

Project:
Location:
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ETAP
12.6.0H

Study Case: LF

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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
Bus1	161.000	99.771	-0.2	0	0	0	0	Bus2	203.723	61.499	764.9	95.7	
								Bus2	203.723	61.499	764.9	95.7	
								Bus3	-147.375	-45.843	554.7	95.5	
								Bus3	-294.749	-91.579	1109.4	95.5	
								Bus5	34.678	14.424	135.0	92.3	
Bus2	161.000	99.689	-0.2	0	0	0	0	Bus1	-203.608	-61.274	764.9	95.8	
								Bus1	-203.608	-61.274	764.9	95.8	
								Bus18	186.027	61.137	704.4	95.0	
								Bus18	186.027	61.137	704.4	95.0	
								Bus4	35.161	0.274	126.5	100.0	
* Bus3	161.000	100.000	0.0	442.694	138.948	0	0	Bus1	147.565	46.280	554.6	95.4	
								Bus1	295.130	92.668	1109.3	95.4	
Bus4	33.000	99.071	-1.1	0	0	0	0	Bus8	17.401	3.375	313.0	98.2	
								Bus2	-34.943	0.264	617.1	100.0	
								Bus5	8.771	-1.819	158.2	-97.9	
								Bus6	8.771	-1.819	158.2	-97.9	
Bus5	33.000	99.071	-1.1	0	0	0	0	Bus8	17.401	3.375	313.0	98.2	
								Bus1	-34.662	-13.763	658.6	92.9	
								Bus4	-8.771	1.819	158.2	-97.9	
								Bus7	26.032	8.569	484.0	95.0	
Bus6	33.000	99.071	-1.1	0	0	0	0	Bus8	17.401	3.375	313.0	98.2	
								Bus4	-8.771	1.819	158.2	-97.9	
								Bus7	-8.630	-5.194	177.9	85.7	
Bus7	33.000	99.071	-1.1	0	0	0	0	Bus8	17.401	3.375	313.0	98.2	
								Bus5	-26.032	-8.569	484.0	95.0	
								Bus6	8.630	5.194	177.9	85.7	
Bus8	33.000	98.666	-1.5	0	0	0.000	-17.036	Bus4	-17.351	-3.259	313.0	98.3	
								Bus5	-17.351	-3.259	313.0	98.3	
								Bus7	-17.351	-3.259	313.0	98.3	
								Bus6	-17.351	-3.259	313.0	98.3	
								Bus44	11.676	4.920	224.7	92.2	
								Bus52	11.944	5.034	229.8	92.1	
								Bus53	11.944	5.034	229.8	92.1	
								Bus54	11.944	5.034	229.8	92.1	
								Bus55	10.948	5.024	213.6	90.9	
								Bus56	10.948	5.024	213.6	90.9	

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ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus16	33.000	97.728	-2.0	0	0	0	0	Bus22	48.091	15.583	905.0	95.1	
								Bus21	-24.046	-7.791	452.5	95.1	
								Bus19	-24.046	-7.791	452.5	95.1	
Bus17	161.000	98.087	-1.5	0	0	0	0	Bus18	-132.596	-37.705	504.0	96.2	
								Bus18	-132.596	-37.705	504.0	96.2	
								Bus32	92.055	24.435	348.2	96.7	
								Bus32	95.001	24.218	358.4	96.9	
								Bus20	78.135	26.756	301.9	94.6	
Bus18	161.000	98.140	-1.4	0	0	0	0	Bus17	132.646	37.802	504.0	96.2	
								Bus17	132.646	37.802	504.0	96.2	
								Bus2	-184.353	-57.109	705.2	95.5	
								Bus2	-184.353	-57.109	705.2	95.5	
								Bus19	103.414	38.614	403.4	93.7	
Bus19	33.000	97.728	-2.0	0	0	0	0	Bus22	44.469	15.879	845.3	94.2	
								Bus18	-103.384	-37.349	1967.9	94.1	
								Bus16	24.046	7.791	452.5	95.1	
								Bus20	34.870	13.679	670.6	93.1	
Bus20	33.000	97.728	-2.0	0	0	0	0	Bus22	44.469	15.879	845.3	94.2	
								Bus17	-78.114	-25.870	1473.1	94.9	
								Bus19	-34.870	-13.679	670.6	93.1	
								Bus21	68.515	23.670	1297.7	94.5	
Bus21	33.000	97.728	-2.0	0	0	0	0	Bus22	44.469	15.879	845.3	94.2	
								Bus16	24.046	7.791	452.5	95.1	
								Bus20	-68.515	-23.670	1297.7	94.5	
Bus22	33.000	96.403	-2.9	0	0	0.000	-16.264	Bus16	-47.668	-14.652	905.0	95.6	
								Bus19	-44.100	-14.999	845.4	94.7	
								Bus20	-44.100	-14.999	845.4	94.7	
								Bus21	-44.100	-14.999	845.4	94.7	
								Bus63	29.628	12.747	585.4	91.9	
								Bus64	29.628	12.747	585.4	91.9	
								Bus65	29.615	12.841	585.8	91.7	
								Bus66	29.628	12.747	585.4	91.9	
								Bus67	27.878	11.971	550.6	91.9	
								Bus68	33.589	12.860	652.7	93.4	
Bus30	33.000	96.304	-3.0	0	0	0	0	Bus36	40.139	13.377	768.6	94.9	
								Bus35	-20.069	-6.689	384.3	94.9	
								Bus33	-20.069	-6.689	384.3	94.9	
Bus31	161.000	97.039	-2.4	0	0	0	0	Bus32	-41.032	-12.811	158.9	95.5	
								Bus32	-41.032	-12.811	158.9	95.5	

