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Contract:		SN:	
Engineer:		Revision:	Base
Filename:	etap ade f	Config.:	Normal
Study Case:	LF		

Electrical Transient Analyzer Program

Load Flow Analysis

Loading Category (1): Design
Generation Category (1): Design
Load Diversity Factor: None

	<u>Swing</u>	<u>V-Control</u>	<u>Load</u>	<u>Total</u>
Number of Buses:	1	0	81	82

	<u>XFMR2</u>	<u>XFMR3</u>	<u>Reactor</u>	<u>Line/Cable</u>	<u>Impedance</u>	<u>Tie PD</u>	<u>Total</u>
Number of Branches:	34	0	0	47	0	0	81

Method of Solution:	Adaptive Newton-Raphson Method
Maximum No. of Iteration:	99
Precision of Solution:	0.0001000
System Frequency:	50.00 Hz
Unit System:	Metric
Project Filename:	etap ade f
Output Filename:	I:\Skripsi Fix\Etap Skripsi\Untitled.lfr

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Adjustments

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

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

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Bus Input Data

Bus			Initial Voltage		Load							
					Constant kVA		Constant Z		Constant I		Generic	
ID	kV	Sub-sys	% Mag.	Ang.	MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
BADS	20.000	1	100.0	0.0								
BADS1	0.400	1	100.0	0.0	0.040	0.013						
BADSB	20.000	1	100.0	0.0								
BADSB1	0.400	1	100.0	0.0	0.006	0.002						
BBGG	20.000	1	100.0	0.0								
BBGG1	0.400	1	100.0	0.0	0.086	0.028						
BCKS	20.000	1	100.0	0.0								
BCKS1	0.400	1	100.0	0.0	0.096	0.059	0.024	0.015				
BCPHB	20.000	1	100.0	0.0								
BCPHB1	0.400	1	100.0	0.0	0.035	0.012						
BCPL	20.000	1	100.0	0.0								
BCPL1	0.400	1	100.0	0.0	0.078	0.026						
BCPN	20.000	1	100.0	0.0								
BCPN1	0.400	1	100.0	0.0	0.087	0.029						
BCPN4	0.400	1	100.0	0.0	0.071	0.023						
BCPN5	20.000	1	100.0	0.0								
BDLH	20.000	1	100.0	0.0								
BDLH1	0.400	1	100.0	0.0	0.071	0.023						
BDLR	20.000	1	100.0	0.0								
BDLR1	0.400	1	100.0	0.0	0.088	0.029						
BGI	20.000	1	100.0	0.0								
BGI1	150.000	1	100.0	0.0								
BGSBR	20.000	1	100.0	0.0								
BGSBR1	0.400	1	100.0	0.0	0.009	0.005	0.002	0.001				
BJCPN	20.000	1	100.0	0.0								
BJCPN1	0.400	1	100.0	0.0	0.038	0.012						
BJGR	20.000	1	100.0	0.0								
BJGR1	0.400	1	100.0	0.0	0.082	0.027						
BKDL	20.000	1	100.0	0.0								
BKDL1	0.400	1	100.0	0.0			0.040	0.013				
BLPN	20.000	1	100.0	0.0								
BLPN1	0.400	1	100.0	0.0	0.049	0.016						
BLPS	20.000	1	100.0	0.0								

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Bus			Initial Voltage		Load							
					Constant kVA		Constant Z		Constant I		Generic	
					MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
BLPS1	0.400	1	100.0	0.0	0.112	0.069	0.028	0.017				
BPBSP	20.000	1	100.0	0.0								
BPBSP1	0.400	1	100.0	0.0			0.022	0.007				
BPCT	20.000	1	100.0	0.0								
BPCT1	0.400	1	100.0	0.0			0.014	0.008				
BPCTB	20.000	1	100.0	0.0								
BPCTB1	0.400	1	100.0	0.0	0.060	0.037	0.015	0.009				
BPJR	20.000	1	100.0	0.0								
BPJR1	0.400	1	100.0	0.0	0.045	0.028	0.011	0.007				
BPRL	20.000	1	100.0	0.0								
BPRL1	0.400	1	100.0	0.0			0.075	0.025				
BPSLG	20.000	1	100.0	0.0								
BPSLG1	0.400	1	100.0	0.0			0.036	0.012				
BRAK	20.000	1	100.0	0.0								
BRAK1	0.400	1	100.0	0.0	0.061	0.020						
BSBG	20.000	1	100.0	0.0								
BSBG1	0.400	1	100.0	0.0	0.025	0.008						
BSDH	20.000	1	100.0	0.0								
BSDH1	0.400	1	100.0	0.0	0.090	0.056	0.022	0.014				
BSEFM	20.000	1	100.0	0.0								
BSEFM1	0.400	1	100.0	0.0	0.071	0.023						
BSLEH	20.000	1	100.0	0.0								
BSLEH1	0.400	1	100.0	0.0	0.062	0.038	0.015	0.010				
BSPM	20.000	1	100.0	0.0								
BSPM1	0.400	1	100.0	0.0			0.064	0.021				
BSPM4	0.400	1	100.0	0.0			0.034	0.011				
BSPM5	20.000	1	100.0	0.0								
BSRAP	20.000	1	100.0	0.0								
BSRAP1	0.400	1	100.0	0.0	0.033	0.020	0.008	0.005				
BST	20.000	1	100.0	0.0								
BST1	0.400	1	100.0	0.0	0.043	0.014						
BTMBS	20.000	1	100.0	0.0								
BTMBS1	0.400	1	100.0	0.0	0.070	0.043	0.018	0.011				
Bus14	20.000	1	100.0	0.0								
Bus21	20.000	1	100.0	0.0								

Bus			Initial Voltage		Load							
					Constant kVA		Constant Z		Constant I		Generic	
					MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar
Bus33	20.000	1	100.0	0.0								
Bus36	20.000	1	100.0	0.0								
Bus37	20.000	1	100.0	0.0								
Bus54	20.000	1	100.0	0.0								
Bus57	20.000	1	100.0	0.0								
Bus60	20.000	1	100.0	0.0								
Bus63	20.000	1	100.0	0.0								
Bus90	20.000	1	100.0	0.0								
Bus91	20.000	1	100.0	0.0								
Bus96	20.000	1	100.0	0.0								
Bus97	20.000	1	100.0	0.0								
Bus112	20.000	1	100.0	0.0								
BYHPB	20.000	1	100.0	0.0								
BYHPB1	0.400	1	100.0	0.0	0.060	0.037	0.015	0.009				
Total Number of Buses: 82					1.566	0.700	0.444	0.196	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
BG11	150.000	Swing	1	100.0	0.0					
						0.000	0.000			

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Line/Cable Input Data

Line/Cable		Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)							
		Library	Size	Length		#/Phase	T (°C)	R	X
				Adj. (m)	% Tol.				
ID									Y
BADS-BRAK1				600.0	0.0	1	75	0.709318	1.084318
BADS-BRAK2				500.0	0.0	1	75	0.709318	1.084318
BADSB-BADS1				500.0	0.0	1	75	0.709318	1.084318
BADSB-BADS2				400.0	0.0	1	75	0.709318	1.084318
BBGG-BLDH				700.0	0.0	1	75	0.709318	1.084318
BCPL-BCPHB				700.0	0.0	1	75	0.709318	1.084318
BCPN-BPCTB				600.0	0.0	1	75	0.709318	1.084318
BCPN-BSEFM1				700.0	0.0	1	75	0.709318	1.084318
BCPN-BSEFM2				800.0	0.0	1	75	0.709318	1.084318
BCPN-BSEFM3				800.0	0.0	1	75	0.709318	1.084318
BCPN5-BCPN				200.0	0.0	1	75	0.216200	0.330500
BDLH-BDLR1				600.0	0.0	1	75	0.709318	1.084318
BDLH-BDLR2				400.0	0.0	1	75	0.709318	1.084318
BDLH-BDLR3				600.0	0.0	1	75	0.000216	0.000331
BDLH-BSLEH				300.0	0.0	1	75	0.709318	1.084318
BDLH-BST				500.0	0.0	1	75	0.709318	1.084318
BDLR-BCPL				400.0	0.0	1	75	0.709318	1.084318
BGI-BPSLG				500.0	0.0	1	75	0.709318	1.084318
BJCPN-BCPN1				700.0	0.0	1	75	0.709318	1.084318
BJCPN-BCPN2				600.0	0.0	1	75	0.709318	1.084318
BJCPN-BLPS				600.0	0.0	1	75	0.709318	1.084318
BJGR-BADSB1				300.0	0.0	1	75	0.709318	1.084318
BJGR-BADSB2				500.0	0.0	1	75	0.709318	1.084318
BKDL-BSPM				400.0	0.0	1	75	0.709318	1.084318
BLPN-BPJR1				500.0	0.0	1	75	0.709318	1.084318
BLPN-BPJR2				600.0	0.0	1	75	0.709318	1.084318
BPBSP-BCKS				1020.0	0.0	1	75	0.709318	1.084318
BPBSP-BJCPN1				500.0	0.0	1	75	0.709318	1.084318
BPBSP-BJCPN2				500.0	0.0	1	75	0.709318	1.084318
BPCT-BSEFM				700.0	0.0	1	75	0.709318	1.084318
BPJR-BSDH1				700.0	0.0	1	75	0.709318	1.084318
BPJR-BSDH2				600.0	0.0	1	75	0.709318	1.084318
BPRL-BKDL				200.0	0.0	1	75	0.709318	1.084318
BPSLG-BPRL				300.0	0.0	1	75	0.709318	1.084318

