.124	371.8	85.0	
Bus142	0.400	91.349	-3.5	0	0	0.200	0.124	Bus 26	-0.200	-0.124	371.8	85.0	
Bus143	0.400	91.801	-3.4	0	0	0.173	0.107	Bus 28	-0.173	-0.107	319.8	85.0	
Bus144	0.400	91.700	-3.4	0	0	0.187	0.116	Bus 28	-0.187	-0.116	346.2	85.0	
Bus145	0.400	91.553	-3.3	0	0	0.207	0.128	Bus 28	-0.207	-0.128	384.4	85.0	
Bus146	0.400	91.668	-3.4	0	0	0.174	0.108	Bus 29	-0.174	-0.108	321.6	85.0	
Bus147	0.400	91.471	-3.4	0	0	0.201	0.125	Bus 29	-0.201	-0.125	373.1	85.0	
Bus148	0.400	91.420	-3.4	0	0	0.208	0.129	Bus 29	-0.208	-0.129	386.3	85.0	
Bus149	0.400	91.919	-3.4	0	0	0.163	0.101	Bus 30	-0.163	-0.101	300.5	85.0	
Bus150	0.400	91.598	-3.3	0	0	0.207	0.128	Bus 30	-0.207	-0.128	384.3	85.0	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus151	0.400	91.738	-3.3	0	0	0.188	0.116	Bus 30	-0.188	-0.116	347.6	85.0	
Bus152	0.400	91.346	-3.7	0	0	0.311	0.193	Bus 34	-0.311	-0.193	579.0	85.0	
Bus153	0.400	91.346	-3.7	0	0	0.311	0.193	Bus 34	-0.311	-0.193	579.0	85.0	
Bus154	0.400	91.341	-3.7	0	0	0.311	0.193	Bus 32	-0.311	-0.193	579.1	85.0	
Bus155	0.400	91.341	-3.7	0	0	0.311	0.193	Bus 32	-0.311	-0.193	579.1	85.0	
Bus156	0.400	91.317	-3.7	0	0	0.311	0.193	Bus 35	-0.311	-0.193	579.2	85.0	
Bus157	0.400	91.317	-3.7	0	0	0.311	0.193	Bus 35	-0.311	-0.193	579.2	85.0	
Bus158	0.400	90.979	-3.6	0	0	0.311	0.193	Bus 36	-0.311	-0.193	580.6	85.0	
Bus159	0.400	90.979	-3.6	0	0	0.311	0.193	Bus 36	-0.311	-0.193	580.6	85.0	
Bus160	0.400	90.894	-3.5	0	0	0.311	0.193	Bus 37	-0.311	-0.193	580.9	85.0	
Bus161	0.400	90.894	-3.5	0	0	0.311	0.193	Bus 37	-0.311	-0.193	580.9	85.0	
Bus162	0.400	90.635	-3.4	0	0	0.207	0.129	Bus 38	-0.207	-0.129	388.5	85.0	
Bus163	0.400	90.635	-3.4	0	0	0.207	0.129	Bus 38	-0.207	-0.129	388.5	85.0	
Bus164	0.400	90.635	-3.4	0	0	0.207	0.129	Bus 38	-0.207	-0.129	388.5	85.0	
Bus165	0.400	90.611	-3.4	0	0	0.207	0.129	Bus 39	-0.207	-0.129	388.6	85.0	
Bus166	0.400	90.611	-3.4	0	0	0.207	0.129	Bus 39	-0.207	-0.129	388.6	85.0	
Bus167	0.400	90.611	-3.4	0	0	0.207	0.129	Bus 39	-0.207	-0.129	388.6	85.0	
Bus168	0.400	90.504	-3.4	0	0	0.215	0.133	Bus 77	-0.215	-0.133	402.7	85.0	
Bus169	0.400	90.557	-3.4	0	0	0.207	0.128	Bus 77	-0.207	-0.128	388.7	85.0	
Bus170	0.400	90.557	-3.4	0	0	0.207	0.128	Bus 77	-0.207	-0.128	388.7	85.0	
Bus171	0.400	94.099	-2.5	0	0	0.053	0.033	Bus 66	-0.053	-0.033	95.9	85.0	
Bus172	0.400	94.099	-2.5	0	0	0.053	0.033	Bus 66	-0.053	-0.033	95.9	85.0	
Bus173	0.400	94.099	-2.5	0	0	0.053	0.033	Bus 66	-0.053	-0.033	95.9	85.0	
Bus174	0.400	94.099	-2.5	0	0	0.053	0.033	Bus 66	-0.053	-0.033	95.9	85.0	
Bus175	0.400	94.253	-2.5	0	0	0.042	0.026	Bus 66	-0.042	-0.026	76.4	85.0	
Bus176	0.400	93.924	-3.0	0	0	0.022	0.013	Bus 64	-0.022	-0.013	39.0	85.0	
Bus177	0.400	94.089	-3.0	0	0	0.010	0.006	Bus 64	-0.010	-0.006	18.0	85.0	
Bus178	0.400	93.924	-3.0	0	0	0.022	0.013	Bus 64	-0.022	-0.013	39.0	85.0	
Bus179	0.400	93.735	-2.9	0	0	0.035	0.022	Bus 64	-0.035	-0.022	63.1	85.0	
Bus180	0.400	93.735	-2.9	0	0	0.035	0.022	Bus 64	-0.035	-0.022	63.1	85.0	
Bus181	0.400	93.735	-2.9	0	0	0.035	0.022	Bus 64	-0.035	-0.022	63.1	85.0	
Bus182	0.400	93.735	-2.9	0	0	0.035	0.022	Bus 64	-0.035	-0.022	63.1	85.0	
Bus183	0.400	94.325	-2.5	0	0	0.042	0.026	Bus 69	-0.042	-0.026	76.3	85.0	
Bus184	0.400	94.171	-2.4	0	0	0.053	0.033	Bus 69	-0.053	-0.033	95.9	85.0	
Bus185	0.400	94.171	-2.4	0	0	0.053	0.033	Bus 69	-0.053	-0.033	95.9	85.0	
Bus186	0.400	94.242	-2.5	0	0	0.048	0.030	Bus 69	-0.048	-0.030	86.8	85.0	
Bus187	0.400	94.171	-2.4	0	0	0.053	0.033	Bus 69	-0.053	-0.033	95.9	85.0	
Bus188	0.400	93.555	-3.1	0	0	0.070	0.044	Bus 70	-0.070	-0.044	127.9	85.0	
Bus189	0.400	93.555	-3.1	0	0	0.070	0.044	Bus 70	-0.070	-0.044	127.9	85.0	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus190	0.400	93.555	-3.1	0	0	0.070	0.044	Bus 70	-0.070	-0.044	127.9	85.0	
Bus191	0.400	93.555	-3.1	0	0	0.070	0.044	Bus 70	-0.070	-0.044	127.9	85.0	
Bus192	0.400	93.555	-3.1	0	0	0.070	0.044	Bus 70	-0.070	-0.044	127.9	85.0	
Bus193	0.400	93.657	-3.1	0	0	0.056	0.034	Bus 70	-0.056	-0.034	100.7	85.0	
Bus194	0.400	93.421	-3.2	0	0	0.070	0.044	Bus 79	-0.070	-0.044	128.0	85.0	
Bus195	0.400	93.421	-3.2	0	0	0.070	0.044	Bus 79	-0.070	-0.044	128.0	85.0	
Bus196	0.400	93.421	-3.2	0	0	0.070	0.044	Bus 79	-0.070	-0.044	128.0	85.0	
Bus197	0.400	93.421	-3.2	0	0	0.070	0.044	Bus 79	-0.070	-0.044	128.0	85.0	
Bus198	0.400	93.421	-3.2	0	0	0.070	0.044	Bus 79	-0.070	-0.044	128.0	85.0	
Bus199	0.400	93.421	-3.2	0	0	0.070	0.044	Bus 79	-0.070	-0.044	128.0	85.0	
Bus200	0.400	93.451	-3.2	0	0	0.070	0.044	Bus 80	-0.070	-0.044	128.0	85.0	
Bus201	0.400	93.451	-3.2	0	0	0.070	0.044	Bus 80	-0.070	-0.044	128.0	85.0	
Bus202	0.400	93.451	-3.2	0	0	0.070	0.044	Bus 80	-0.070	-0.044	128.0	85.0	
Bus203	0.400	93.451	-3.2	0	0	0.070	0.044	Bus 80	-0.070	-0.044	128.0	85.0	
Bus204	0.400	93.451	-3.2	0	0	0.070	0.044	Bus 80	-0.070	-0.044	128.0	85.0	
Bus205	0.400	93.451	-3.2	0	0	0.070	0.044	Bus 80	-0.070	-0.044	128.0	85.0	
Bus206	0.400	92.030	-2.4	0	0	0.139	0.086	Bus 82	-0.139	-0.086	256.9	85.0	
Bus207	0.400	92.030	-2.4	0	0	0.139	0.086	Bus 82	-0.139	-0.086	256.9	85.0	
Bus208	0.400	92.030	-2.4	0	0	0.139	0.086	Bus 82	-0.139	-0.086	256.9	85.0	
Bus209	0.400	92.103	-2.4	0	0	0.139	0.086	Bus 84	-0.139	-0.086	256.8	85.0	
Bus210	0.400	92.103	-2.4	0	0	0.139	0.086	Bus 84	-0.139	-0.086	256.8	85.0	
Bus211	0.400	92.103	-2.4	0	0	0.139	0.086	Bus 84	-0.139	-0.086	256.8	85.0	
Bus212	0.400	92.099	-2.4	0	0	0.139	0.086	Bus 85	-0.139	-0.086	256.8	85.0	
Bus213	0.400	92.099	-2.4	0	0	0.139	0.086	Bus 85	-0.139	-0.086	256.8	85.0	
Bus214	0.400	92.099	-2.4	0	0	0.139	0.086	Bus 85	-0.139	-0.086	256.8	85.0	
Bus215	0.400	94.063	-2.6	0	0	0.042	0.026	Bus 68	-0.042	-0.026	76.5	85.0	
Bus216	0.400	93.909	-2.6	0	0	0.053	0.033	Bus 68	-0.053	-0.033	96.0	85.0	
Bus217	0.400	93.909	-2.6	0	0	0.053	0.033	Bus 68	-0.053	-0.033	96.0	85.0	
Bus218	0.400	93.659	-2.5	0	0	0.070	0.044	Bus 68	-0.070	-0.044	127.8	85.0	
Bus219	0.400	93.909	-2.6	0	0	0.053	0.033	Bus 68	-0.053	-0.033	96.0	85.0	
Bus220	0.400	92.149	-2.5	0	0	0.157	0.097	Bus 53	-0.157	-0.097	288.6	85.0	
Bus221	0.400	92.431	-2.6	0	0	0.138	0.085	Bus 53	-0.138	-0.085	253.2	85.0	
Bus222	0.400	92.431	-2.6	0	0	0.138	0.085	Bus 53	-0.138	-0.085	253.2	85.0	
Bus223	0.400	92.604	-2.5	0	0	0.138	0.085	Bus 54	-0.138	-0.085	252.9	85.0	
Bus224	0.400	92.604	-2.5	0	0	0.138	0.085	Bus 54	-0.138	-0.085	252.9	85.0	
Bus225	0.400	92.604	-2.5	0	0	0.138	0.085	Bus 54	-0.138	-0.085	252.9	85.0	
Bus226	0.400	92.663	-2.5	0	0	0.138	0.085	Bus 55	-0.138	-0.085	252.8	85.0	
Bus227	0.400	92.663	-2.5	0	0	0.138	0.085	Bus 55	-0.138	-0.085	252.8	85.0	
Bus228	0.400	92.663	-2.5	0	0	0.138	0.085	Bus 55	-0.138	-0.085	252.8	85.0	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus229	0.400	92.663	-2.5	0	0	0.138	0.085	Bus 56	-0.138	-0.085	252.8	85.0	
Bus230	0.400	92.663	-2.5	0	0	0.138	0.085	Bus 56	-0.138	-0.085	252.8	85.0	
Bus231	0.400	92.663	-2.5	0	0	0.138	0.085	Bus 56	-0.138	-0.085	252.8	85.0	
Bus232	0.400	92.759	-2.5	0	0	0.138	0.086	Bus 58	-0.138	-0.086	252.6	85.0	
Bus233	0.400	92.759	-2.5	0	0	0.138	0.086	Bus 58	-0.138	-0.086	252.6	85.0	
Bus234	0.400	92.759	-2.5	0	0	0.138	0.086	Bus 58	-0.138	-0.086	252.6	85.0	
Bus235	0.400	92.708	-2.5	0	0	0.139	0.086	Bus 59	-0.139	-0.086	254.2	85.0	
Bus236	0.400	92.696	-2.5	0	0	0.140	0.087	Bus 59	-0.140	-0.087	255.7	85.0	
Bus237	0.400	92.696	-2.5	0	0	0.140	0.087	Bus 59	-0.140	-0.087	255.7	85.0	
Bus238	0.400	92.710	-2.5	0	0	0.140	0.087	Bus 60	-0.140	-0.087	255.7	85.0	
Bus239	0.400	92.710	-2.5	0	0	0.140	0.087	Bus 60	-0.140	-0.087	255.7	85.0	
Bus240	0.400	92.710	-2.5	0	0	0.140	0.087	Bus 60	-0.140	-0.087	255.7	85.0	
Bus241	0.400	92.738	-2.5	0	0	0.139	0.086	Bus 61	-0.139	-0.086	254.2	85.0	
Bus242	0.400	92.738	-2.5	0	0	0.139	0.086	Bus 61	-0.139	-0.086	254.2	85.0	
Bus243	0.400	92.726	-2.5	0	0	0.140	0.087	Bus 61	-0.140	-0.087	255.7	85.0	
Bus244	0.400	93.822	-2.4	0	0	0.099	0.062	Bus 41	-0.099	-0.062	179.9	85.0	
Bus246	0.400	93.785	-2.4	0	0	0.102	0.063	Bus 41	-0.102	-0.063	184.6	85.0	
Bus247	0.400	93.882	-2.3	0	0	0.105	0.065	Bus 43	-0.105	-0.065	189.1	85.0	
Bus248	0.400	94.221	-2.4	0	0	0.081	0.050	Bus 43	-0.081	-0.050	146.4	85.0	
Bus249	0.400	93.628	-2.2	0	0	0.122	0.076	Bus 43	-0.122	-0.076	221.0	85.0	
Bus250	0.400	93.703	-2.2	0	0	0.119	0.074	Bus 44	-0.119	-0.074	215.4	85.0	
Bus251	0.400	93.912	-2.3	0	0	0.105	0.065	Bus 44	-0.105	-0.065	189.1	85.0	
Bus252	0.400	94.223	-2.4	0	0	0.083	0.052	Bus 44	-0.083	-0.052	150.0	85.0	
Bus253	0.400	94.197	-2.4	0	0	0.083	0.052	Bus45	-0.083	-0.052	150.0	85.0	
Bus254	0.400	93.887	-2.3	0	0	0.105	0.065	Bus45	-0.105	-0.065	189.1	85.0	
Bus255	0.400	93.633	-2.2	0	0	0.122	0.076	Bus45	-0.122	-0.076	221.0	85.0	
Bus256	0.400	94.028	-2.3	0	0	0.102	0.063	Bus 46	-0.102	-0.063	184.5	85.0	
Bus257	0.400	94.244	-2.3	0	0	0.087	0.054	Bus 46	-0.087	-0.054	157.2	85.0	
Bus258	0.400	93.868	-2.2	0	0	0.113	0.070	Bus 46	-0.113	-0.070	204.5	85.0	
Bus259	0.400	93.899	-2.3	0	0	0.105	0.065	Bus 47	-0.105	-0.065	189.1	85.0	
Bus260	0.400	94.007	-2.3	0	0	0.097	0.060	Bus 47	-0.097	-0.060	175.5	85.0	
Bus261	0.400	93.815	-2.3	0	0	0.110	0.068	Bus 47	-0.110	-0.068	199.7	85.0	
Bus262	0.400	94.831	-2.1	0	0	0.084	0.052	Bus 48	-0.084	-0.052	150.2	85.0	
Bus263	0.400	94.831	-2.1	0	0	0.084	0.052	Bus 48	-0.084	-0.052	150.2	85.0	
Bus264	0.400	94.780	-2.1	0	0	0.087	0.054	Bus 48	-0.087	-0.054	156.7	85.0	
Bus265	0.400	94.315	-2.1	0	0	0.105	0.065	Bus49	-0.105	-0.065	188.6	85.0	
Bus266	0.400	94.594	-2.2	0	0	0.085	0.053	Bus49	-0.085	-0.053	153.5	85.0	
Bus267	0.400	94.567	-2.2	0	0	0.087	0.054	Bus49	-0.087	-0.054	156.9	85.0	
Bus268	0.400	94.202	-2.2	0	0	0.105	0.065	Bus65	-0.105	-0.065	188.7	85.0	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus269	0.400	94.509	-2.3	0	0	0.084	0.052	Bus65	-0.084	-0.052	150.1	85.0	
Bus270	0.400	94.202	-2.2	0	0	0.105	0.065	Bus65	-0.105	-0.065	188.7	85.0	
Bus271	0.400	94.901	-2.0	0	0	0.084	0.052	Bus 51	-0.084	-0.052	150.2	85.0	
Bus272	0.400	94.901	-2.0	0	0	0.084	0.052	Bus 51	-0.084	-0.052	150.2	85.0	
Bus273	0.400	94.926	-2.0	0	0	0.082	0.051	Bus 51	-0.082	-0.051	147.0	85.0	
Bus274	0.400	94.401	-2.1	0	0	0.105	0.065	Bus 87	-0.105	-0.065	188.5	85.0	
Bus275	0.400	94.705	-2.2	0	0	0.084	0.052	Bus 87	-0.084	-0.052	150.1	85.0	
Bus276	0.400	94.652	-2.2	0	0	0.087	0.054	Bus 87	-0.087	-0.054	156.8	85.0	
Bus277	0.400	93.494	-2.3	0	0	0.122	0.075	Bus 41	-0.122	-0.075	221.2	85.0	
* Grid Bus1	33.000	100.000	0.0	14.778	10.385	0	0	Bus1	14.778	10.385	316.0	81.8	
* Grid Bus2	33.000	100.000	0.0	10.453	7.068	0	0	Bus 2	10.453	7.068	220.8	82.8	
Main Bus1	11.000	97.113	-1.4	0	0	0	0	Bus6	5.198	3.529	339.6	82.7	
								Bus55	4.204	2.805	273.2	83.2	
								Bus72	5.197	3.489	338.3	83.0	
								Bus1	-14.600	-9.823	951.1	83.0	
Main Bus2	11.000	98.447	-1.0	0	0	0	0	Bus52	3.605	2.378	230.3	83.5	
								Bus101	3.494	2.286	222.6	83.7	
								Bus119	3.315	2.145	210.5	83.9	
								Bus 2	-10.414	-6.810	663.4	83.7	
Cable9~	11.000	96.740	-1.4	0	0	0	0	Bus18	0.000	0.000	0.0	0.0	
Cable11~	11.000	96.340	-1.3	0	0	0	0	Bus89	0.000	0.000	0.0	0.0	
Cable10~	11.000	96.545	-1.3	0	0	0	0	Bus69	0.000	0.000	0.0	0.0	