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ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus32	161.000	97.056	-2.4	0	0	0	0	Bus39	13.412	-4.378	52.1	-95.1	
								Bus39	13.412	-4.378	52.1	-95.1	
								Bus34	55.240	34.377	240.4	84.9	
								Bus31	41.037	12.821	158.9	95.5	
								Bus31	41.037	12.821	158.9	95.5	
								Bus17	-91.470	-23.735	349.2	96.8	
								Bus17	-94.381	-23.474	359.3	97.0	
Bus33	33.000	96.304	-3.0	0	0	0	0	Bus33	103.778	21.567	391.6	97.9	
								Bus36	38.015	13.533	733.1	94.2	
								Bus32	-103.218	-20.185	1910.7	98.1	
								Bus30	20.069	6.689	384.3	94.9	
								Bus34	45.133	-0.036	819.9	100.0	
Bus34	33.000	96.304	-3.0	0	0	0	0	Bus36	40.139	13.377	768.6	94.9	
								Bus31	-55.214	-33.479	1173.1	85.5	
								Bus33	-45.133	0.036	819.9	100.0	
Bus35	33.000	96.304	-3.0	0	0	0	0	Bus35	60.208	20.066	1152.9	94.9	
								Bus36	40.139	13.377	768.6	94.9	
								Bus30	20.069	6.689	384.3	94.9	
								Bus34	-60.208	-20.066	1152.9	94.9	
Bus36	33.000	95.155	-3.8	0	0	0.000	-15.845	Bus30	-39.834	-12.690	768.7	95.3	
								Bus33	-37.738	-12.872	733.1	94.6	
								Bus34	-39.834	-12.690	768.7	95.3	
								Bus35	-39.834	-12.690	768.7	95.3	
								Bus69	25.550	11.115	512.3	91.7	
								Bus70	25.550	11.115	512.3	91.7	
								Bus71	26.535	11.139	529.1	92.2	
								Bus72	26.535	11.139	529.1	92.2	
								Bus73	26.535	11.139	529.1	92.2	
								Bus74	26.535	11.139	529.1	92.2	
Bus37	33.000	97.205	-3.3	0	0	0	0	Bus43	6.686	-1.868	125.0	-96.3	
								Bus42	-3.343	0.934	62.5	-96.3	
								Bus40	-3.343	0.934	62.5	-96.3	
Bus38	161.000	97.029	-2.5	0	0	0	0	Bus39	-3.740	2.057	15.8	-87.6	
								Bus39	-3.740	2.057	15.8	-87.6	
								Bus41	7.480	-4.115	31.6	-87.6	
Bus39	161.000	97.029	-2.5	0	0	0	0	Bus38	3.740	-2.057	15.8	-87.6	
								Bus38	3.740	-2.057	15.8	-87.6	
								Bus31	-13.401	3.537	51.2	-96.7	
								Bus31	-13.401	3.537	51.2	-96.7	