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Ohms or Siemens/1000 m per Conductor (Cable) or per Phase (Line)									
Line/Cable		Length							
ID	Library	Size	Adj. (m)	% Tol.	#/Phase	T (°C)	R	X	Y
BSBGG-BBG			400.0	0.0	1	75	0.709318	1.084318	
BSDH-BGSBR			500.0	0.0	1	75	0.709318	1.084318	
BSDH-BJGR			700.0	0.0	1	75	0.709318	1.084318	
BSEFM-BSBG			500.0	0.0	1	75	0.709318	1.084318	
BSLEH-BSRAP			550.0	0.0	1	75	0.709318	1.084318	
BSPM-BSPM5			150.0	0.0	1	75	0.216200	0.330500	
BSPM5-BPBSP			300.0	0.0	1	75	0.216200	0.330500	
BSRAP-BYHPB			500.0	0.0	1	75	0.709318	1.084318	
BST-BLPN			600.0	0.0	1	75	0.709318	1.084318	
BST-BTMBS1			400.0	0.0	1	75	0.709318	1.084318	
BST-BTMBS2			600.0	0.0	1	75	0.709318	1.084318	
Cable6			500.0	0.0	1	75	0.709318	1.084318	
Cable28			400.0	0.0	1	75	0.709318	1.084318	

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
T-ADS	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-ADSB	3-Phase	0.160	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-BGG	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-BPSP	3-Phase	0.100	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-CKS	3-Phase	0.250	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-CPHB	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-CPL	3-Phase	0.200	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-CPN	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-CPN2	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-DLH	3-Phase	0.160	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-DLR	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-GSBR	3-Phase	0.100	0.400	20.000	4.00	1.50	0	0	0	0	0	4.0000	YNd	0.000
T-JCPN	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-JGR	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-KDL	3-Phase	0.100	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-LPN	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-LPS	3-Phase	0.250	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PCT	3-Phase	0.160	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PCTB	3-Phase	0.250	20.000	0.400	12.50	45.00	0	0	0	0	0	12.5000	Dyn	0.000
T-PJR	3-Phase	0.100	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PRL	3-Phase	0.160	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-PSLG	3-Phase	0.100	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-RAK	3-Phase	0.200	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-SBGG	3-Phase	0.100	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-SDH	3-Phase	0.200	0.400	20.000	4.00	1.50	0	0	0	0	0	4.0000	YNd	0.000
T-SEFM	3-Phase	0.200	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-SLEH	3-Phase	0.100	0.400	20.000	4.00	1.50	0	0	0	0	0	4.0000	YNd	0.000
T-SPM	3-Phase	0.250	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-SPM2	3-Phase	0.250	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-SRAP	3-Phase	0.200	0.400	20.000	4.00	1.50	0	0	0	0	0	4.0000	YNd	0.000
T-ST	3-Phase	0.250	20.000	0.400	4.00	2.47	0	0	0	0	0	4.0000	Dyn	0.000
T-TMBS	3-Phase	0.200	20.000	0.400	4.00	1.50	0	0	0	0	0	4.0000	Dyn	0.000
T-YHPB	3-Phase	0.100	0.400	20.000	4.00	1.50	0	0	0	0	0	4.0000	YNd	0.000
T1	3-Phase	60.000	150.000	20.000	12.50	45.00	0	0	0	0	0	12.5000	Dyn	0.000

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Branch Connections

CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
T-ADS	2W XFMR	BADS	BADS1	600.43	1483.07	1600.00	
T-ADSB	2W XFMR	BADSB	BADSB1	938.17	2317.29	2500.00	
T-BGG	2W XFMR	BBGG	BBGG1	600.43	1483.07	1600.00	
T-BPSP	2W XFMR	BPBSP	BPBSP1	2218.80	3328.20	4000.00	
T-CKS	2W XFMR	BCKS	BCKS1	887.52	1331.28	1600.00	
T-CPHB	2W XFMR	BCPHB	BCPHB1	1501.08	3707.66	4000.00	
T-CPL	2W XFMR	BCPL	BCPL1	750.54	1853.83	2000.00	
T-CPN	2W XFMR	BCPN	BCPN1	600.43	1483.07	1600.00	
T-CPN2	2W XFMR	BCPN5	BCPN4	600.43	1483.07	1600.00	
T-DLH	2W XFMR	BDLH	BDLH1	1386.75	2080.13	2500.00	
T-DLR	2W XFMR	BDLR	BDLR1	600.43	1483.07	1600.00	
T-GSBR	2W XFMR	BGSBR1	BGSBR	2218.80	3328.20	4000.00	
T-JCPN	2W XFMR	BJCPN	BJCPN1	1501.08	3707.66	4000.00	
T-JGR	2W XFMR	BJGR	BJGR1	600.43	1483.07	1600.00	
T-KDL	2W XFMR	BKDL	BKDL1	2218.80	3328.20	4000.00	
T-LPN	2W XFMR	BLPN	BLPN1	1501.08	3707.66	4000.00	
T-LPS	2W XFMR	BLPS	BLPS1	887.52	1331.28	1600.00	
T-PCT	2W XFMR	BPCT	BPCT1	1386.75	2080.13	2500.00	
T-PCTB	2W XFMR	BPCTB	BPCTB1	111.08	4998.77	5000.00	
T-PJR	2W XFMR	BPJR	BPJR1	2218.80	3328.20	4000.00	
T-PRL	2W XFMR	BPRL	BPRL1	1386.75	2080.13	2500.00	
T-PSLG	2W XFMR	BPSLG	BPSLG1	2218.80	3328.20	4000.00	
T-RAK	2W XFMR	BRAK	BRAK1	750.54	1853.83	2000.00	
T-SBGG	2W XFMR	BSBGG	BSBGG1	1501.08	3707.66	4000.00	
T-SDH	2W XFMR	BSDH1	BSDH	1109.40	1664.10	2000.00	
T-SEFM	2W XFMR	BSEFM	BSEFM1	750.54	1853.83	2000.00	
T-SLEH	2W XFMR	BSLEH1	BSLEH	2218.80	3328.20	4000.00	
T-SPM	2W XFMR	BSPM	BSPM1	887.52	1331.28	1600.00	
T-SPM2	2W XFMR	BSPM5	BSPM4	887.52	1331.28	1600.00	
T-SRAP	2W XFMR	BSRAP1	BSRAP	1109.40	1664.10	2000.00	
T-ST	2W XFMR	BST	BST1	600.43	1483.07	1600.00	
T-TMBS	2W XFMR	BTMBS	BTMBS1	1109.40	1664.10	2000.00	
T-YHPB	2W XFMR	BYHPB1	BYHPB	2218.80	3328.20	4000.00	
T1	2W XFMR	BGI1	BGI	0.46	20.83	20.83	
BADS-BRAK1	Cable	Bus96	Bus112	10.64	16.26	19.44	
BADS-BRAK2	Cable	BRAK	Bus112	8.87	13.55	16.20	
BADSB-BADS1	Cable	Bus97	Bus96	8.87	13.55	16.20	