* 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

Bus Loading Summary Report

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus1	33.000		0	0	0	0	0	0	0	0	17.941	81.5	317.0	
Bus 2	33.000		0	0	0	0	0	0	0	0	12.606	82.7	221.1	
Bus3	11.000		0	0	0	0	0	0	0	0	0	0.0	0.0	
Bus4	11.000		0	0	0	0	0	0	0	0	0	0.0	0.0	
Bus 5	11.000		0	0	0	0	0	0	0	0	0	0.0	0.0	
Bus6	11.000		0	0	0	0	0	0	0	0	6.277	82.7	339.6	
Bus7	11.000		0	0	0	0	0	0	0	0	0.775	82.7	42.0	
Bus 8	11.000		0	0	0	0	0	0	0	0	4.719	82.7	255.7	
Bus 9	11.000		0	0	0	0	0	0	0	0	0.536	82.8	29.1	
Bus10	11.000		0	0	0	0	0	0	0	0	0.775	82.7	42.0	
Bus11	11.000		0	0	0	0	0	0	0	0	3.407	82.6	184.7	
Bus12	11.000		0	0	0	0	0	0	0	0	0.536	82.8	29.1	
Bus13	11.000		0	0	0	0	0	0	0	0	0.536	82.8	29.1	
Bus15	11.000		0	0	0	0	0	0	0	0	2.334	82.5	126.6	
Bus16	11.000		0	0	0	0	0	0	0	0	0.775	82.4	42.0	
Bus17	11.000		0	0	0	0	0	0	0	0	0.752	82.5	40.8	
Bus18	11.000		0	0	0	0	0	0	0	0	0.808	82.3	43.8	
Bus19	11.000		0	0	0	0	0	0	0	0	0.808	82.3	43.8	
Bus 20	0.400		0	0	0	0	0	0	0	0	0.744	85.1	1153.7	
Bus 21	11.000		0	0	0	0	0	0	0	0	0.775	82.7	42.0	
Bus22	0.400		0	0	0	0	0	0	0	0	0.744	85.1	1153.7	
Bus 23	0.400		0	0	0	0	0	0	0	0	0.695	85.3	1077.9	
Bus 23	0.400		0	0	0	0	0	0	0	0	0.515	84.9	799.2	
Bus 24	0.400		0	0	0	0	0	0	0	0	0.744	85.1	1155.0	
Bus25	0.400		0	0	0	0	0	0	0	0	0.515	84.9	799.5	
Bus 25	0.400		0	0	0	0	0	0	0	0	0.719	85.3	1116.5	
Bus 26	0.400		0	0	0	0	0	0	0	0	0.725	85.3	1128.7	
Bus26	0.400		0	0	0	0	0	0	0	0	0.515	84.9	799.5	
Bus 27	0.400		0	0	0	0	0	0	0	0	0.743	84.9	1155.8	
Bus27	0.400		0	0	0	0	0	0	0	0	0.664	85.3	1029.6	
Bus 28	0.400		0	0	0	0	0	0	0	0	0.677	85.3	1050.4	
Bus28	0.400		0	0	0	0	0	0	0	0	0.723	84.9	1122.6	
Bus29	0.400		0	0	0	0	0	0	0	0	0.773	84.9	1205.0	
Bus 29	0.400		0	0	0	0	0	0	0	0	0.696	85.3	1081.1	
Bus 30	0.400		0	0	0	0	0	0	0	0	0.666	85.3	1032.4	
Bus 32	0.400		0	0	0	0	0	0	0	0	0.743	85.1	1158.1	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus34	0.400		0.258	0.160	0.054	0.034	0	0	0	0	0.367	85.0	576.8	
Bus 34	0.400		0	0	0	0	0	0	0	0	0.743	85.1	1158.1	
Bus 35	0.400		0	0	0	0	0	0	0	0	0.743	85.1	1158.3	
Bus35	0.400		0.258	0.160	0.054	0.034	0	0	0	0	0.367	85.0	576.8	
Bus 36	0.400		0	0	0	0	0	0	0	0	0.742	85.1	1161.1	
Bus36	11.000		0	0	0	0	0	0	0	0	0.547	83.4	29.4	
Bus37	11.000		0	0	0	0	0	0	0	0	0.236	83.1	12.7	
Bus 37	0.400		0	0	0	0	0	0	0	0	0.741	85.1	1161.8	
Bus 38	0.400		0	0	0	0	0	0	0	0	0.744	85.3	1165.6	
Bus38	11.000		0	0	0	0	0	0	0	0	0.311	83.5	16.7	
Bus39	11.000		0	0	0	0	0	0	0	0	1.185	83.5	63.7	
Bus 39	0.400		0	0	0	0	0	0	0	0	0.744	85.3	1165.8	
Bus 41	0.400		0	0	0	0	0	0	0	0	0.387	85.4	585.7	
Bus41	11.000		0	0	0	0	0	0	0	0	0.333	83.4	17.9	
Bus43	11.000		0	0	0	0	0	0	0	0	0.305	83.6	16.4	
Bus 43	0.400		0	0	0	0	0	0	0	0	0.368	85.4	556.6	
Bus 44	0.400		0	0	0	0	0	0	0	0	0.367	85.4	554.5	
Bus44	11.000		0	0	0	0	0	0	0	0	2.206	83.2	118.5	
Bus45	0.400		0	0	0	0	0	0	0	0	0.370	85.4	560.1	
Bus 46	0.400		0	0	0	0	0	0	0	0	0.361	85.4	546.2	
Bus46	11.000		0	0	0	0	0	0	0	0	0.501	82.9	26.9	
Bus47	11.000		0	0	0	0	0	0	0	0	0.520	82.9	27.9	
Bus 47	0.400		0	0	0	0	0	0	0	0	0.373	85.4	564.3	
Bus48	11.000		0	0	0	0	0	0	0	0	3.249	83.2	174.4	
Bus 48	0.400		0	0	0	0	0	0	0	0	0.304	85.3	457.0	
Bus49	0.400		0	0	0	0	0	0	0	0	0.331	85.4	498.9	
Bus50	11.000		0	0	0	0	0	0	0	0	0.520	82.9	27.9	
Bus 51	0.400		0	0	0	0	0	0	0	0	0.298	85.3	447.4	
Bus51	11.000		0	0	0	0	0	0	0	0	0.522	83.6	28.0	
Bus52	11.000		0	0	0	0	0	0	0	0	4.295	83.3	230.4	
Bus 53	0.400		0	0	0	0	0	0	0	0	0.520	85.6	795.0	
Bus53	11.000		0	0	0	0	0	0	0	0	0.522	83.6	28.0	
Bus54	11.000		0	0	0	0	0	0	0	0	0.522	83.6	28.0	
Bus 54	0.400		0	0	0	0	0	0	0	0	0.497	85.5	758.6	
Bus55	11.000		0	0	0	0	0	0	0	0	5.033	83.1	273.2	
Bus 55	0.400		0	0	0	0	0	0	0	0	0.497	85.5	758.3	
Bus56	11.000		0	0	0	0	0	0	0	0	0.722	83.0	39.2	
Bus 56	0.400		0	0	0	0	0	0	0	0	0.497	85.5	758.3	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus58	11.000		0	0	0	0	0	0	0	0	0.748	83.0	40.6	
Bus 58	0.400		0	0	0	0	0	0	0	0	0.498	85.5	757.8	
Bus59	11.000		0	0	0	0	0	0	0	0	3.560	83.1	193.5	
Bus 59	0.400		0	0	0	0	0	0	0	0	0.503	85.6	765.7	
Bus 60	0.400		0	0	0	0	0	0	0	0	0.504	85.6	767.2	
Bus60	11.000		0	0	0	0	0	0	0	0	0.755	83.0	41.0	
Bus61	11.000		0	0	0	0	0	0	0	0	0.689	83.1	37.4	
Bus 61	0.400		0	0	0	0	0	0	0	0	0.502	85.5	764.0	
Bus64	11.000		0	0	0	0	0	0	0	0	2.116	83.1	115.0	
Bus 64	0.400		0	0	0	0	0	0	0	0	0.227	85.1	348.4	
Bus65	0.400		0	0	0	0	0	0	0	0	0.350	85.4	527.5	
Bus 66	0.400		0	0	0	0	0	0	0	0	0.302	85.2	460.0	
Bus66	11.000		0	0	0	0	0	0	0	0	0.703	83.1	38.2	
Bus 68	0.400		0	0	0	0	0	0	0	0	0.323	85.2	492.4	
Bus68	11.000		0	0	0	0	0	0	0	0	0.723	83.0	39.3	
Bus 69	0.400		0	0	0	0	0	0	0	0	0.296	85.2	450.8	
Bus69	11.000		0	0	0	0	0	0	0	0	0.691	83.1	37.5	
Bus 70	0.400		0	0	0	0	0	0	0	0	0.482	85.1	740.1	
Bus70	11.000		0	0	0	0	0	0	0	0	0.691	83.1	37.5	
Bus72	11.000		0	0	0	0	0	0	0	0	6.222	82.9	338.4	
Bus 77	0.400		0	0	0	0	0	0	0	0	0.753	85.3	1180.2	
Bus77	11.000		0	0	0	0	0	0	0	0	0.774	82.7	42.1	
Bus 79	0.400		0	0	0	0	0	0	0	0	0.500	85.1	767.9	
Bus79	11.000		0	0	0	0	0	0	0	0	0.774	82.7	42.1	
Bus 80	0.400		0	0	0	0	0	0	0	0	0.500	85.1	767.8	
Bus80	11.000		0	0	0	0	0	0	0	0	4.672	83.0	254.2	
Bus82	11.000		0	0	0	0	0	0	0	0	0.774	82.7	42.1	
Bus 82	0.400		0	0	0	0	0	0	0	0	0.502	85.6	770.8	
Bus 84	0.400		0	0	0	0	0	0	0	0	0.502	85.6	770.4	
Bus84	11.000		0	0	0	0	0	0	0	0	0.776	82.9	42.2	
Bus85	11.000		0	0	0	0	0	0	0	0	3.119	83.0	169.9	
Bus 85	0.400		0	0	0	0	0	0	0	0	0.502	85.6	770.4	
Bus87	11.000		0	0	0	0	0	0	0	0	0.776	82.9	42.2	
Bus 87	0.400		0	0	0	0	0	0	0	0	0.329	85.4	495.4	
Bus88	11.000		0	0	0	0	0	0	0	0	0.778	83.0	42.4	
Bus89	11.000		0	0	0	0	0	0	0	0	1.566	83.0	85.3	
Bus90	11.000		0	0	0	0	0	0	0	0	0.778	83.0	42.4	
Bus91	11.000		0	0	0	0	0	0	0	0	0.788	83.0	42.9	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus92	11.000		0	0	0	0	0	0	0	0	1.058	83.6	56.5	
Bus93	11.000		0	0	0	0	0	0	0	0	0.541	83.6	28.9	
Bus94	11.000		0	0	0	0	0	0	0	0	0.516	83.6	27.6	
Bus95	11.000		0	0	0	0	0	0	0	0	2.090	83.7	111.6	
Bus96	11.000		0	0	0	0	0	0	0	0	0.517	83.6	27.6	
Bus97	11.000		0	0	0	0	0	0	0	0	0.517	83.6	27.6	
Bus98	11.000		0	0	0	0	0	0	0	0	3.130	83.7	166.9	
Bus99	11.000		0	0	0	0	0	0	0	0	0.517	83.6	27.6	
Bus100	11.000		0	0	0	0	0	0	0	0	0.522	83.6	27.8	
Bus101	11.000		0	0	0	0	0	0	0	0	4.175	83.7	222.6	
Bus102	11.000		0	0	0	0	0	0	0	0	0.523	83.6	27.9	
Bus103	11.000		0	0	0	0	0	0	0	0	0.521	83.6	27.8	
Bus104	11.000		0	0	0	0	0	0	0	0	0.776	83.8	41.5	
Bus105	11.000		0	0	0	0	0	0	0	0	0.398	83.7	21.3	
Bus106	11.000		0	0	0	0	0	0	0	0	0.378	83.8	20.2	
Bus107	11.000		0	0	0	0	0	0	0	0	1.534	83.8	82.0	
Bus108	11.000		0	0	0	0	0	0	0	0	0.377	83.8	20.2	
Bus109	11.000		0	0	0	0	0	0	0	0	0.381	83.8	20.4	
Bus110	11.000		0	0	0	0	0	0	0	0	2.289	83.8	122.4	
Bus111	11.000		0	0	0	0	0	0	0	0	0.372	83.8	19.9	
Bus112	11.000		0	0	0	0	0	0	0	0	0.384	83.8	20.5	
Bus113	11.000		0	0	0	0	0	0	0	0	2.942	83.9	157.1	
Bus114	11.000		0	0	0	0	0	0	0	0	0.311	84.0	16.6	
Bus115	11.000		0	0	0	0	0	0	0	0	0.340	83.9	18.1	
Bus116	11.000		0	0	0	0	0	0	0	0	3.606	83.9	192.5	
Bus117	11.000		0	0	0	0	0	0	0	0	0.359	83.9	19.2	
Bus118	11.000		0	0	0	0	0	0	0	0	0.305	84.0	16.3	
Bus119	11.000		0	0	0	0	0	0	0	0	3.945	83.9	210.5	
Bus120	11.000		0	0	0	0	0	0	0	0	0.338	83.9	18.0	
Bus121	0.400		0.258	0.160	0.054	0.034	0	0	0	0	0.367	85.0	576.9	
Bus122	0.400		0.258	0.160	0.054	0.034	0	0	0	0	0.367	85.0	576.9	
Bus123	0.400		0.258	0.160	0.054	0.034	0	0	0	0	0.367	85.0	577.5	
Bus124	0.400		0.258	0.160	0.054	0.034	0	0	0	0	0.367	85.0	577.5	
Bus125	0.400		0.358	0.222	0.076	0.047	0	0	0	0	0.510	85.0	799.2	
Bus126	0.400		0.358	0.222	0.076	0.047	0	0	0	0	0.510	85.0	799.5	
Bus127	0.400		0.358	0.222	0.076	0.047	0	0	0	0	0.510	85.0	799.5	
Bus128	0.400		0.501	0.311	0.106	0.065	0	0	0	0	0.714	85.0	1122.6	
Bus129	0.400		0.515	0.319	0.108	0.067	0	0	0	0	0.734	85.0	1155.8	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus130	0.400		0.537	0.333	0.112	0.069	0	0	0	0	0.763	85.0	1205.0	
Bus131	0.400		0.086	0.053	0.108	0.067	0	0	0	0	0.228	85.0	360.1	
Bus132	0.400		0.129	0.080	0.072	0.044	0	0	0	0	0.236	85.0	371.7	
Bus133	0.400		0.171	0.106	0.036	0.022	0	0	0	0	0.244	85.0	384.8	
Bus134	0.400		0.129	0.080	0.072	0.045	0	0	0	0	0.237	85.0	373.0	
Bus135	0.400		0.043	0.027	0.144	0.089	0	0	0	0	0.220	85.0	346.2	
Bus136	0.400		0.086	0.053	0.108	0.067	0	0	0	0	0.228	85.0	358.8	
Bus137	0.400		0.171	0.106	0.036	0.022	0	0	0	0	0.244	85.0	384.2	
Bus138	0.400		0.043	0.027	0.144	0.089	0	0	0	0	0.220	85.0	346.3	
Bus139	0.400		0.071	0.044	0.091	0.056	0	0	0	0	0.191	85.0	299.1	
Bus140	0.400		0.171	0.106	0.036	0.022	0	0	0	0	0.244	85.0	385.1	
Bus141	0.400		0.129	0.080	0.071	0.044	0	0	0	0	0.235	85.0	371.8	
Bus142	0.400		0.129	0.080	0.071	0.044	0	0	0	0	0.235	85.0	371.8	
Bus143	0.400		0.143	0.088	0.030	0.019	0	0	0	0	0.203	85.0	319.8	
Bus144	0.400		0.043	0.027	0.144	0.089	0	0	0	0	0.220	85.0	346.2	
Bus145	0.400		0.171	0.106	0.036	0.022	0	0	0	0	0.244	85.0	384.4	
Bus146	0.400		0.143	0.089	0.030	0.019	0	0	0	0	0.204	85.0	321.6	