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ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus40	33.000	97.205	-3.3	0	0	0	0	Bus40	19.322	-2.959	72.2	-98.8	
								Bus43	6.686	-1.868	125.0	-96.3	
								Bus39	-19.312	3.243	352.5	-98.6	
								Bus37	3.343	-0.934	62.5	-96.3	
								Bus41	9.282	-0.441	167.3	-99.9	
Bus41	33.000	97.205	-3.3	0	0	0	0	Bus43	6.686	-1.868	125.0	-96.3	
								Bus38	-7.433	4.230	153.9	-86.9	
								Bus40	-9.282	0.441	167.3	-99.9	
								Bus42	10.029	-2.802	187.4	-96.3	
Bus42	33.000	97.205	-3.3	0	0	0	0	Bus43	6.686	-1.868	125.0	-96.3	
								Bus37	3.343	-0.934	62.5	-96.3	
								Bus41	-10.029	2.802	187.4	-96.3	
Bus43	33.000	97.170	-3.5	0	0	0.000	-16.523	Bus37	-6.678	1.882	124.9	-96.3	
								Bus40	-6.678	1.882	124.9	-96.3	
								Bus41	-6.678	1.882	124.9	-96.3	
								Bus42	-6.678	1.882	124.9	-96.3	
								Bus81	8.904	2.998	169.2	94.8	
								Bus82	8.904	2.998	169.2	94.8	
								Bus83	8.904	2.998	169.2	94.8	
Bus44	33.000	98.274	-1.7	0	0	11.651	4.855	Bus8	-11.651	-4.855	224.7	92.3	
Bus52	33.000	98.265	-1.7	0	0	11.917	4.966	Bus8	-11.917	-4.966	229.9	92.3	
Bus53	33.000	98.265	-1.7	0	0	11.917	4.966	Bus8	-11.917	-4.966	229.9	92.3	
Bus54	33.000	98.265	-1.7	0	0	11.917	4.966	Bus8	-11.917	-4.966	229.9	92.3	
Bus55	33.000	98.280	-1.7	0	0	10.925	4.966	Bus8	-10.925	-4.966	213.6	91.0	
Bus56	33.000	98.280	-1.7	0	0	10.925	4.966	Bus8	-10.925	-4.966	213.6	91.0	
Bus63	33.000	95.378	-3.6	0	0	29.458	12.274	Bus22	-29.458	-12.274	585.4	92.3	
Bus64	33.000	95.378	-3.6	0	0	29.458	12.274	Bus22	-29.458	-12.274	585.4	92.3	
Bus65	33.000	95.260	-3.7	0	0	29.445	12.269	Bus22	-29.445	-12.269	585.8	92.3	
Bus66	33.000	95.378	-3.6	0	0	29.458	12.274	Bus22	-29.458	-12.274	585.4	92.3	
Bus67	33.000	95.439	-3.5	0	0	27.727	11.553	Bus22	-27.727	-11.553	550.6	92.3	
Bus68	33.000	95.312	-3.7	0	0	33.377	12.271	Bus22	-33.377	-12.271	652.8	93.9	
Bus69	33.000	94.253	-4.4	0	0	25.419	10.754	Bus36	-25.419	-10.754	512.3	92.1	
Bus70	33.000	94.253	-4.4	0	0	25.419	10.754	Bus36	-25.419	-10.754	512.3	92.1	
Bus71	33.000	94.237	-4.4	0	0	26.395	10.754	Bus36	-26.396	-10.754	529.2	92.6	
Bus72	33.000	94.237	-4.4	0	0	26.395	10.754	Bus36	-26.396	-10.754	529.2	92.6	
Bus73	33.000	94.237	-4.4	0	0	26.395	10.754	Bus36	-26.396	-10.754	529.2	92.6	
Bus74	33.000	94.237	-4.4	0	0	26.395	10.754	Bus36	-26.396	-10.754	529.2	92.6	
Bus81	33.000	96.899	-3.7	0	0	8.890	2.963	Bus43	-8.890	-2.963	169.2	94.9	
Bus82	33.000	96.899	-3.7	0	0	8.890	2.963	Bus43	-8.890	-2.963	169.2	94.9	

Bus		Voltage		Generation		Load		Load Flow				XFMR	
ID	kV	% Mag.	Ang.	MW	Mvar	MW	Mvar	ID	MW	Mvar	Amp	%PF	%Tap
Bus83	33.000	96.899	-3.7	0	0	8.890	2.963	Bus43	-8.890	-2.963	169.2	94.9	

* 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