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CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
BADSB-BADS2	Cable	BADS	Bus96	7.09	10.84	12.96	
BBGG-BLDH	Cable	BBGG	Bus54	12.41	18.98	22.68	
BCPL-BCPHB	Cable	BCPL	BCPHB	12.41	18.98	22.68	
BCPN-BPCTB	Cable	Bus36	BPCTB	10.64	16.26	19.44	
BCPN-BSEFM1	Cable	BCPN	Bus36	12.41	18.98	22.68	
BCPN-BSEFM2	Cable	Bus36	Bus37	14.19	21.69	25.91	
BCPN-BSEFM3	Cable	Bus37	BSEFM	14.19	21.69	25.91	
BCPN5-BCPN	Cable	BCPN5	BCPN	1.08	1.65	1.97	
BDLH-BDLR1	Cable	Bus54	Bus57	10.64	16.26	19.44	
BDLH-BDLR2	Cable	Bus57	Bus63	7.09	10.84	12.96	
BDLH-BDLR3	Cable	Bus63	BDLR	0.00	0.00	0.01	
BDLH-BSLEH	Cable	BSLEH	Bus63	5.32	8.13	9.72	
BDLH-BST	Cable	Bus57	BST	8.87	13.55	16.20	
BDLR-BCPL	Cable	BDLR	BCPL	7.09	10.84	12.96	
BGI-BPSLG	Cable	BGI	BPSLG	8.87	13.55	16.20	
BJCPN-BCPN1	Cable	BJCPN	Bus33	12.41	18.98	22.68	
BJCPN-BCPN2	Cable	Bus33	BCPN5	10.64	16.26	19.44	
BJCPN-BLPS	Cable	Bus33	BLPS	10.64	16.26	19.44	
BJGR-BADSB1	Cable	BJGR	Bus97	5.32	8.13	9.72	
BJGR-BADSB2	Cable	BADSB	Bus97	8.87	13.55	16.20	
BKDL-BSPM	Cable	Bus14	BSPM	7.09	10.84	12.96	
BLPN-BPJR1	Cable	BLPN	Bus90	8.87	13.55	16.20	
BLPN-BPJR2	Cable	Bus90	BPJR	10.64	16.26	19.44	
BPBSP-BCKS	Cable	Bus21	BCKS	18.09	27.65	33.04	
BPBSP-BJCPN1	Cable	BPBSP	Bus21	8.87	13.55	16.20	
BPBSP-BJCPN2	Cable	Bus21	BJCPN	8.87	13.55	16.20	
BPCT-BSEFM	Cable	Bus37	BPCT	12.41	18.98	22.68	
BPJR-BSDH1	Cable	Bus90	Bus91	12.41	18.98	22.68	
BPJR-BSDH2	Cable	Bus91	BSDH	10.64	16.26	19.44	
BPRL-BKDL	Cable	BPRL	Bus14	3.55	5.42	6.48	
BPSLG-BPRL	Cable	BPSLG	BPRL	5.32	8.13	9.72	
BSBGG-BBGG	Cable	BSBGG	BBGG	7.09	10.84	12.96	
BSDH-BGSBR	Cable	BSDH	BGSBR	8.87	13.55	16.20	
BSDH-BJGR	Cable	Bus91	BJGR	12.41	18.98	22.68	
BSEFM-BSBGG	Cable	BSEFM	BSBGG	8.87	13.55	16.20	
BSLEH-BSRAP	Cable	BSRAP	BSLEH	9.75	14.91	17.82	
BSPM-BSPM5	Cable	BSPM	BSPM5	0.81	1.24	1.48	
BSPM5-BPBSP	Cable	BSPM5	BPBSP	1.62	2.48	2.96	
BSRAP-BYHPB	Cable	BYHPB	BSRAP	8.87	13.55	16.20	

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CKT/Branch		Connected Bus ID		% Impedance, Pos. Seq., 100 MVA Base			
ID	Type	From Bus	To Bus	R	X	Z	Y
BST-BLPN	Cable	Bus60	BLPN	10.64	16.26	19.44	
BST-BTMBS1	Cable	BST	Bus60	7.09	10.84	12.96	
BST-BTMBS2	Cable	Bus60	BTMBS	10.64	16.26	19.44	
Cable6	Cable	BKDL	Bus14	8.87	13.55	16.20	
Cable28	Cable	BDLH	Bus54	7.09	10.84	12.96	

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LOAD FLOW REPORT

Bus		Voltage		Generation		Load		Load Flow					XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap	
BADS	20.000	95.618	-1.7	0	0	0	0	Bus96	-0.040	-0.013	1.3	94.8		
								BADS1	0.040	0.013	1.3	94.8		
BADS1	0.400	95.162	-2.1	0	0	0.040	0.013	BADS	-0.040	-0.013	63.5	95.0		
BADSB	20.000	95.636	-1.7	0	0	0	0	Bus97	-0.006	-0.002	0.2	95.0		
								BADSB1	0.006	0.002	0.2	95.0		
BADSB1	0.400	95.532	-1.8	0	0	0.006	0.002	BADSB	-0.006	-0.002	9.2	95.0		
BBGG	20.000	96.453	-1.4	0	0	0	0	Bus54	1.018	0.488	33.8	90.2		
								BSBGG	-1.104	-0.517	36.5	90.6		
								BBGG1	0.086	0.029	2.7	94.6		
BBGG1	0.400	95.472	-2.1	0	0	0.086	0.028	BBGG	-0.086	-0.028	136.1	95.0		
BCKS	20.000	98.526	-0.7	0	0	0	0	Bus21	-0.120	-0.076	4.2	84.5		
								BCKS1	0.120	0.076	4.2	84.5		
BCKS1	0.400	96.423	-1.2	0	0	0.118	0.073	BCKS	-0.118	-0.073	208.1	85.0		
BCPHB	20.000	95.973	-1.6	0	0	0	0	BCPL	-0.035	-0.012	1.1	94.6		
								BCPHB1	0.035	0.012	1.1	94.6		
BCPHB1	0.400	94.958	-2.3	0	0	0.035	0.012	BCPHB	-0.035	-0.012	56.3	95.0		
BCPL	20.000	95.980	-1.6	0	0	0	0	BCPHB	0.035	0.012	1.1	94.6		
								BDLR	-0.114	-0.039	3.6	94.6		
								BCPL1	0.079	0.027	2.5	94.6		
BCPL1	0.400	94.851	-2.4	0	0	0.078	0.026	BCPL	-0.078	-0.026	125.1	95.0		
BCPN	20.000	97.661	-1.0	0	0	0	0	Bus36	1.297	0.624	42.6	90.1		
								BCPN5	-1.385	-0.654	45.3	90.4		
								BCPN1	0.088	0.030	2.7	94.6		
BCPN1	0.400	96.673	-1.7	0	0	0.087	0.029	BCPN	-0.087	-0.029	137.1	95.0		
BCPN4	0.400	96.883	-1.5	0	0	0.071	0.023	BCPN5	-0.071	-0.023	111.7	95.0		
BCPN5	20.000	97.688	-1.0	0	0	0	0	BCPN	1.385	0.654	45.3	90.4		
								Bus33	-1.457	-0.679	47.5	90.6		
								BCPN4	0.072	0.024	2.2	94.7		
BDLH	20.000	96.218	-1.5	0	0	0	0	Bus54	-0.072	-0.025	2.3	94.6		
								BDLH1	0.072	0.025	2.3	94.6		
BDLH1	0.400	94.651	-2.2	0	0	0.071	0.023	BDLH	-0.071	-0.023	114.4	95.0		
BDLR	20.000	95.993	-1.6	0	0	0	0	Bus63	-0.203	-0.070	6.5	94.6		
								BCPL	0.114	0.039	3.6	94.6		
								BDLR1	0.089	0.030	2.8	94.6		
BDLR1	0.400	94.973	-2.3	0	0	0.088	0.029	BDLR	-0.088	-0.029	141.3	95.0		
BGI	20.000	99.784	-0.2	0	0	0	0	BPSLG	2.045	0.986	65.7	90.1		