Bus147	0.400		0.129	0.080	0.072	0.045	0	0	0	0	0.236	85.0	373.1	
Bus148	0.400		0.172	0.107	0.036	0.022	0	0	0	0	0.245	85.0	386.3	
Bus149	0.400		0.072	0.044	0.091	0.056	0	0	0	0	0.191	85.0	300.5	
Bus150	0.400		0.171	0.106	0.036	0.022	0	0	0	0	0.244	85.0	384.3	
Bus151	0.400		0.043	0.027	0.145	0.090	0	0	0	0	0.221	85.0	347.6	
Bus152	0.400		0.258	0.160	0.054	0.033	0	0	0	0	0.366	85.0	579.0	
Bus153	0.400		0.258	0.160	0.054	0.033	0	0	0	0	0.366	85.0	579.0	
Bus154	0.400		0.258	0.160	0.054	0.033	0	0	0	0	0.366	85.0	579.1	
Bus155	0.400		0.258	0.160	0.054	0.033	0	0	0	0	0.366	85.0	579.1	
Bus156	0.400		0.258	0.160	0.054	0.033	0	0	0	0	0.366	85.0	579.2	
Bus157	0.400		0.258	0.160	0.054	0.033	0	0	0	0	0.366	85.0	579.2	
Bus158	0.400		0.258	0.160	0.053	0.033	0	0	0	0	0.366	85.0	580.6	
Bus159	0.400		0.258	0.160	0.053	0.033	0	0	0	0	0.366	85.0	580.6	
Bus160	0.400		0.258	0.160	0.053	0.033	0	0	0	0	0.366	85.0	580.9	
Bus161	0.400		0.258	0.160	0.053	0.033	0	0	0	0	0.366	85.0	580.9	
Bus162	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.5	
Bus163	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.5	
Bus164	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.5	
Bus165	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.6	
Bus166	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.6	
Bus167	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.6	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus168	0.400		0.178	0.110	0.036	0.023	0	0	0	0	0.253	85.0	402.7	
Bus169	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.7	
Bus170	0.400		0.172	0.107	0.035	0.022	0	0	0	0	0.244	85.0	388.7	
Bus171	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus172	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus173	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus174	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus175	0.400		0.035	0.021	0.008	0.005	0	0	0	0	0.050	85.0	76.4	
Bus176	0.400		0.018	0.011	0.004	0.002	0	0	0	0	0.025	85.0	39.0	
Bus177	0.400		0.008	0.005	0.002	0.001	0	0	0	0	0.012	85.0	18.0	
Bus178	0.400		0.018	0.011	0.004	0.002	0	0	0	0	0.025	85.0	39.0	
Bus179	0.400		0.029	0.018	0.006	0.004	0	0	0	0	0.041	85.0	63.1	
Bus180	0.400		0.029	0.018	0.006	0.004	0	0	0	0	0.041	85.0	63.1	
Bus181	0.400		0.029	0.018	0.006	0.004	0	0	0	0	0.041	85.0	63.1	
Bus182	0.400		0.029	0.018	0.006	0.004	0	0	0	0	0.041	85.0	63.1	
Bus183	0.400		0.035	0.021	0.008	0.005	0	0	0	0	0.050	85.0	76.3	
Bus184	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus185	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus186	0.400		0.039	0.024	0.009	0.005	0	0	0	0	0.057	85.0	86.8	
Bus187	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.063	85.0	95.9	
Bus188	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	127.9	
Bus189	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	127.9	
Bus190	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	127.9	
Bus191	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	127.9	
Bus192	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	127.9	
Bus193	0.400		0.046	0.028	0.010	0.006	0	0	0	0	0.065	85.0	100.7	
Bus194	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus195	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus196	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus197	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus198	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus199	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus200	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus201	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus202	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus203	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus204	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	
Bus205	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	128.0	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus206	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.9	
Bus207	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.9	
Bus208	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.9	
Bus209	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.8	
Bus210	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.8	
Bus211	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.8	
Bus212	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.8	
Bus213	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.8	
Bus214	0.400		0.115	0.071	0.024	0.015	0	0	0	0	0.164	85.0	256.8	
Bus215	0.400		0.035	0.021	0.008	0.005	0	0	0	0	0.050	85.0	76.5	
Bus216	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.062	85.0	96.0	
Bus217	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.062	85.0	96.0	
Bus218	0.400		0.058	0.036	0.013	0.008	0	0	0	0	0.083	85.0	127.8	
Bus219	0.400		0.044	0.027	0.010	0.006	0	0	0	0	0.062	85.0	96.0	
Bus220	0.400		0.129	0.080	0.027	0.017	0	0	0	0	0.184	85.0	288.6	
Bus221	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	253.2	
Bus222	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	253.2	
Bus223	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.9	
Bus224	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.9	
Bus225	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.9	
Bus226	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.8	
Bus227	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.8	
Bus228	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.8	
Bus229	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.8	
Bus230	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.8	
Bus231	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.8	
Bus232	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.6	
Bus233	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.6	
Bus234	0.400		0.114	0.070	0.024	0.015	0	0	0	0	0.162	85.0	252.6	
Bus235	0.400		0.114	0.071	0.025	0.015	0	0	0	0	0.163	85.0	254.2	
Bus236	0.400		0.115	0.071	0.025	0.015	0	0	0	0	0.164	85.0	255.7	
Bus237	0.400		0.115	0.071	0.025	0.015	0	0	0	0	0.164	85.0	255.7	
Bus238	0.400		0.115	0.071	0.025	0.015	0	0	0	0	0.164	85.0	255.7	
Bus239	0.400		0.115	0.071	0.025	0.015	0	0	0	0	0.164	85.0	255.7	
Bus240	0.400		0.115	0.071	0.025	0.015	0	0	0	0	0.164	85.0	255.7	
Bus241	0.400		0.114	0.071	0.025	0.015	0	0	0	0	0.163	85.0	254.2	
Bus242	0.400		0.114	0.071	0.025	0.015	0	0	0	0	0.163	85.0	254.2	
Bus243	0.400		0.115	0.071	0.025	0.015	0	0	0	0	0.164	85.0	255.7	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic					
ID	kV	Rated Amp	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar	MVA	% PF	Amp	Percent Loading
Bus244	0.400		0.043	0.027	0.057	0.035	0	0	0	0	0.117	85.0	179.9	
Bus246	0.400		0.064	0.040	0.038	0.023	0	0	0	0	0.120	85.0	184.6	
Bus247	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	189.1	
Bus248	0.400		0.018	0.011	0.063	0.039	0	0	0	0	0.096	85.0	146.4	
Bus249	0.400		0.100	0.062	0.022	0.014	0	0	0	0	0.143	85.0	221.0	
Bus250	0.400		0.075	0.046	0.044	0.027	0	0	0	0	0.140	85.0	215.4	
Bus251	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	189.1	
Bus252	0.400		0.036	0.022	0.048	0.029	0	0	0	0	0.098	85.0	150.0	
Bus253	0.400		0.036	0.022	0.048	0.029	0	0	0	0	0.098	85.0	150.0	
Bus254	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	189.1	
Bus255	0.400		0.100	0.062	0.022	0.014	0	0	0	0	0.143	85.0	221.0	
Bus256	0.400		0.064	0.040	0.038	0.023	0	0	0	0	0.120	85.0	184.5	
Bus257	0.400		0.071	0.044	0.016	0.010	0	0	0	0	0.103	85.0	157.2	
Bus258	0.400		0.025	0.015	0.088	0.055	0	0	0	0	0.133	85.0	204.5	
Bus259	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	189.1	
Bus260	0.400		0.021	0.013	0.076	0.047	0	0	0	0	0.114	85.0	175.5	
Bus261	0.400		0.090	0.056	0.020	0.012	0	0	0	0	0.130	85.0	199.7	
Bus262	0.400		0.036	0.022	0.048	0.030	0	0	0	0	0.099	85.0	150.2	
Bus263	0.400		0.036	0.022	0.048	0.030	0	0	0	0	0.099	85.0	150.2	
Bus264	0.400		0.071	0.044	0.016	0.010	0	0	0	0	0.103	85.0	156.7	
Bus265	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	188.6	
Bus266	0.400		0.054	0.033	0.032	0.020	0	0	0	0	0.101	85.0	153.5	
Bus267	0.400		0.071	0.044	0.016	0.010	0	0	0	0	0.103	85.0	156.9	
Bus268	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	188.7	
Bus269	0.400		0.036	0.022	0.048	0.030	0	0	0	0	0.098	85.0	150.1	
Bus270	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	188.7	
Bus271	0.400		0.036	0.022	0.048	0.030	0	0	0	0	0.099	85.0	150.2	
Bus272	0.400		0.036	0.022	0.048	0.030	0	0	0	0	0.099	85.0	150.2	
Bus273	0.400		0.018	0.011	0.064	0.040	0	0	0	0	0.097	85.0	147.0	
Bus274	0.400		0.086	0.053	0.019	0.012	0	0	0	0	0.123	85.0	188.5	
Bus275	0.400		0.036	0.022	0.048	0.030	0	0	0	0	0.099	85.0	150.1	
Bus276	0.400		0.071	0.044	0.016	0.010	0	0	0	0	0.103	85.0	156.8	
Bus277	0.400		0.100	0.062	0.022	0.014	0	0	0	0	0.143	85.0	221.2	
Grid Bus1	33.000		0	0	0	0	0	0	0	0	18.062	81.8	316.0	
Grid Bus2	33.000		0	0	0	0	0	0	0	0	12.618	82.8	220.8	
Main Bus1	11.000		0	0	0	0	0	0	0	0	17.597	83.0	951.1	
Main Bus2	11.000		0	0	0	0	0	0	0	0	12.443	83.7	663.4	