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
								BGI1	-2.045	-0.986	65.7	90.1	
* BGI1	150.000	100.000	0.0	2.045	0.997	0	0	BGI	2.045	0.997	8.8	89.9	
BGSBR	20.000	95.654	-1.7	0	0	0	0	BSDH	-0.011	-0.007	0.4	84.9	
								BGSBR1	0.011	0.007	0.4	84.9	
BGSBR1	0.400	95.170	-1.8	0	0	0.011	0.007	BGSBR	-0.011	-0.007	19.2	85.0	
BJCPN	20.000	98.312	-0.8	0	0	0	0	Bus33	1.604	0.778	52.3	90.0	
								Bus21	-1.642	-0.791	53.5	90.1	
								BJCPN1	0.038	0.013	1.2	94.6	
BJCPN1	0.400	97.242	-1.5	0	0	0.038	0.012	BJCPN	-0.038	-0.012	59.3	95.0	
BJGR	20.000	95.646	-1.7	0	0	0	0	Bus97	0.107	0.036	3.4	94.7	
								Bus91	-0.189	-0.064	6.0	94.7	
								BJGR1	0.082	0.028	2.6	94.6	
BJGR1	0.400	94.703	-2.4	0	0	0.082	0.027	BJGR	-0.082	-0.027	130.8	95.0	
BKDL	20.000	99.157	-0.5	0	0	0	0	Bus14	-0.039	-0.013	1.2	94.7	
								BKDL1	0.039	0.013	1.2	94.7	
BKDL1	0.400	97.858	-1.0	0	0	0.038	0.013	BKDL	-0.038	-0.013	59.3	95.0	
BLPN	20.000	95.811	-1.7	0	0	0	0	Bus90	0.367	0.178	12.3	90.0	
								Bus60	-0.417	-0.195	13.9	90.6	
								BLPN1	0.050	0.017	1.6	94.4	
BLPN1	0.400	94.377	-2.7	0	0	0.049	0.016	BLPN	-0.049	-0.016	79.3	95.0	
BLPS	20.000	97.930	-0.9	0	0	0	0	Bus33	-0.139	-0.089	4.9	84.4	
								BLPS1	0.139	0.089	4.9	84.4	
BLPS1	0.400	95.467	-1.5	0	0	0.137	0.085	BLPS	-0.137	-0.085	243.6	85.0	
BPBSP	20.000	98.848	-0.6	0	0	0	0	Bus21	1.768	0.877	57.6	89.6	
								BSPM5	-1.790	-0.884	58.3	89.7	
								BPBSP1	0.021	0.007	0.7	94.8	
BPBSP1	0.400	98.126	-0.9	0	0	0.021	0.007	BPBSP	-0.021	-0.007	33.1	95.0	
BPCT	20.000	97.068	-1.2	0	0	0	0	Bus37	-0.013	-0.008	0.4	84.9	
								BPCT1	0.013	0.008	0.4	84.9	
BPCT1	0.400	96.718	-1.3	0	0	0.013	0.008	BPCT	-0.013	-0.008	22.2	85.0	
BPCTB	20.000	97.359	-1.1	0	0	0	0	Bus36	-0.073	-0.050	2.6	82.9	
								BPCTB1	0.073	0.050	2.6	82.9	
BPCTB1	0.400	94.804	-3.3	0	0	0.073	0.045	BPCTB	-0.073	-0.045	131.3	85.0	
BPJR	20.000	95.739	-1.7	0	0	0	0	Bus90	-0.055	-0.035	2.0	84.4	
								BPJR1	0.055	0.035	2.0	84.4	
BPJR1	0.400	93.243	-2.4	0	0	0.054	0.034	BPJR	-0.054	-0.034	98.7	85.0	
BPRL	20.000	99.282	-0.4	0	0	0	0	Bus14	1.930	0.939	62.4	89.9	
								BPSLG	-2.002	-0.963	64.6	90.1	
								BPRL1	0.072	0.025	2.2	94.6	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
BPRL1	0.400	97.764	-1.1	0	0	0.071	0.023	BPRL	-0.071	-0.023	110.9	95.0	
BPSLG	20.000	99.468	-0.4	0	0	0	0	BGI	-2.040	-0.979	65.7	90.2	
								BPRL	2.005	0.967	64.6	90.1	
								BPSLG1	0.035	0.012	1.1	94.7	
BPSLG1	0.400	98.278	-0.9	0	0	0.035	0.012	BPSLG	-0.035	-0.012	54.4	95.0	
BRAK	20.000	95.603	-1.7	0	0	0	0	Bus112	-0.061	-0.021	2.0	94.7	
								BRAK1	0.061	0.021	2.0	94.7	
BRAK1	0.400	94.722	-2.4	0	0	0.061	0.020	BRAK	-0.061	-0.020	97.8	95.0	
BSBGG	20.000	96.592	-1.4	0	0	0	0	BBGG	1.106	0.519	36.5	90.5	
								BSEFM	-1.130	-0.527	37.3	90.6	
								BSBGG1	0.025	0.008	0.8	94.7	
BSBGG1	0.400	95.894	-1.9	0	0	0.025	0.008	BSBGG	-0.025	-0.008	38.8	95.0	
BSDH	20.000	95.656	-1.7	0	0	0	0	Bus91	-0.122	-0.078	4.4	84.4	
								BGSBR	0.011	0.007	0.4	84.9	
								BSDH1	0.111	0.071	4.0	84.4	
BSDH1	0.400	93.139	-2.4	0	0	0.109	0.068	BSDH	-0.109	-0.068	199.1	85.0	
BSEFM	20.000	96.770	-1.3	0	0	0	0	Bus37	-1.203	-0.554	39.5	90.8	
								BSBGG	1.132	0.530	37.3	90.6	
								BSEFM1	0.072	0.025	2.3	94.6	
BSEFM1	0.400	95.751	-2.0	0	0	0.071	0.023	BSEFM	-0.071	-0.023	113.1	95.0	
BSLEH	20.000	95.972	-1.6	0	0	0	0	Bus63	-0.192	-0.123	6.9	84.3	
								BSRAP	0.115	0.073	4.1	84.4	
								BSLEH1	0.077	0.050	2.8	84.1	
BSLEH1	0.400	92.481	-2.5	0	0	0.075	0.047	BSLEH	-0.075	-0.047	137.9	85.0	
BSPM	20.000	98.926	-0.5	0	0	0	0	Bus14	-1.886	-0.918	61.2	89.9	
								BSPM5	1.824	0.897	59.3	89.7	
								BSPM1	0.062	0.021	1.9	94.8	
BSPM1	0.400	98.087	-0.9	0	0	0.062	0.020	BSPM	-0.062	-0.020	96.0	95.0	
BSPM4	0.400	98.453	-0.8	0	0	0.033	0.011	BSPM5	-0.033	-0.011	51.2	95.0	
BSPM5	20.000	98.900	-0.5	0	0	0	0	BSPM	-1.824	-0.896	59.3	89.7	
								BPBSP	1.790	0.885	58.3	89.6	
								BSPM4	0.033	0.011	1.0	94.9	
BSRAP	20.000	95.948	-1.6	0	0	0	0	BSLEH	-0.115	-0.073	4.1	84.4	
								BYHPB	0.075	0.048	2.7	84.1	
								BSRAP1	0.041	0.025	1.4	84.8	
BSRAP1	0.400	95.037	-1.8	0	0	0.040	0.025	BSRAP	-0.040	-0.025	72.2	85.0	
BST	20.000	95.956	-1.6	0	0	0	0	Bus57	-0.547	-0.265	18.3	90.0	
								Bus60	0.504	0.251	16.9	89.5	
								BST1	0.043	0.015	1.4	94.8	

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Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
BST1	0.400	95.460	-2.0	0	0	0.043	0.014	BST	-0.043	-0.014	68.9	95.0	
BTMBS	20.000	95.871	-1.6	0	0	0	0	Bus60	-0.087	-0.055	3.1	84.5	
								BTMBS1	0.087	0.055	3.1	84.5	
BTMBS1	0.400	93.918	-2.2	0	0	0.085	0.053	BTMBS	-0.085	-0.053	154.6	85.0	
Bus14	20.000	99.162	-0.5	0	0	0	0	BSPM	1.890	0.923	61.2	89.9	
								BPRL	-1.928	-0.936	62.4	90.0	
								BKDL	0.039	0.013	1.2	94.7	
Bus21	20.000	98.569	-0.7	0	0	0	0	BCKS	0.120	0.076	4.2	84.5	
								BPBSP	-1.765	-0.872	57.6	89.7	
								BJCPN	1.645	0.796	53.5	90.0	
Bus33	20.000	97.960	-0.9	0	0	0	0	BJCPN	-1.599	-0.772	52.3	90.1	
								BCPN5	1.460	0.683	47.5	90.6	
								BLPS	0.139	0.089	4.9	84.4	
Bus36	20.000	97.375	-1.1	0	0	0	0	BPCTB	0.073	0.050	2.6	82.9	
								BCPN	-1.295	-0.620	42.6	90.2	
								Bus37	1.221	0.570	40.0	90.6	
Bus37	20.000	97.071	-1.2	0	0	0	0	Bus36	-1.219	-0.566	40.0	90.7	
								BSEFM	1.206	0.558	39.5	90.7	
								BPCT	0.013	0.008	0.4	84.9	
Bus54	20.000	96.226	-1.5	0	0	0	0	BBGG	-1.017	-0.485	33.8	90.2	
								Bus57	0.945	0.461	31.5	89.9	
								BDLH	0.072	0.025	2.3	94.6	
Bus57	20.000	96.044	-1.6	0	0	0	0	Bus54	-0.943	-0.459	31.5	89.9	
								Bus63	0.396	0.193	13.2	89.9	
								BST	0.548	0.266	18.3	90.0	
Bus60	20.000	95.890	-1.6	0	0	0	0	BLPN	0.417	0.195	13.9	90.6	
								BST	-0.504	-0.250	16.9	89.6	
								BTMBS	0.087	0.055	3.1	84.5	
Bus63	20.000	95.993	-1.6	0	0	0	0	Bus57	-0.395	-0.193	13.2	89.9	
								BDLR	0.203	0.070	6.5	94.6	
								BSLEH	0.192	0.123	6.9	84.3	
Bus90	20.000	95.752	-1.7	0	0	0	0	BLPN	-0.367	-0.177	12.3	90.0	
								BPJR	0.055	0.035	2.0	84.4	
								Bus91	0.311	0.142	10.3	91.0	
Bus91	20.000	95.683	-1.7	0	0	0	0	Bus90	-0.311	-0.142	10.3	91.0	
								BSDH	0.122	0.078	4.4	84.4	
								BJGR	0.189	0.064	6.0	94.7	
Bus96	20.000	95.622	-1.7	0	0	0	0	Bus112	0.061	0.021	2.0	94.7	
								Bus97	-0.101	-0.034	3.2	94.7	

Bus		Voltage		Generation		Load		Load Flow					XFMR
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus97	20.000	95.637	-1.7	0	0	0	0	BADS	0.040	0.013	1.3	94.8	
								Bus96	0.101	0.034	3.2	94.7	
								BJGR	-0.107	-0.036	3.4	94.7	
Bus112	20.000	95.612	-1.7	0	0	0	0	BADSB	0.006	0.002	0.2	95.0	
								Bus96	-0.061	-0.021	2.0	94.7	
								BRAK	0.061	0.021	2.0	94.7	
BYHPB	20.000	95.935	-1.6	0	0	0	0	BSRAP	-0.075	-0.048	2.7	84.1	
BYHPB1	0.400	92.562	-2.5	0	0	0.073	0.045	BYHPB1	0.075	0.048	2.7	84.1	
								BYHPB	-0.073	-0.045	133.3	85.0	

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

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

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Bus Loading Summary Report

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
			MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
ID	kV	Rated Amp												
BADS	20.000		0	0	0	0	0	0	0	0	0.042	94.8	1.3	
BADS1	0.400		0.040	0.013	0	0	0	0	0	0	0.042	95.0	63.5	
BADSB	20.000		0	0	0	0	0	0	0	0	0.006	95.0	0.2	
BADSB1	0.400		0.006	0.002	0	0	0	0	0	0	0.006	95.0	9.2	
BBGG	20.000		0	0	0	0	0	0	0	0	1.220	90.6	36.5	
BBGG1	0.400		0.086	0.028	0	0	0	0	0	0	0.090	95.0	136.1	
BCKS	20.000		0	0	0	0	0	0	0	0	0.142	84.5	4.2	
BCKS1	0.400		0.096	0.059	0.022	0.014	0	0	0	0	0.139	85.0	208.1	
BCPHB	20.000		0	0	0	0	0	0	0	0	0.037	94.6	1.1	
BCPHB1	0.400		0.035	0.012	0	0	0	0	0	0	0.037	95.0	56.3	
BCPL	20.000		0	0	0	0	0	0	0	0	0.121	94.6	3.6	
BCPL1	0.400		0.078	0.026	0	0	0	0	0	0	0.082	95.0	125.1	
BCPN	20.000		0	0	0	0	0	0	0	0	1.532	90.4	45.3	
BCPN1	0.400		0.087	0.029	0	0	0	0	0	0	0.092	95.0	137.1	
BCPN4	0.400		0.071	0.023	0	0	0	0	0	0	0.075	95.0	111.7	
BCPN5	20.000		0	0	0	0	0	0	0	0	1.607	90.6	47.5	
BDLH	20.000		0	0	0	0	0	0	0	0	0.076	94.6	2.3	
BDLH1	0.400		0.071	0.023	0	0	0	0	0	0	0.075	95.0	114.4	
BDLR	20.000		0	0	0	0	0	0	0	0	0.215	94.6	6.5	
BDLR1	0.400		0.088	0.029	0	0	0	0	0	0	0.093	95.0	141.3	
BGI	20.000		0	0	0	0	0	0	0	0	2.270	90.1	65.7	
BGI1	150.000		0	0	0	0	0	0	0	0	2.275	89.9	8.8	
BGSBR	20.000		0	0	0	0	0	0	0	0	0.013	84.9	0.4	
BGSBR1	0.400		0.009	0.005	0.002	0.001	0	0	0	0	0.013	85.0	19.2	
BJCPN	20.000		0	0	0	0	0	0	0	0	1.822	90.1	53.5	
BJCPN1	0.400		0.038	0.012	0	0	0	0	0	0	0.040	95.0	59.3	
BJGR	20.000		0	0	0	0	0	0	0	0	0.200	94.7	6.0	
BJGR1	0.400		0.082	0.027	0	0	0	0	0	0	0.086	95.0	130.8	
BKDL	20.000		0	0	0	0	0	0	0	0	0.041	94.7	1.2	
BKDL1	0.400		0	0	0.038	0.013	0	0	0	0	0.040	95.0	59.3	
BLPN	20.000		0	0	0	0	0	0	0	0	0.460	90.6	13.9	
BLPN1	0.400		0.049	0.016	0	0	0	0	0	0	0.052	95.0	79.3	
BLPS	20.000		0	0	0	0	0	0	0	0	0.165	84.4	4.9	
BLPS1	0.400		0.112	0.069	0.025	0.016	0	0	0	0	0.161	85.0	243.6	
BPBSP	20.000		0	0	0	0	0	0	0	0	1.996	89.7	58.3	
BPBSP1	0.400		0	0	0.021	0.007	0	0	0	0	0.022	95.0	33.1	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
			MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
ID	kV	Rated Amp												
BPCT	20.000		0	0	0	0	0	0	0	0	0.015	84.9	0.4	
BPCT1	0.400		0	0	0.013	0.008	0	0	0	0	0.015	85.0	22.2	
BPCTB	20.000		0	0	0	0	0	0	0	0	0.089	82.9	2.6	
BPCTB1	0.400		0.060	0.037	0.013	0.008	0	0	0	0	0.086	85.0	131.3	
BPJR	20.000		0	0	0	0	0	0	0	0	0.065	84.4	2.0	
BPJR1	0.400		0.045	0.028	0.010	0.006	0	0	0	0	0.064	85.0	98.7	
BPRL	20.000		0	0	0	0	0	0	0	0	2.222	90.1	64.6	
BPRL1	0.400		0	0	0.071	0.023	0	0	0	0	0.075	95.0	110.9	
BPSLG	20.000		0	0	0	0	0	0	0	0	2.263	90.2	65.7	
BPSLG1	0.400		0	0	0.035	0.012	0	0	0	0	0.037	95.0	54.4	
BRAK	20.000		0	0	0	0	0	0	0	0	0.065	94.7	2.0	
BRAK1	0.400		0.061	0.020	0	0	0	0	0	0	0.064	95.0	97.8	
BSBGG	20.000		0	0	0	0	0	0	0	0	1.247	90.6	37.3	
BSBGG1	0.400		0.025	0.008	0	0	0	0	0	0	0.026	95.0	38.8	
BSDH	20.000		0	0	0	0	0	0	0	0	0.145	84.4	4.4	
BSDH1	0.400		0.090	0.056	0.019	0.012	0	0	0	0	0.129	85.0	199.1	
BSEFM	20.000		0	0	0	0	0	0	0	0	1.325	90.8	39.5	
BSEFM1	0.400		0.071	0.023	0	0	0	0	0	0	0.075	95.0	113.1	
BSLEH	20.000		0	0	0	0	0	0	0	0	0.228	84.3	6.9	
BSLEH1	0.400		0.062	0.038	0.013	0.008	0	0	0	0	0.088	85.0	137.9	
BSPM	20.000		0	0	0	0	0	0	0	0	2.098	89.9	61.2	
BSPM1	0.400		0	0	0.062	0.020	0	0	0	0	0.065	95.0	96.0	
BSPM4	0.400		0	0	0.033	0.011	0	0	0	0	0.035	95.0	51.2	
BSPM5	20.000		0	0	0	0	0	0	0	0	2.032	89.7	59.3	
BSRAP	20.000		0	0	0	0	0	0	0	0	0.137	84.4	4.1	
BSRAP1	0.400		0.033	0.020	0.007	0.005	0	0	0	0	0.048	85.0	72.2	
BST	20.000		0	0	0	0	0	0	0	0	0.608	90.0	18.3	
BST1	0.400		0.043	0.014	0	0	0	0	0	0	0.046	95.0	68.9	
BTMBS	20.000		0	0	0	0	0	0	0	0	0.103	84.5	3.1	
BTMBS1	0.400		0.070	0.043	0.015	0.010	0	0	0	0	0.101	85.0	154.6	
Bus14	20.000		0	0	0	0	0	0	0	0	2.143	90.0	62.4	
Bus21	20.000		0	0	0	0	0	0	0	0	1.968	89.7	57.6	
Bus33	20.000		0	0	0	0	0	0	0	0	1.776	90.1	52.3	
Bus36	20.000		0	0	0	0	0	0	0	0	1.435	90.2	42.6	
Bus37	20.000		0	0	0	0	0	0	0	0	1.344	90.7	40.0	
Bus54	20.000		0	0	0	0	0	0	0	0	1.127	90.2	33.8	
Bus57	20.000		0	0	0	0	0	0	0	0	1.049	89.9	31.5	
Bus60	20.000		0	0	0	0	0	0	0	0	0.562	89.6	16.9	