* 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).

Branch Loading Summary Report

CKT / Branch		Cable & Reactor			Transformer				
		Ampacity	Loading		Capability	Loading (input)		Loading (output)	
ID	Type	(Amp)	Amp	%	(MVA)	MVA	%	MVA	%
T1	Transformer				40.000	17.941	44.9	17.597	44.0
T2	Transformer				40.000	12.606	31.5	12.443	31.1
T3	Transformer				0.800	0.775	96.9	0.744	93.0
T 4	Transformer				0.800	0.775	96.9	0.744	93.0
T 5	Transformer				0.800	0.775	96.9	0.744	93.0
T6	Transformer				0.800	0.536	67.0	0.515	64.3
T7	Transformer				0.800	0.536	67.0	0.515	64.3
T8	Transformer				0.800	0.536	67.0	0.515	64.3
T9	Transformer				0.800	0.752	94.0	0.723	90.3
T10	Transformer				0.800	0.775	96.8	0.743	92.9
T11	Transformer				0.800	0.808	100.9	0.773	96.7
T 12	Transformer				0.800	0.722	90.2	0.695	86.9
T 14	Transformer				0.800	0.748	93.5	0.719	89.8
T15	Transformer				0.800	0.755	94.4	0.725	90.7
T16	Transformer				0.800	0.689	86.1	0.664	83.0
T17	Transformer				0.800	0.703	87.8	0.677	84.6
T18	Transformer				0.800	0.723	90.4	0.696	87.0
T19	Transformer				0.800	0.691	86.3	0.666	83.2
T20	Transformer				0.800	0.774	96.8	0.743	92.8
T22	Transformer				0.800	0.774	96.8	0.743	92.8
T23	Transformer				0.800	0.774	96.8	0.743	92.8
* T24	Transformer				0.600	0.776	129.3	0.742	123.6
* T25	Transformer				0.600	0.776	129.3	0.741	123.6
* T26	Transformer				0.600	0.778	129.7	0.744	124.0
* T27	Transformer				0.600	0.778	129.7	0.744	124.0
T28	Transformer				0.500	0.398	79.7	0.387	77.3
T30	Transformer				0.500	0.378	75.7	0.368	73.6
T31	Transformer				0.500	0.377	75.4	0.367	73.3
T32	Transformer				0.500	0.381	76.2	0.370	74.0
T33	Transformer				0.500	0.372	74.3	0.361	72.3
T34	Transformer				0.500	0.384	76.8	0.373	74.6
T35	Transformer				0.500	0.311	62.2	0.304	60.8
T36	Transformer				0.500	0.340	67.9	0.331	66.2