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		MVA	% PF	Amp	Percent Loading
			MW	Mvar	MW	Mvar	MW	Mvar	MW	Mvar				
ID	kV	Rated Amp												
Bus63	20.000		0	0	0	0	0	0	0	0	0.440	89.9	13.2	
Bus90	20.000		0	0	0	0	0	0	0	0	0.407	90.0	12.3	
Bus91	20.000		0	0	0	0	0	0	0	0	0.342	91.0	10.3	
Bus96	20.000		0	0	0	0	0	0	0	0	0.107	94.7	3.2	
Bus97	20.000		0	0	0	0	0	0	0	0	0.113	94.7	3.4	
Bus112	20.000		0	0	0	0	0	0	0	0	0.065	94.7	2.0	
BYHPB	20.000		0	0	0	0	0	0	0	0	0.089	84.1	2.7	
BYHPB1	0.400		0.060	0.037	0.013	0.008	0	0	0	0	0.085	85.0	133.3	

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

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

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Branch Loading Summary Report

CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
T-ADS	Transformer				0.100	0.042	42.1	0.042	41.9
T-ADSB	Transformer				0.100	0.006	6.1	0.006	6.1
T-BGG	Transformer				0.100	0.091	90.9	0.090	90.0
T-BPSP	Transformer				0.100	0.023	22.6	0.022	22.5
T-CKS	Transformer				0.250	0.142	56.8	0.139	55.6
T-CPHB	Transformer				0.100	0.037	37.4	0.037	37.0
T-CPL	Transformer				0.100	0.083	83.2	0.082	82.2
T-CPN	Transformer				0.100	0.093	92.7	0.092	91.8
T-CPN2	Transformer				0.100	0.076	75.6	0.075	75.0
T-DLH	Transformer				0.100	0.076	76.2	0.075	75.0
T-DLR	Transformer				0.100	0.094	94.0	0.093	93.0
T-GSBR	Transformer				100.000	0.013	0.0	0.013	0.0
T-JCPN	Transformer				0.100	0.040	40.4	0.040	40.0
T-JGR	Transformer				0.100	0.087	86.7	0.086	85.8
T-KDL	Transformer				0.100	0.041	40.8	0.040	40.2
T-LPN	Transformer				0.100	0.053	52.6	0.052	51.8
T-LPS	Transformer				0.250	0.165	66.1	0.161	64.4
T-PCT	Transformer				160.000	0.015	0.0	0.015	0.0
T-PCTB	Transformer				250.000	0.089	0.0	0.086	0.0
T-PJR	Transformer				0.100	0.065	65.5	0.064	63.8
T-PRL	Transformer				0.100	0.076	76.3	0.075	75.1
T-PSLG	Transformer				0.100	0.037	37.5	0.037	37.0
T-RAK	Transformer				0.100	0.065	64.8	0.064	64.2
T-SBGG	Transformer				0.100	0.026	26.0	0.026	25.8
T-SDH	Transformer				0.200	0.132	66.0	0.129	64.3
T-SEFM	Transformer				0.100	0.076	75.8	0.075	75.0
T-SLEH	Transformer				0.100	0.092	91.7	0.088	88.4
T-SPM	Transformer				0.100	0.066	65.8	0.065	65.2
T-SPM2	Transformer				0.100	0.035	35.1	0.035	34.9
T-SRAP	Transformer				0.200	0.048	24.0	0.048	23.8
T-ST	Transformer				0.100	0.046	45.8	0.046	45.6
T-TMBS	Transformer				200.000	0.103	0.1	0.101	0.1
T-YHPB	Transformer				100.000	0.089	0.1	0.085	0.1

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CKT / Branch		Cable & Reactor			Transformer				
ID	Type	Ampacity (Amp)	Loading Amp	%	Capability (MVA)	Loading (input)		Loading (output)	
						MVA	%	MVA	%
T1	Transformer				60.000	2.275	3.8	2.270	3.8

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

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Branch Losses Summary Report

CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
BADSB-BADS2	-0.040	-0.013	0.040	0.013	0.0	0.0	95.6	95.6	0.00
T-ADS	0.040	0.013	-0.040	-0.013	0.1	0.3	95.6	95.2	0.46
BJGR-BADSB2	-0.006	-0.002	0.006	0.002	0.0	0.0	95.6	95.6	0.00
T-ADSB	0.006	0.002	-0.006	-0.002	0.0	0.0	95.6	95.5	0.10
BBGG-BLDH	1.018	0.488	-1.017	-0.485	1.7	2.6	96.5	96.2	0.23
BSBG-BBGG	-1.104	-0.517	1.106	0.519	1.1	1.7	96.5	96.6	0.14
T-BGG	0.086	0.029	-0.086	-0.028	0.5	1.3	96.5	95.5	0.98
BPBSP-BCKS	-0.120	-0.076	0.120	0.076	0.0	0.1	98.5	98.6	0.04
T-CKS	0.120	0.076	-0.118	-0.073	1.8	2.8	98.5	96.4	2.10
BCPL-BCPHB	-0.035	-0.012	0.035	0.012	0.0	0.0	96.0	96.0	0.01
T-CPHB	0.035	0.012	-0.035	-0.012	0.2	0.6	96.0	95.0	1.01
BDLR-BCPL	-0.114	-0.039	0.114	0.039	0.0	0.0	96.0	96.0	0.01
T-CPL	0.079	0.027	-0.078	-0.026	0.6	1.4	96.0	94.9	1.13
BCPN-BSEFM1	1.297	0.624	-1.295	-0.620	2.7	4.1	97.7	97.4	0.29
BCPN5-BCPN	-1.385	-0.654	1.385	0.654	0.3	0.4	97.7	97.7	0.03
T-CPN	0.088	0.030	-0.087	-0.029	0.5	1.3	97.7	96.7	0.99
T-CPN2	-0.071	-0.023	0.072	0.024	0.4	0.9	96.9	97.7	0.80
BJCPN-BCPN2	-1.457	-0.679	1.460	0.683	2.9	4.4	97.7	98.0	0.27
Cable28	-0.072	-0.025	0.072	0.025	0.0	0.0	96.2	96.2	0.01
T-DLH	0.072	0.025	-0.071	-0.023	0.9	1.3	96.2	94.7	1.57
BDLH-BDLR3	-0.203	-0.070	0.203	0.070	0.0	0.0	96.0	96.0	0.00
T-DLR	0.089	0.030	-0.088	-0.029	0.6	1.4	96.0	95.0	1.02
BGI-BPSLG	2.045	0.986	-2.040	-0.979	4.6	7.0	99.8	99.5	0.32
T1	-2.045	-0.986	2.045	0.997	0.2	10.8	99.8	100.0	0.22
BSDH-BGSBR	-0.011	-0.007	0.011	0.007	0.0	0.0	95.7	95.7	0.00
T-GSBR	0.011	0.007	-0.011	-0.007	0.0	0.1	95.7	95.2	0.48
BJCPN-BCPN1	1.604	0.778	-1.599	-0.772	4.1	6.2	98.3	98.0	0.35
BPBSP-BJCPN2	-1.642	-0.791	1.645	0.796	3.0	4.7	98.3	98.6	0.26
T-JCPN	0.038	0.013	-0.038	-0.012	0.3	0.6	98.3	97.2	1.07
BJGR-BADSB1	0.107	0.036	-0.107	-0.036	0.0	0.0	95.6	95.6	0.01
BSDH-BJGR	-0.189	-0.064	0.189	0.064	0.1	0.1	95.6	95.7	0.04
T-JGR	0.082	0.028	-0.082	-0.027	0.5	1.2	95.6	94.7	0.94
Cable6	-0.039	-0.013	0.039	0.013	0.0	0.0	99.2	99.2	0.01
T-KDL	0.039	0.013	-0.038	-0.013	0.4	0.6	99.2	97.9	1.30
BLPN-BPJR1	0.367	0.178	-0.367	-0.177	0.2	0.2	95.8	95.8	0.06

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CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
BST-BLPN	-0.417	-0.195	0.417	0.195	0.2	0.4	95.8	95.9	0.08
T-LPN	0.050	0.017	-0.049	-0.016	0.5	1.1	95.8	94.4	1.43
BJCPN-BLPS	-0.139	-0.089	0.139	0.089	0.0	0.0	97.9	98.0	0.03
T-LPS	0.139	0.089	-0.137	-0.085	2.5	3.8	97.9	95.5	2.46
BPBSP-BJCPN1	1.768	0.877	-1.765	-0.872	3.5	5.4	98.8	98.6	0.28
BSPM5-BPBSP	-1.790	-0.884	1.790	0.885	0.7	1.0	98.8	98.9	0.05
T-BPSP	0.021	0.007	-0.021	-0.007	0.1	0.2	98.8	98.1	0.72
BPCT-BSEFM	-0.013	-0.008	0.013	0.008	0.0	0.0	97.1	97.1	0.00
T-PCT	0.013	0.008	-0.013	-0.008	0.0	0.0	97.1	96.7	0.35
BCPN-BPCTB	-0.073	-0.050	0.073	0.050	0.0	0.0	97.4	97.4	0.02
T-PCTB	0.073	0.050	-0.073	-0.045	0.1	4.1	97.4	94.8	2.56
BLPN-BPJR2	-0.055	-0.035	0.055	0.035	0.0	0.0	95.7	95.8	0.01
T-PJR	0.055	0.035	-0.054	-0.034	1.0	1.6	95.7	93.2	2.50
BPRL-BKDL	1.930	0.939	-1.928	-0.936	1.7	2.5	99.3	99.2	0.12
BPSLG-BPRL	-2.002	-0.963	2.005	0.967	2.7	4.1	99.3	99.5	0.19
T-PRL	0.072	0.025	-0.071	-0.023	0.8	1.2	99.3	97.8	1.52
T-PSLG	0.035	0.012	-0.035	-0.012	0.3	0.5	99.5	98.3	1.19
BADS-BRAK2	-0.061	-0.021	0.061	0.021	0.0	0.0	95.6	95.6	0.01
T-RAK	0.061	0.021	-0.061	-0.020	0.3	0.9	95.6	94.7	0.88
BSEFM-BSBG	-1.130	-0.527	1.132	0.530	1.5	2.3	96.6	96.8	0.18
T-SBG	0.025	0.008	-0.025	-0.008	0.1	0.3	96.6	95.9	0.70
BPJR-BSDH2	-0.122	-0.078	0.122	0.078	0.0	0.0	95.7	95.7	0.03
T-SDH	0.111	0.071	-0.109	-0.068	2.1	3.2	95.7	93.1	2.52
BCPN-BSEFM3	-1.203	-0.554	1.206	0.558	2.7	4.1	96.8	97.1	0.30
T-SEFM	0.072	0.025	-0.071	-0.023	0.5	1.1	96.8	95.8	1.02
BDLH-BSLEH	-0.192	-0.123	0.192	0.123	0.0	0.0	96.0	96.0	0.02
BSLEH-BSRAP	0.115	0.073	-0.115	-0.073	0.0	0.0	96.0	95.9	0.02
T-SLEH	0.077	0.050	-0.075	-0.047	2.0	3.0	96.0	92.5	3.49
BKDL-BSPM	-1.886	-0.918	1.890	0.923	3.2	4.9	98.9	99.2	0.24
BSPM-BSPM5	1.824	0.897	-1.824	-0.896	0.3	0.5	98.9	98.9	0.03
T-SPM	0.062	0.021	-0.062	-0.020	0.4	0.6	98.9	98.1	0.84
T-SPM2	-0.033	-0.011	0.033	0.011	0.1	0.2	98.5	98.9	0.45
BSRAP-BYHPB	0.075	0.048	-0.075	-0.048	0.0	0.0	95.9	95.9	0.01
T-SRAP	0.041	0.025	-0.040	-0.025	0.3	0.4	95.9	95.0	0.91
BDLH-BST	-0.547	-0.265	0.548	0.266	0.4	0.5	96.0	96.0	0.09
BST-BTMBS1	0.504	0.251	-0.504	-0.250	0.2	0.4	96.0	95.9	0.07
T-ST	0.043	0.015	-0.043	-0.014	0.1	0.3	96.0	95.5	0.50