CKT / Branch		Cable & Reactor			Transformer				
		Ampacity (Amp)	Loading Amp		Capability (MVA)	Loading (input)		Loading (output)	
ID	Type			%		MVA	%	MVA	%
T37	Transformer				0.500	0.359	71.9	0.350	69.9
T38	Transformer				0.500	0.305	60.9	0.298	59.6
T40	Transformer				0.600	0.541	90.2	0.520	86.7
T41	Transformer				0.600	0.516	86.1	0.497	82.9
T42	Transformer				0.600	0.517	86.1	0.497	82.9
T43	Transformer				0.600	0.517	86.1	0.497	82.9
T45	Transformer				0.600	0.517	86.1	0.498	82.9
T46	Transformer				0.600	0.522	87.0	0.503	83.8
T47	Transformer				0.600	0.523	87.2	0.504	83.9
T48	Transformer				0.600	0.521	86.8	0.502	83.6
T51	Transformer				0.250	0.236	94.3	0.227	91.0
T52	Transformer				0.400	0.311	77.9	0.302	75.6
T54	Transformer				0.400	0.333	83.3	0.323	80.7
T55	Transformer				0.400	0.305	76.3	0.296	74.1
T56	Transformer				0.500	0.501	100.2	0.482	96.4
* T60	Transformer				0.600	0.788	131.3	0.753	125.4
T62	Transformer				0.500	0.520	104.0	0.500	99.9
T63	Transformer				0.500	0.520	104.0	0.500	99.9
T65	Transformer				0.600	0.522	87.0	0.502	83.7
T67	Transformer				0.600	0.522	87.0	0.502	83.7
T68	Transformer				0.600	0.522	87.0	0.502	83.7
T70	Transformer				0.500	0.338	67.5	0.329	65.8

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

Branch Losses Summary Report

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable1(GridTOsubstation)	-14.621	-10.398	14.778	10.385	157.3	-13.1	99.0	100.0	0.99
T1	14.621	10.398	-14.600	-9.823	21.0	574.2	99.0	97.1	1.90
Cablel 2	-10.424	-7.090	10.453	7.068	28.7	-21.9	99.7	100.0	0.26
T2	10.424	7.090	-10.414	-6.810	10.2	279.4	99.7	98.4	1.29
Cable12	0.000	0.000	0.000	0.000	0.0	-0.2	97.7	97.7	0.00
Cable13	0.000	0.000	0.000	0.000	0.0	-0.2	98.3	98.3	0.00
Cable14	0.000	0.000	0.000	0.000	0.0	-0.2	98.1	98.1	0.00
Cable1	0.642	0.435	-0.641	-0.436	0.2	-0.3	97.0	97.0	0.02
Cable3	-5.192	-3.527	5.198	3.529	6.5	1.9	97.0	97.1	0.10
Cable 15	0.642	0.435	-0.641	-0.436	0.2	-0.4	97.0	97.0	0.03
Cable16	3.909	2.657	-3.901	-2.655	7.4	1.7	97.0	96.9	0.16
T 4	0.641	0.436	-0.634	-0.390	7.8	45.3	97.0	93.1	3.90
Cable 16	0.444	0.300	-0.444	-0.300	0.1	-0.4	96.9	96.8	0.01
Cable17	0.641	0.435	-0.641	-0.435	0.2	-0.3	96.9	96.8	0.02
Cable18	2.816	1.920	-2.814	-1.920	1.9	0.2	96.9	96.8	0.06
T6	0.444	0.300	-0.437	-0.272	7.2	28.5	96.8	92.9	3.89
T 5	0.641	0.435	-0.633	-0.390	7.8	45.4	96.8	92.9	3.90
Cable19	0.444	0.300	-0.444	-0.300	0.1	-0.5	96.8	96.8	0.02
Cable20	0.444	0.300	-0.444	-0.300	0.1	-0.4	96.8	96.8	0.01
Cable21	1.926	1.320	-1.925	-1.320	0.9	-0.1	96.8	96.8	0.04
T8	0.444	0.300	-0.437	-0.272	7.2	28.5	96.8	92.9	3.89
T7	0.444	0.300	-0.437	-0.272	7.2	28.5	96.8	92.9	3.89
Cable22	0.639	0.438	-0.639	-0.439	0.2	-0.4	96.8	96.7	0.03
Cable23	0.621	0.425	-0.621	-0.425	0.2	-0.4	96.8	96.7	0.03
Cable24	0.665	0.458	-0.665	-0.458	0.2	-0.6	96.8	96.7	0.02
T10	0.639	0.439	-0.631	-0.393	7.8	45.4	96.7	92.8	3.93
T9	0.621	0.425	-0.613	-0.382	7.4	42.8	96.7	92.9	3.81
Cable25	0.665	0.458	-0.665	-0.458	0.1	-0.2	96.7	96.7	0.01
Cable9	0.000	0.000	0.000	0.000	0.0	-0.2	96.7	96.7	0.00
T11	0.665	0.458	-0.656	-0.409	8.5	49.4	96.7	92.6	4.10
Cable101	0.317	0.195	-0.312	-0.193	4.7	1.7	93.1	91.9	1.22
Cable102	0.317	0.195	-0.312	-0.193	4.7	1.7	93.1	91.9	1.22
T3	0.641	0.436	-0.634	-0.390	7.8	45.3	97.0	93.1	3.90
Cable37	0.317	0.195	-0.312	-0.193	4.7	1.7	93.1	91.9	1.22
Cable38	0.317	0.195	-0.312	-0.193	4.7	1.7	93.1	91.9	1.22

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable114	0.205	0.125	-0.201	-0.125	3.9	0.7	93.0	91.6	1.43
Cable115	0.190	0.117	-0.187	-0.116	3.3	0.6	93.0	91.7	1.33
Cable116	0.197	0.121	-0.194	-0.120	3.6	0.7	93.0	91.7	1.38
T 12	-0.593	-0.363	0.599	0.402	6.8	39.5	93.0	96.7	3.62
Cable105	0.437	0.272	-0.434	-0.269	3.4	3.2	92.9	92.1	0.82
Cable103	0.317	0.195	-0.312	-0.193	4.7	1.7	92.9	91.7	1.22
Cable104	0.317	0.195	-0.312	-0.193	4.7	1.7	92.9	91.7	1.22
Cable107	0.437	0.272	-0.433	-0.269	3.4	3.2	92.9	92.1	0.82
Cable111	0.198	0.121	-0.194	-0.120	3.6	0.7	92.9	91.5	1.38
Cable112	0.204	0.125	-0.200	-0.124	3.9	0.7	92.9	91.5	1.42
Cable113	0.211	0.129	-0.207	-0.128	4.1	0.8	92.9	91.4	1.47
T 14	-0.613	-0.375	0.620	0.417	7.3	42.4	92.9	96.7	3.76
Cable120	0.211	0.129	-0.207	-0.128	4.1	0.7	92.8	91.3	1.45
Cable121	0.204	0.125	-0.200	-0.124	3.9	0.7	92.8	91.3	1.43
Cable122	0.204	0.125	-0.200	-0.124	3.9	0.7	92.8	91.3	1.43
T15	-0.619	-0.378	0.626	0.422	7.5	43.3	92.8	96.6	3.80
Cable106	0.437	0.272	-0.433	-0.269	3.4	3.2	92.9	92.1	0.82
Cable109	0.631	0.393	-0.624	-0.386	7.1	6.6	92.8	91.6	1.19
Cable117	0.211	0.129	-0.207	-0.128	4.1	0.8	93.1	91.6	1.47
Cable118	0.191	0.117	-0.187	-0.116	3.3	0.6	93.1	91.8	1.33
Cable119	0.164	0.101	-0.162	-0.100	2.5	0.5	93.1	92.0	1.15
T16	-0.566	-0.347	0.573	0.383	6.2	36.0	93.1	96.6	3.46
Cable123	0.176	0.108	-0.173	-0.107	2.9	0.6	93.0	91.8	1.23
Cable124	0.190	0.116	-0.187	-0.116	3.3	0.6	93.0	91.7	1.33
Cable125	0.211	0.129	-0.207	-0.128	4.1	0.8	93.0	91.6	1.47
T17	-0.577	-0.353	0.584	0.391	6.5	37.5	93.0	96.6	3.53
Cable108	0.613	0.382	-0.607	-0.376	6.7	6.2	92.9	91.8	1.16
Cable110	0.656	0.409	-0.649	-0.402	7.7	7.2	92.6	91.4	1.24
Cable126	0.177	0.108	-0.174	-0.108	2.9	0.6	92.9	91.7	1.23
Cable127	0.205	0.125	-0.201	-0.125	3.9	0.7	92.9	91.5	1.43
Cable128	0.212	0.130	-0.208	-0.129	4.2	0.8	92.9	91.4	1.48
T18	-0.594	-0.363	0.600	0.403	6.9	39.7	92.9	96.5	3.64
Cable129	0.165	0.101	-0.163	-0.101	2.5	0.5	93.1	91.9	1.15
Cable130	0.211	0.129	-0.207	-0.128	4.1	0.8	93.1	91.6	1.47
Cable131	0.191	0.117	-0.188	-0.116	3.4	0.6	93.1	91.7	1.33
T19	-0.568	-0.348	0.574	0.384	6.3	36.2	93.1	96.5	3.47
Cable134	0.316	0.195	-0.311	-0.193	4.7	1.7	92.6	91.3	1.22

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable135	0.316	0.195	-0.311	-0.193	4.7	1.7	92.6	91.3	1.22
T20	-0.632	-0.390	0.640	0.435	7.9	45.6	92.6	96.5	3.91
Cable132	0.316	0.195	-0.311	-0.193	4.7	1.7	92.6	91.3	1.22
Cable133	0.316	0.195	-0.311	-0.193	4.7	1.7	92.6	91.3	1.22
T22	-0.632	-0.390	0.640	0.435	7.9	45.6	92.6	96.5	3.91
Cable136	0.316	0.195	-0.311	-0.193	4.7	1.7	92.5	91.3	1.22
Cable137	0.316	0.195	-0.311	-0.193	4.7	1.7	92.5	91.3	1.22
T23	-0.632	-0.389	0.640	0.435	7.9	45.6	92.5	96.5	3.91
Cable138	0.316	0.195	-0.311	-0.193	4.7	1.7	92.2	91.0	1.22
Cable139	0.316	0.195	-0.311	-0.193	4.7	1.7	92.2	91.0	1.22
T24	-0.632	-0.389	0.643	0.434	11.4	45.1	92.2	96.4	4.23
Cable39	0.196	0.131	-0.196	-0.131	0.0	-0.1	97.7	97.7	0.00
Cable40	0.260	0.171	-0.260	-0.171	0.0	-0.1	97.7	97.7	0.00
Cable41	-0.456	-0.302	0.456	0.301	0.1	-0.6	97.7	97.7	0.01
T51	0.196	0.131	-0.194	-0.119	2.3	11.9	97.7	94.2	3.48
Cable140	0.316	0.194	-0.311	-0.193	4.7	1.7	92.1	90.9	1.22
Cable141	0.316	0.194	-0.311	-0.193	4.7	1.7	92.1	90.9	1.22
T25	-0.631	-0.389	0.643	0.434	11.4	45.2	92.1	96.3	4.23
Cable142	0.212	0.129	-0.207	-0.129	4.2	0.8	92.1	90.6	1.49
Cable143	0.212	0.129	-0.207	-0.129	4.2	0.8	92.1	90.6	1.49
Cable144	0.212	0.129	-0.207	-0.129	4.2	0.8	92.1	90.6	1.49
T26	-0.635	-0.388	0.646	0.433	11.5	45.4	92.1	96.4	4.23
T52	0.260	0.171	-0.258	-0.158	2.5	13.0	97.7	94.9	2.86
Cable42	0.278	0.184	-0.278	-0.184	0.0	-0.1	97.7	97.7	0.00
Cable43	0.255	0.168	-0.255	-0.168	0.0	-0.1	97.7	97.7	0.00
Cable44	-0.989	-0.653	0.990	0.652	0.3	-0.4	97.7	97.7	0.02
Cable145	0.212	0.129	-0.207	-0.129	4.2	0.8	92.1	90.6	1.49
Cable146	0.212	0.129	-0.207	-0.129	4.2	0.8	92.1	90.6	1.49
Cable147	0.212	0.129	-0.207	-0.129	4.2	0.8	92.1	90.6	1.49
T27	-0.635	-0.388	0.646	0.433	11.5	45.5	92.1	96.3	4.23
Cable224	0.125	0.076	-0.122	-0.075	3.0	0.3	95.2	93.5	1.75
Cable225	0.101	0.062	-0.099	-0.062	2.0	0.2	95.2	93.8	1.43
Cable226	0.104	0.063	-0.102	-0.063	2.1	0.2	95.2	93.8	1.46
T28	-0.330	-0.201	0.333	0.218	3.3	16.8	95.2	98.1	2.90
T54	0.278	0.184	-0.275	-0.169	2.9	14.8	97.7	94.7	3.06
T55	0.255	0.168	-0.253	-0.155	2.4	12.4	97.7	94.9	2.80
Cable227	0.125	0.076	-0.122	-0.076	3.0	0.3	95.4	93.6	1.75

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable228	0.083	0.050	-0.081	-0.050	1.3	0.1	95.4	94.2	1.16
Cable229	0.107	0.065	-0.105	-0.065	2.2	0.2	95.4	93.9	1.50
T30	-0.314	-0.191	0.317	0.206	3.0	15.2	95.4	98.1	2.75
Cable230	0.122	0.074	-0.119	-0.074	2.8	0.3	95.4	93.7	1.71
Cable231	0.107	0.065	-0.105	-0.065	2.2	0.2	95.4	93.9	1.50
Cable232	0.085	0.052	-0.083	-0.052	1.4	0.1	95.4	94.2	1.19
T31	-0.313	-0.191	0.316	0.206	3.0	15.1	95.4	98.2	2.74
Cable45	0.416	0.280	-0.416	-0.280	0.1	-0.3	97.7	97.7	0.01
Cable46	0.431	0.291	-0.431	-0.291	0.0	-0.1	97.7	97.7	0.00
Cable47	-1.836	-1.223	1.837	1.223	0.8	-0.2	97.7	97.8	0.04
Cable233	0.107	0.065	-0.105	-0.065	2.2	0.2	95.4	93.9	1.50
Cable234	0.085	0.052	-0.083	-0.052	1.4	0.1	95.4	94.2	1.19
Cable235	0.125	0.076	-0.122	-0.076	3.0	0.3	95.4	93.6	1.75
T32	-0.316	-0.193	0.319	0.208	3.0	15.4	95.4	98.2	2.77
Cable236	0.104	0.063	-0.102	-0.063	2.1	0.2	95.5	94.0	1.46
Cable237	0.089	0.054	-0.087	-0.054	1.5	0.1	95.5	94.2	1.25
Cable238	0.116	0.070	-0.113	-0.070	2.5	0.2	95.5	93.9	1.62
T33	-0.309	-0.188	0.311	0.203	2.9	14.6	95.5	98.2	2.70
T56	0.416	0.280	-0.410	-0.253	5.3	26.8	97.7	94.0	3.70
T62	0.431	0.291	-0.425	-0.262	5.7	28.9	97.7	93.9	3.84
Cable239	0.107	0.065	-0.105	-0.065	2.2	0.2	95.4	93.9	1.50
Cable240	0.099	0.060	-0.097	-0.060	1.9	0.2	95.4	94.0	1.39
Cable241	0.113	0.069	-0.110	-0.068	2.4	0.2	95.4	93.8	1.58
T34	-0.319	-0.194	0.322	0.210	3.1	15.6	95.4	98.2	2.79
Cable48	0.431	0.291	-0.431	-0.291	0.1	-0.3	97.8	97.8	0.01
Cable49	0.437	0.286	-0.437	-0.287	0.0	-0.2	97.8	97.8	0.01
Cable50	-2.705	-1.800	2.707	1.800	2.1	0.2	97.8	97.8	0.07
Cable242	0.089	0.054	-0.087	-0.054	1.5	0.1	96.0	94.8	1.24
Cable243	0.085	0.052	-0.084	-0.052	1.4	0.1	96.0	94.8	1.19
Cable244	0.085	0.052	-0.084	-0.052	1.4	0.1	96.0	94.8	1.19
T35	-0.259	-0.159	0.261	0.169	2.0	10.2	96.0	98.3	2.26
Cable245	0.107	0.065	-0.105	-0.065	2.2	0.2	95.8	94.3	1.50
Cable246	0.087	0.053	-0.085	-0.053	1.4	0.1	95.8	94.6	1.22
Cable247	0.089	0.054	-0.087	-0.054	1.5	0.1	95.8	94.6	1.24
T36	-0.283	-0.173	0.285	0.185	2.4	12.2	95.8	98.3	2.46
T63	0.431	0.291	-0.425	-0.262	5.7	28.9	97.8	93.9	3.84
Cable251	0.085	0.052	-0.084	-0.052	1.4	0.1	96.1	94.9	1.19

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable252	0.085	0.052	-0.084	-0.052	1.4	0.1	96.1	94.9	1.19
Cable253	0.084	0.051	-0.082	-0.051	1.3	0.1	96.1	94.9	1.17
T38	-0.254	-0.155	0.256	0.165	1.9	9.8	96.1	98.3	2.21
T65	0.437	0.287	-0.430	-0.260	6.7	26.5	97.8	94.1	3.71
Cable6	-3.580	-2.373	3.605	2.378	25.5	5.2	97.8	98.4	0.60
Cable51	0.437	0.287	-0.437	-0.287	0.0	-0.1	97.8	97.8	0.00
Cable52	0.437	0.286	-0.437	-0.287	0.0	-0.2	97.8	97.8	0.01
Cable200	0.162	0.098	-0.157	-0.097	5.1	0.5	94.4	92.1	2.29
Cable201	0.142	0.086	-0.138	-0.085	3.9	0.4	94.4	92.4	2.01
Cable202	0.142	0.086	-0.138	-0.085	3.9	0.4	94.4	92.4	2.01
T40	-0.445	-0.269	0.452	0.297	7.1	28.2	94.4	98.3	3.82
T67	0.437	0.287	-0.430	-0.260	6.7	26.5	97.8	94.1	3.71
T68	0.437	0.287	-0.430	-0.260	6.7	26.5	97.8	94.1	3.71
Cable203	0.142	0.086	-0.138	-0.085	3.9	0.4	94.6	92.6	2.01
Cable204	0.142	0.086	-0.138	-0.085	3.9	0.4	94.6	92.6	2.01
Cable205	0.142	0.086	-0.138	-0.085	3.9	0.4	94.6	92.6	2.01
T41	-0.425	-0.258	0.432	0.283	6.5	25.7	94.6	98.3	3.65
Cable4	-4.182	-2.800	4.204	2.805	22.2	5.5	96.7	97.1	0.44
Cable53	0.600	0.402	-0.599	-0.402	0.1	-0.3	96.7	96.7	0.02
Cable54	0.621	0.417	-0.620	-0.417	0.1	-0.2	96.7	96.7	0.01
Cable55	2.962	1.981	-2.959	-1.980	3.2	0.5	96.7	96.6	0.09
Cable206	0.142	0.086	-0.138	-0.085	3.9	0.4	94.7	92.7	2.01
Cable207	0.142	0.086	-0.138	-0.085	3.9	0.4	94.7	92.7	2.01
Cable208	0.142	0.086	-0.138	-0.085	3.9	0.4	94.7	92.7	2.01
T42	-0.425	-0.258	0.432	0.283	6.5	25.6	94.7	98.3	3.65
Cable209	0.142	0.086	-0.138	-0.085	3.9	0.4	94.7	92.7	2.01
Cable210	0.142	0.086	-0.138	-0.085	3.9	0.4	94.7	92.7	2.01
Cable211	0.142	0.086	-0.138	-0.085	3.9	0.4	94.7	92.7	2.01
T43	-0.425	-0.258	0.432	0.283	6.5	25.6	94.7	98.3	3.65
Cable212	0.142	0.086	-0.138	-0.086	3.9	0.4	94.8	92.8	2.00
Cable213	0.142	0.086	-0.138	-0.086	3.9	0.4	94.8	92.8	2.00
Cable214	0.142	0.086	-0.138	-0.086	3.9	0.4	94.8	92.8	2.00
T45	-0.426	-0.258	0.432	0.283	6.5	25.6	94.8	98.4	3.64
Cable56	0.627	0.421	-0.626	-0.422	0.1	-0.3	96.6	96.6	0.02
Cable57	0.573	0.383	-0.573	-0.383	0.1	-0.3	96.6	96.6	0.01
Cable58	1.759	1.176	-1.759	-1.176	0.6	-0.1	96.6	96.6	0.03
Cable215	0.143	0.086	-0.139	-0.086	3.9	0.4	94.7	92.7	2.02

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable216	0.144	0.087	-0.140	-0.087	4.0	0.4	94.7	92.7	2.03
Cable217	0.144	0.087	-0.140	-0.087	4.0	0.4	94.7	92.7	2.03
T46	-0.430	-0.260	0.437	0.286	6.6	26.1	94.7	98.4	3.68
Cable218	0.144	0.087	-0.140	-0.087	4.0	0.4	94.7	92.7	2.03
Cable219	0.144	0.087	-0.140	-0.087	4.0	0.4	94.7	92.7	2.03
Cable220	0.144	0.087	-0.140	-0.087	4.0	0.4	94.7	92.7	2.03
T47	-0.431	-0.261	0.437	0.287	6.6	26.2	94.7	98.4	3.69
Cable221	0.144	0.087	-0.140	-0.087	4.0	0.4	94.8	92.7	2.03
Cable222	0.143	0.086	-0.139	-0.086	3.9	0.4	94.8	92.7	2.02
Cable223	0.143	0.086	-0.139	-0.086	3.9	0.4	94.8	92.7	2.02
T48	-0.429	-0.260	0.436	0.286	6.6	26.0	94.8	98.4	3.67
Cable59	0.584	0.391	-0.584	-0.391	0.0	-0.1	96.6	96.6	0.00
Cable60	0.601	0.402	-0.600	-0.403	0.2	-0.4	96.6	96.5	0.03
Cable61	0.574	0.383	-0.574	-0.384	0.1	-0.6	96.6	96.5	0.02
Cable156	0.010	0.006	-0.010	-0.006	0.0	0.0	94.2	94.1	0.14
Cable157	0.022	0.013	-0.022	-0.013	0.1	0.0	94.2	93.9	0.31
Cable158	0.022	0.013	-0.022	-0.013	0.1	0.0	94.2	93.9	0.31
Cable159	0.035	0.022	-0.035	-0.022	0.2	0.0	94.2	93.7	0.50
Cable160	0.035	0.022	-0.035	-0.022	0.2	0.0	94.2	93.7	0.50
Cable161	0.035	0.022	-0.035	-0.022	0.2	0.0	94.2	93.7	0.50
Cable162	0.035	0.022	-0.035	-0.022	0.2	0.0	94.2	93.7	0.50
Cable248	0.107	0.065	-0.105	-0.065	2.2	0.2	95.7	94.2	1.50
Cable249	0.085	0.052	-0.084	-0.052	1.4	0.1	95.7	94.5	1.19
Cable250	0.107	0.065	-0.105	-0.065	2.2	0.2	95.7	94.2	1.50
T37	-0.299	-0.182	0.301	0.196	2.7	13.6	95.7	98.3	2.61
Cable151	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.1	0.75
Cable152	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.1	0.75
Cable153	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.1	0.75
Cable154	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.1	0.75
Cable155	0.043	0.026	-0.042	-0.026	0.4	0.0	94.9	94.3	0.60
Cable195	0.043	0.026	-0.042	-0.026	0.4	0.0	94.7	94.1	0.60
Cable196	0.054	0.033	-0.053	-0.033	0.6	0.0	94.7	93.9	0.75
Cable197	0.054	0.033	-0.053	-0.033	0.6	0.0	94.7	93.9	0.75
Cable198	0.071	0.044	-0.070	-0.044	1.0	0.1	94.7	93.7	1.00
Cable199	0.054	0.033	-0.053	-0.033	0.6	0.0	94.7	93.9	0.75
Cable163	0.043	0.026	-0.042	-0.026	0.4	0.0	94.9	94.3	0.60
Cable164	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.2	0.75