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CKT / Branch ID	From-To Bus Flow		To-From Bus Flow		Losses		% Bus Voltage		Vd % Drop in Vmag
	MW	Mvar	MW	Mvar	kW	kvar	From	To	
BST-BTMBS2	-0.087	-0.055	0.087	0.055	0.0	0.0	95.9	95.9	0.02
T-TMBS	0.087	0.055	-0.085	-0.053	1.3	1.9	95.9	93.9	1.95
BCPN-BSEFM2	1.221	0.570	-1.219	-0.566	2.7	4.2	97.4	97.1	0.30
BDLH-BDLR1	0.945	0.461	-0.943	-0.459	1.3	1.9	96.2	96.0	0.18
BDLH-BDLR2	0.396	0.193	-0.395	-0.193	0.1	0.2	96.0	96.0	0.05
BPJR-BSDH1	0.311	0.142	-0.311	-0.142	0.2	0.2	95.8	95.7	0.07
BADS-BRAK1	0.061	0.021	-0.061	-0.021	0.0	0.0	95.6	95.6	0.01
BADSB-BADS1	-0.101	-0.034	0.101	0.034	0.0	0.0	95.6	95.6	0.01
T-YHPB	0.075	0.048	-0.073	-0.045	1.9	2.8	95.9	92.6	3.37
					63.7	116.2			

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Alert Summary Report

<u>Loading</u>	<u>% Alert Settings</u>	
	<u>Critical</u>	<u>Marginal</u>
Bus	100.0	95.0
Cable	100.0	95.0
Reactor	100.0	95.0
Line	100.0	95.0
Transformer	100.0	95.0
Panel	100.0	95.0
Protective Device	100.0	95.0
Generator	100.0	95.0
Inverter/Charger	100.0	95.0
<u>Bus Voltage</u>		
OverVoltage	105.0	102.0
UnderVoltage	90.0	98.0
<u>Generator Excitation</u>		
OverExcited (Q Max.)	100.0	95.0
UnderExcited (Q Min.)	100.0	

Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
BADS	Bus	Under Voltage	20.00	kV	19.12	95.6	3-Phase
BADS1	Bus	Under Voltage	0.40	kV	0.38	95.2	3-Phase
BADSB	Bus	Under Voltage	20.00	kV	19.13	95.6	3-Phase
BADSB1	Bus	Under Voltage	0.40	kV	0.38	95.5	3-Phase
BBGG	Bus	Under Voltage	20.00	kV	19.29	96.5	3-Phase
BBGG1	Bus	Under Voltage	0.40	kV	0.38	95.5	3-Phase
BCKS1	Bus	Under Voltage	0.40	kV	0.39	96.4	3-Phase
BCPHB	Bus	Under Voltage	20.00	kV	19.19	96.0	3-Phase
BCPHB1	Bus	Under Voltage	0.40	kV	0.38	95.0	3-Phase
BCPL	Bus	Under Voltage	20.00	kV	19.20	96.0	3-Phase
BCPL1	Bus	Under Voltage	0.40	kV	0.38	94.9	3-Phase
BCPN	Bus	Under Voltage	20.00	kV	19.53	97.7	3-Phase
BCPN1	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
BCPN4	Bus	Under Voltage	0.40	kV	0.39	96.9	3-Phase
BCPN5	Bus	Under Voltage	20.00	kV	19.54	97.7	3-Phase

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Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
BDLH	Bus	Under Voltage	20.00	kV	19.24	96.2	3-Phase
BDLH1	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
BDLR	Bus	Under Voltage	20.00	kV	19.20	96.0	3-Phase
BDLR1	Bus	Under Voltage	0.40	kV	0.38	95.0	3-Phase
BGSBR	Bus	Under Voltage	20.00	kV	19.13	95.7	3-Phase
BGSBR1	Bus	Under Voltage	0.40	kV	0.38	95.2	3-Phase
BJCPN1	Bus	Under Voltage	0.40	kV	0.39	97.2	3-Phase
BJGR	Bus	Under Voltage	20.00	kV	19.13	95.6	3-Phase
BJGR1	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
BKDL1	Bus	Under Voltage	0.40	kV	0.39	97.9	3-Phase
BLPN	Bus	Under Voltage	20.00	kV	19.16	95.8	3-Phase
BLPN1	Bus	Under Voltage	0.40	kV	0.38	94.4	3-Phase
BLPS	Bus	Under Voltage	20.00	kV	19.59	97.9	3-Phase
BLPS1	Bus	Under Voltage	0.40	kV	0.38	95.5	3-Phase
BPCT	Bus	Under Voltage	20.00	kV	19.41	97.1	3-Phase
BPCT1	Bus	Under Voltage	0.40	kV	0.39	96.7	3-Phase
BPCTB	Bus	Under Voltage	20.00	kV	19.47	97.4	3-Phase
BPCTB1	Bus	Under Voltage	0.40	kV	0.38	94.8	3-Phase
BPJR	Bus	Under Voltage	20.00	kV	19.15	95.7	3-Phase
BPJR1	Bus	Under Voltage	0.40	kV	0.37	93.2	3-Phase
BPRL1	Bus	Under Voltage	0.40	kV	0.39	97.8	3-Phase
BRAK	Bus	Under Voltage	20.00	kV	19.12	95.6	3-Phase
BRAK1	Bus	Under Voltage	0.40	kV	0.38	94.7	3-Phase
BSBGG	Bus	Under Voltage	20.00	kV	19.32	96.6	3-Phase
BSBGG1	Bus	Under Voltage	0.40	kV	0.38	95.9	3-Phase
BSDH	Bus	Under Voltage	20.00	kV	19.13	95.7	3-Phase
BSDH1	Bus	Under Voltage	0.40	kV	0.37	93.1	3-Phase
BSEFM	Bus	Under Voltage	20.00	kV	19.35	96.8	3-Phase
BSEFM1	Bus	Under Voltage	0.40	kV	0.38	95.8	3-Phase
BSLEH	Bus	Under Voltage	20.00	kV	19.19	96.0	3-Phase
BSLEH1	Bus	Under Voltage	0.40	kV	0.37	92.5	3-Phase
BSRAP	Bus	Under Voltage	20.00	kV	19.19	95.9	3-Phase
BSRAP1	Bus	Under Voltage	0.40	kV	0.38	95.0	3-Phase
BST	Bus	Under Voltage	20.00	kV	19.19	96.0	3-Phase
BST1	Bus	Under Voltage	0.40	kV	0.38	95.5	3-Phase
BTMBS	Bus	Under Voltage	20.00	kV	19.17	95.9	3-Phase

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Marginal Report

Device ID	Type	Condition	Rating/Limit	Unit	Operating	% Operating	Phase Type
BTMBS1	Bus	Under Voltage	0.40	kV	0.38	93.9	3-Phase
Bus112	Bus	Under Voltage	20.00	kV	19.12	95.6	3-Phase
Bus33	Bus	Under Voltage	20.00	kV	19.59	98.0	3-Phase
Bus36	Bus	Under Voltage	20.00	kV	19.48	97.4	3-Phase
Bus37	Bus	Under Voltage	20.00	kV	19.41	97.1	3-Phase
Bus54	Bus	Under Voltage	20.00	kV	19.25	96.2	3-Phase
Bus57	Bus	Under Voltage	20.00	kV	19.21	96.0	3-Phase
Bus60	Bus	Under Voltage	20.00	kV	19.18	95.9	3-Phase
Bus63	Bus	Under Voltage	20.00	kV	19.20	96.0	3-Phase
Bus90	Bus	Under Voltage	20.00	kV	19.15	95.8	3-Phase
Bus91	Bus	Under Voltage	20.00	kV	19.14	95.7	3-Phase
Bus96	Bus	Under Voltage	20.00	kV	19.12	95.6	3-Phase
Bus97	Bus	Under Voltage	20.00	kV	19.13	95.6	3-Phase
BYHPB	Bus	Under Voltage	20.00	kV	19.19	95.9	3-Phase
BYHPB1	Bus	Under Voltage	0.40	kV	0.37	92.6	3-Phase

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SUMMARY OF TOTAL GENERATION, LOADING & DEMAND

	MW	Mvar	MVA	% PF
Source (Swing Buses):	2.045	0.997	2.275	89.89 Lagging
Source (Non-Swing Buses):	0.000	0.000	0.000	
Total Demand:	2.045	0.997	2.275	89.89 Lagging
Total Motor Load:	1.566	0.700	1.715	91.30 Lagging
Total Static Load:	0.415	0.181	0.453	91.65 Lagging
Total Constant I Load:	0.000	0.000	0.000	
Total Generic Load:	0.000	0.000	0.000	
Apparent Losses:	0.064	0.116		
System Mismatch:	0.000	0.000		

Number of Iterations: 3