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable165	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.2	0.75
Cable166	0.049	0.030	-0.048	-0.030	0.5	0.0	94.9	94.2	0.68
Cable167	0.054	0.033	-0.053	-0.033	0.6	0.0	94.9	94.2	0.75
Cable62	0.574	0.384	-0.574	-0.384	0.0	-0.1	96.5	96.5	0.00
Cable10	0.000	0.000	0.000	0.000	0.0	-0.2	96.5	96.5	0.00
Cable168	0.071	0.044	-0.070	-0.044	0.5	0.1	94.0	93.6	0.48
Cable169	0.071	0.044	-0.070	-0.044	0.5	0.1	94.0	93.6	0.48
Cable170	0.071	0.044	-0.070	-0.044	0.5	0.1	94.0	93.6	0.48
Cable171	0.071	0.044	-0.070	-0.044	0.5	0.1	94.0	93.6	0.48
Cable172	0.071	0.044	-0.070	-0.044	0.5	0.1	94.0	93.6	0.48
Cable173	0.056	0.034	-0.056	-0.034	0.3	0.0	94.0	93.7	0.38
Cable5	-5.159	-3.478	5.197	3.489	38.8	11.1	96.5	97.1	0.62
Cable63	0.640	0.435	-0.640	-0.435	0.2	-0.3	96.5	96.5	0.02
Cable64	0.640	0.435	-0.640	-0.435	0.1	-0.3	96.5	96.5	0.02
Cable65	3.878	2.608	-3.876	-2.608	1.8	0.4	96.5	96.5	0.04
Cable148	0.219	0.134	-0.215	-0.133	4.5	0.9	92.0	90.5	1.54
Cable149	0.212	0.129	-0.207	-0.128	4.2	0.8	92.0	90.6	1.49
Cable150	0.212	0.129	-0.207	-0.128	4.2	0.8	92.0	90.6	1.49
T60	-0.642	-0.392	0.654	0.439	11.8	46.6	92.0	96.3	4.29
Cable174	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.4	0.48
Cable175	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.4	0.48
Cable176	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.4	0.48
Cable177	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.4	0.48
Cable178	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.4	0.48
Cable179	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.4	0.48
Cable180	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.5	0.48
Cable181	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.5	0.48
Cable182	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.5	0.48
Cable183	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.5	0.48
Cable184	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.5	0.48
Cable185	0.071	0.044	-0.070	-0.044	0.5	0.1	93.9	93.5	0.48
Cable66	0.640	0.435	-0.640	-0.435	0.0	-0.1	96.5	96.5	0.01
Cable67	0.643	0.434	-0.643	-0.434	0.2	-0.4	96.5	96.4	0.02
Cable68	2.593	1.739	-2.590	-1.739	2.9	0.3	96.5	96.4	0.09
Cable186	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.0	2.04
Cable187	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.0	2.04
Cable188	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.0	2.04

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable189	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.1	2.04
Cable190	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.1	2.04
Cable191	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.1	2.04
Cable69	0.643	0.434	-0.643	-0.434	0.1	-0.2	96.4	96.3	0.02
Cable70	0.646	0.433	-0.646	-0.433	0.1	-0.1	96.4	96.4	0.01
Cable71	1.301	0.872	-1.300	-0.872	0.4	-0.3	96.4	96.3	0.03
Cable192	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.1	2.04
Cable193	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.1	2.04
Cable194	0.143	0.087	-0.139	-0.086	4.0	0.4	94.1	92.1	2.04
Cable254	0.107	0.065	-0.105	-0.065	2.2	0.2	95.9	94.4	1.49
Cable255	0.085	0.052	-0.084	-0.052	1.4	0.1	95.9	94.7	1.19
Cable256	0.089	0.054	-0.087	-0.054	1.5	0.1	95.9	94.7	1.24
T70	-0.281	-0.171	0.283	0.183	2.4	12.0	95.9	98.3	2.45
Cable72	0.646	0.433	-0.646	-0.433	0.0	-0.1	96.3	96.3	0.01
Cable73	0.654	0.439	-0.654	-0.439	0.0	-0.1	96.3	96.3	0.01
Cable11	0.000	0.000	0.000	0.000	0.0	-0.2	96.3	96.3	0.00
Cable74	0.452	0.297	-0.452	-0.297	0.0	-0.1	98.3	98.3	0.00
Cable75	0.432	0.283	-0.432	-0.283	0.1	-0.2	98.3	98.3	0.01
Cable76	-0.884	-0.580	0.885	0.579	0.6	-1.3	98.3	98.3	0.06
Cable77	0.432	0.283	-0.432	-0.283	0.1	-0.3	98.3	98.3	0.01
Cable78	0.432	0.283	-0.432	-0.283	0.1	-0.3	98.3	98.3	0.01
Cable79	-1.749	-1.145	1.751	1.144	1.8	-0.5	98.3	98.4	0.09
Cable80	0.432	0.283	-0.432	-0.283	0.0	-0.1	98.4	98.4	0.00
Cable81	0.437	0.286	-0.437	-0.286	0.0	-0.1	98.4	98.4	0.00
Cable82	-2.619	-1.714	2.620	1.714	0.6	0.0	98.4	98.4	0.02
Cable7	-3.493	-2.286	3.494	2.286	0.7	0.1	98.4	98.4	0.02
Cable83	0.437	0.287	-0.437	-0.287	0.0	0.0	98.4	98.4	0.00
Cable84	0.436	0.286	-0.436	-0.286	0.0	0.0	98.4	98.4	0.00
Cable85	0.333	0.218	-0.333	-0.218	0.0	0.0	98.1	98.1	0.00
Cable86	0.317	0.206	-0.317	-0.206	0.1	-0.5	98.1	98.1	0.01
Cable87	-0.651	-0.423	0.651	0.423	0.1	-0.4	98.1	98.2	0.01
Cable88	0.316	0.206	-0.316	-0.206	0.0	-0.2	98.2	98.2	0.01
Cable89	0.319	0.208	-0.319	-0.208	0.0	-0.1	98.2	98.2	0.00
Cable90	-1.286	-0.836	1.286	0.836	0.6	-0.5	98.2	98.2	0.04
Cable91	0.311	0.202	-0.311	-0.203	0.0	-0.2	98.2	98.2	0.01
Cable92	0.322	0.209	-0.322	-0.210	0.0	-0.2	98.2	98.2	0.01
Cable93	-1.920	-1.248	1.921	1.247	1.9	-0.3	98.2	98.3	0.08

CKT / Branch	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop
ID	MW	Mvar	MW	Mvar	kW	kvar	From	To	in Vmag
Cable94	0.261	0.169	-0.261	-0.169	0.0	-0.1	98.3	98.3	0.00
Cable95	0.285	0.185	-0.285	-0.185	0.0	-0.2	98.3	98.3	0.00
Cable96	-2.468	-1.601	2.469	1.601	0.7	0.0	98.3	98.3	0.03
Cable97	0.301	0.196	-0.301	-0.196	0.0	0.0	98.3	98.3	0.00
Cable98	0.256	0.165	-0.256	-0.165	0.0	-0.3	98.3	98.3	0.01
Cable99	-3.026	-1.961	3.027	1.961	1.3	0.2	98.3	98.3	0.04
Cable8	-3.311	-2.145	3.315	2.145	4.1	0.7	98.3	98.4	0.10
Cable100	0.283	0.183	-0.283	-0.183	0.0	0.0	98.3	98.3	0.00
					1107.9	2502.1			

Alert Summary Report

	% Alert Settings	
	Critical	Marginal
Loading		
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
Bus Voltage		
OverVoltage	105.0	102.0
UnderVoltage	95.0	98.0
Generator Excitation		
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
Bus 23	Bus	Under Voltage	0.40	kV	0.37	93.0	3-Phase
Bus 20	Bus	Under Voltage	0.40	kV	0.37	93.1	3-Phase
Bus 23	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus 24	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus 25	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus 26	Bus	Under Voltage	0.40	kV	0.37	92.8	3-Phase
Bus 27	Bus	Under Voltage	0.40	kV	0.37	92.8	3-Phase
Bus 28	Bus	Under Voltage	0.40	kV	0.37	93.0	3-Phase
Bus 29	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus 30	Bus	Under Voltage	0.40	kV	0.37	93.1	3-Phase
Bus 32	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase
Bus 34	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase
Bus 35	Bus	Under Voltage	0.40	kV	0.37	92.5	3-Phase
Bus 36	Bus	Under Voltage	0.40	kV	0.37	92.2	3-Phase
Bus 37	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus 38	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus 39	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus 53	Bus	Under Voltage	0.40	kV	0.38	94.4	3-Phase
Bus 54	Bus	Under Voltage	0.40	kV	0.38	94.6	3-Phase
Bus 55	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
Bus 56	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
Bus 58	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
Bus 59	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
Bus 60	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
Bus 61	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
Bus 64	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus 66	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
Bus 68	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
Bus 69	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
Bus 70	Bus	Under Voltage	0.40	kV	0.38	94.0	3-Phase
Bus 77	Bus	Under Voltage	0.40	kV	0.37	92.0	3-Phase
Bus 79	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus 80	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus 82	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus 84	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus 85	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus121	Bus	Under Voltage	0.40	kV	0.37	91.9	3-Phase
Bus122	Bus	Under Voltage	0.40	kV	0.37	91.9	3-Phase
Bus123	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase
Bus124	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase
Bus125	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus126	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus127	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus128	Bus	Under Voltage	0.40	kV	0.37	91.8	3-Phase
Bus129	Bus	Under Voltage	0.40	kV	0.37	91.6	3-Phase
Bus130	Bus	Under Voltage	0.40	kV	0.37	91.4	3-Phase
Bus131	Bus	Under Voltage	0.40	kV	0.37	91.5	3-Phase
Bus132	Bus	Under Voltage	0.40	kV	0.37	91.5	3-Phase
Bus133	Bus	Under Voltage	0.40	kV	0.37	91.4	3-Phase
Bus134	Bus	Under Voltage	0.40	kV	0.37	91.6	3-Phase
Bus135	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus136	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase
Bus137	Bus	Under Voltage	0.40	kV	0.37	91.6	3-Phase
Bus138	Bus	Under Voltage	0.40	kV	0.37	91.8	3-Phase
Bus139	Bus	Under Voltage	0.40	kV	0.37	92.0	3-Phase
Bus140	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus141	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus142	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus143	Bus	Under Voltage	0.40	kV	0.37	91.8	3-Phase
Bus144	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase
Bus145	Bus	Under Voltage	0.40	kV	0.37	91.6	3-Phase
Bus146	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase
Bus147	Bus	Under Voltage	0.40	kV	0.37	91.5	3-Phase
Bus148	Bus	Under Voltage	0.40	kV	0.37	91.4	3-Phase
Bus149	Bus	Under Voltage	0.40	kV	0.37	91.9	3-Phase
Bus150	Bus	Under Voltage	0.40	kV	0.37	91.6	3-Phase
Bus151	Bus	Under Voltage	0.40	kV	0.37	91.7	3-Phase
Bus152	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus153	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus154	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus155	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus156	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus157	Bus	Under Voltage	0.40	kV	0.37	91.3	3-Phase
Bus158	Bus	Under Voltage	0.40	kV	0.36	91.0	3-Phase
Bus159	Bus	Under Voltage	0.40	kV	0.36	91.0	3-Phase
Bus160	Bus	Under Voltage	0.40	kV	0.36	90.9	3-Phase
Bus161	Bus	Under Voltage	0.40	kV	0.36	90.9	3-Phase
Bus162	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus163	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus164	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus165	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus166	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus167	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus168	Bus	Under Voltage	0.40	kV	0.36	90.5	3-Phase
Bus169	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus170	Bus	Under Voltage	0.40	kV	0.36	90.6	3-Phase
Bus171	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus172	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus173	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus174	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus175	Bus	Under Voltage	0.40	kV	0.38	94.3	3-Phase
Bus176	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus177	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus178	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus179	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus180	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus181	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus182	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus183	Bus	Under Voltage	0.40	kV	0.38	94.3	3-Phase
Bus184	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus185	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus186	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus187	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus188	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus189	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus190	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus191	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus192	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus193	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus194	Bus	Under Voltage	0.40	kV	0.37	93.4	3-Phase
Bus195	Bus	Under Voltage	0.40	kV	0.37	93.4	3-Phase
Bus196	Bus	Under Voltage	0.40	kV	0.37	93.4	3-Phase
Bus197	Bus	Under Voltage	0.40	kV	0.37	93.4	3-Phase
Bus198	Bus	Under Voltage	0.40	kV	0.37	93.4	3-Phase
Bus199	Bus	Under Voltage	0.40	kV	0.37	93.4	3-Phase
Bus200	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus201	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus202	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus203	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus204	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus205	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus206	Bus	Under Voltage	0.40	kV	0.37	92.0	3-Phase
Bus207	Bus	Under Voltage	0.40	kV	0.37	92.0	3-Phase

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus208	Bus	Under Voltage	0.40	kV	0.37	92.0	3-Phase
Bus209	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus210	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus211	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus212	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus213	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus214	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus215	Bus	Under Voltage	0.40	kV	0.38	94.1	3-Phase
Bus216	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus217	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus218	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus219	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus22	Bus	Under Voltage	0.40	kV	0.37	93.1	3-Phase
Bus220	Bus	Under Voltage	0.40	kV	0.37	92.1	3-Phase
Bus221	Bus	Under Voltage	0.40	kV	0.37	92.4	3-Phase
Bus222	Bus	Under Voltage	0.40	kV	0.37	92.4	3-Phase
Bus223	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase
Bus224	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase
Bus225	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase
Bus226	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus227	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus228	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus229	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus230	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus231	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus232	Bus	Under Voltage	0.40	kV	0.37	92.8	3-Phase
Bus233	Bus	Under Voltage	0.40	kV	0.37	92.8	3-Phase
Bus234	Bus	Under Voltage	0.40	kV	0.37	92.8	3-Phase
Bus235	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus236	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus237	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus238	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus239	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus240	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus241	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus242	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus243	Bus	Under Voltage	0.40	kV	0.37	92.7	3-Phase
Bus244	Bus	Under Voltage	0.40	kV	0.38	93.8	3-Phase
Bus246	Bus	Under Voltage	0.40	kV	0.38	93.8	3-Phase
Bus247	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus248	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus249	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus25	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus250	Bus	Under Voltage	0.40	kV	0.37	93.7	3-Phase
Bus251	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus252	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus253	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus254	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus255	Bus	Under Voltage	0.40	kV	0.37	93.6	3-Phase
Bus256	Bus	Under Voltage	0.40	kV	0.38	94.0	3-Phase
Bus257	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus258	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus259	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus26	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus260	Bus	Under Voltage	0.40	kV	0.38	94.0	3-Phase
Bus261	Bus	Under Voltage	0.40	kV	0.38	93.8	3-Phase
Bus262	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
Bus263	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
Bus264	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
Bus265	Bus	Under Voltage	0.40	kV	0.38	94.3	3-Phase
Bus266	Bus	Under Voltage	0.40	kV	0.38	94.6	3-Phase
Bus267	Bus	Under Voltage	0.40	kV	0.38	94.6	3-Phase
Bus268	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus269	Bus	Under Voltage	0.40	kV	0.38	94.5	3-Phase
Bus27	Bus	Under Voltage	0.40	kV	0.37	93.1	3-Phase
Bus270	Bus	Under Voltage	0.40	kV	0.38	94.2	3-Phase
Bus271	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
Bus272	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
Bus273	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
Bus274	Bus	Under Voltage	0.40	kV	0.38	94.4	3-Phase
Bus275	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
Bus276	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase

Critical Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus277	Bus	Under Voltage	0.40	kV	0.37	93.5	3-Phase
Bus28	Bus	Under Voltage	0.40	kV	0.37	92.9	3-Phase
Bus29	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase
Bus34	Bus	Under Voltage	0.40	kV	0.37	91.9	3-Phase
Bus35	Bus	Under Voltage	0.40	kV	0.37	91.9	3-Phase
T24	Transformer	Overload	0.60	MVA	0.74	123.6	3-Phase
T25	Transformer	Overload	0.60	MVA	0.74	123.6	3-Phase
T26	Transformer	Overload	0.60	MVA	0.74	124.0	3-Phase
T27	Transformer	Overload	0.60	MVA	0.74	124.0	3-Phase
T60	Transformer	Overload	0.60	MVA	0.75	125.4	3-Phase

Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus 21	Bus	Under Voltage	11.00	kV	10.67	97.0	3-Phase
Bus 41	Bus	Under Voltage	0.40	kV	0.38	95.2	3-Phase
Bus 43	Bus	Under Voltage	0.40	kV	0.38	95.4	3-Phase
Bus 44	Bus	Under Voltage	0.40	kV	0.38	95.4	3-Phase
Bus 46	Bus	Under Voltage	0.40	kV	0.38	95.5	3-Phase
Bus 47	Bus	Under Voltage	0.40	kV	0.38	95.4	3-Phase
Bus 48	Bus	Under Voltage	0.40	kV	0.38	96.0	3-Phase
Bus 51	Bus	Under Voltage	0.40	kV	0.38	96.1	3-Phase
Bus 8	Bus	Under Voltage	11.00	kV	10.65	96.9	3-Phase
Bus 87	Bus	Under Voltage	0.40	kV	0.38	95.9	3-Phase
Bus 9	Bus	Under Voltage	11.00	kV	10.65	96.8	3-Phase
Bus10	Bus	Under Voltage	11.00	kV	10.65	96.8	3-Phase
Bus11	Bus	Under Voltage	11.00	kV	10.65	96.8	3-Phase
Bus12	Bus	Under Voltage	11.00	kV	10.65	96.8	3-Phase
Bus13	Bus	Under Voltage	11.00	kV	10.65	96.8	3-Phase
Bus15	Bus	Under Voltage	11.00	kV	10.64	96.8	3-Phase
Bus16	Bus	Under Voltage	11.00	kV	10.64	96.7	3-Phase
Bus17	Bus	Under Voltage	11.00	kV	10.64	96.7	3-Phase
Bus18	Bus	Under Voltage	11.00	kV	10.64	96.7	3-Phase
Bus19	Bus	Under Voltage	11.00	kV	10.64	96.7	3-Phase
Bus3	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus36	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus37	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase

Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus38	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus39	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus41	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus43	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus44	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus45	Bus	Under Voltage	0.40	kV	0.38	95.4	3-Phase
Bus46	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus47	Bus	Under Voltage	11.00	kV	10.75	97.7	3-Phase
Bus48	Bus	Under Voltage	11.00	kV	10.76	97.8	3-Phase
Bus49	Bus	Under Voltage	0.40	kV	0.38	95.8	3-Phase
Bus50	Bus	Under Voltage	11.00	kV	10.75	97.8	3-Phase
Bus51	Bus	Under Voltage	11.00	kV	10.76	97.8	3-Phase
Bus52	Bus	Under Voltage	11.00	kV	10.76	97.8	3-Phase
Bus53	Bus	Under Voltage	11.00	kV	10.76	97.8	3-Phase
Bus54	Bus	Under Voltage	11.00	kV	10.76	97.8	3-Phase
Bus55	Bus	Under Voltage	11.00	kV	10.63	96.7	3-Phase
Bus56	Bus	Under Voltage	11.00	kV	10.63	96.7	3-Phase
Bus58	Bus	Under Voltage	11.00	kV	10.63	96.7	3-Phase
Bus59	Bus	Under Voltage	11.00	kV	10.62	96.6	3-Phase
Bus6	Bus	Under Voltage	11.00	kV	10.67	97.0	3-Phase
Bus60	Bus	Under Voltage	11.00	kV	10.62	96.6	3-Phase
Bus61	Bus	Under Voltage	11.00	kV	10.62	96.6	3-Phase
Bus64	Bus	Under Voltage	11.00	kV	10.62	96.6	3-Phase
Bus65	Bus	Under Voltage	0.40	kV	0.38	95.7	3-Phase
Bus66	Bus	Under Voltage	11.00	kV	10.62	96.6	3-Phase
Bus68	Bus	Under Voltage	11.00	kV	10.62	96.5	3-Phase
Bus69	Bus	Under Voltage	11.00	kV	10.62	96.5	3-Phase
Bus7	Bus	Under Voltage	11.00	kV	10.67	97.0	3-Phase
Bus70	Bus	Under Voltage	11.00	kV	10.62	96.5	3-Phase
Bus72	Bus	Under Voltage	11.00	kV	10.61	96.5	3-Phase
Bus77	Bus	Under Voltage	11.00	kV	10.61	96.5	3-Phase
Bus79	Bus	Under Voltage	11.00	kV	10.61	96.5	3-Phase
Bus80	Bus	Under Voltage	11.00	kV	10.61	96.5	3-Phase
Bus82	Bus	Under Voltage	11.00	kV	10.61	96.5	3-Phase
Bus84	Bus	Under Voltage	11.00	kV	10.61	96.4	3-Phase
Bus85	Bus	Under Voltage	11.00	kV	10.60	96.4	3-Phase

Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
Bus87	Bus	Under Voltage	11.00	kV	10.60	96.3	3-Phase
Bus88	Bus	Under Voltage	11.00	kV	10.60	96.4	3-Phase
Bus89	Bus	Under Voltage	11.00	kV	10.60	96.3	3-Phase
Bus90	Bus	Under Voltage	11.00	kV	10.60	96.3	3-Phase
Bus91	Bus	Under Voltage	11.00	kV	10.60	96.3	3-Phase
Main Bus1	Bus	Under Voltage	11.00	kV	10.68	97.1	3-Phase
T11	Transformer	Overload	0.80	MVA	0.77	96.7	3-Phase
T56	Transformer	Overload	0.50	MVA	0.48	96.4	3-Phase
T62	Transformer	Overload	0.50	MVA	0.50	99.9	3-Phase
T63	Transformer	Overload	0.50	MVA	0.50	99.9	3-Phase

SUMMARY OF TOTAL GENERATION , LOADING & DEMAND

	MW	Mvar	MVA	% PF
Source (Swing Buses):	25.231	17.452	30.679	82.24 Lagging
Source (Non-Swing Buses):	0.000	0.000	0.000	
Total Demand:	25.231	17.452	30.679	82.24 Lagging
Total Motor Load:	18.386	11.395	21.631	85.00 Lagging
Total Static Load:	5.737	3.555	6.749	85.00 Lagging
Total Constant I Load:	0.000	0.000	0.000	
Total Generic Load:	0.000	0.000	0.000	
Apparent Losses:	1.108	2.502		
System Mismatch:	0.000	0.000		

Number of Iterations: 3