

Project:
Location:
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Filename: unbalance~

ETAP
12.6.0H

Study Case: LF

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Config.: Normal

Bus Loading Summary Report

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
Bus1	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2472.7	98.6	43.3	
Bus2	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2472.6	98.6	43.3	
Bus3	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	927.2	97.2	16.2	
Bus4	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	931.0	96.8	16.3	
Bus5	0.400		18.0	11.2	4.5	-27.3	0.0	0.0	0.0	0.0	37.6	59.9	54.2	
Bus6	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	909.1	96.6	15.9	
Bus7	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	908.9	96.6	15.9	
Bus8	0.400		44.7	21.7	11.1	-4.5	0.0	0.0	0.0	0.0	62.1	89.9	89.9	
Bus9	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	850.4	96.7	14.9	
Bus10	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	166.8	99.9	2.9	
Bus11	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	94.5	0.3	
Bus12	0.400		12.8	4.4	3.2	1.1	0.0	0.0	0.0	0.0	16.9	94.5	24.4	
Bus13	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	151.1	99.7	2.6	
Bus14	0.400		24.6	8.9	6.1	2.2	0.0	0.0	0.0	0.0	32.6	94.0	47.3	
Bus15	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	123.1	97.4	2.2	
Bus17	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	63.9	0.6	
Bus18	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.1	63.9	0.6	
Bus19	0.400		18.4	9.8	4.6	-37.8	0.0	0.0	0.0	0.0	46.3	49.6	66.7	
Bus20	0.400		77.4	34.1	19.2	-16.3	0.0	0.0	0.0	0.0	105.6	91.5	153.1	
Bus21	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1549.0	99.2	27.1	
Bus22	0.400		57.9	17.9	14.2	4.4	0.0	0.0	0.0	0.0	75.5	95.6	110.0	
Bus24	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1473.9	99.4	25.8	
Bus25	0.400		65.2	29.9	16.2	-17.4	0.0	0.0	0.0	0.0	89.7	90.9	129.7	
Bus26	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	94.5	0.3	
Bus27	0.400		12.8	4.4	3.2	1.1	0.0	0.0	0.0	0.0	16.9	94.5	24.4	
Bus28	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1374.7	99.4	24.1	
Bus30	0.400		44.9	12.3	11.1	3.1	0.0	0.0	0.0	0.0	58.1	96.4	84.1	
Bus31	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1317.2	99.5	23.1	
Bus32	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	144.2	96.7	2.5	
Bus34	0.400		93.5	28.1	23.0	6.9	0.0	0.0	0.0	0.0	121.6	95.8	176.9	
Bus35	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.5	65.5	0.6	
Bus37	0.400		18.0	11.1	4.5	-37.4	0.0	0.0	0.0	0.0	46.1	48.9	66.3	
Bus38	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1177.4	99.5	20.6	
Bus41	0.400		65.2	29.9	16.2	-17.4	0.0	0.0	0.0	0.0	89.6	90.9	129.7	
Bus42	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	154.3	97.7	2.7	
Bus43	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.0	96.1	1.3	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
Bus44	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.0	96.1	1.3	
Bus46	0.400		43.8	10.8	10.7	2.6	0.0	0.0	0.0	0.0	56.2	97.1	82.0	
Bus47	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3	92.9	0.3	
Bus51	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3	92.9	0.3	
Bus52	0.400		11.4	4.5	2.8	1.1	0.0	0.0	0.0	0.0	15.3	93.0	22.1	
Bus53	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1024.0	99.6	17.9	
Bus54	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1024.0	99.6	17.9	
Bus56	0.400		12.8	4.4	3.2	1.1	0.0	0.0	0.0	0.0	16.9	94.6	24.4	
Bus57	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1007.6	99.7	17.6	
Bus59	0.400		65.2	29.9	16.2	-17.4	0.0	0.0	0.0	0.0	89.6	90.9	129.7	
Bus60	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.5	89.7	1.4	
Bus62	0.400		57.6	27.8	14.1	6.8	0.0	0.0	0.0	0.0	79.6	90.1	116.2	
Bus63	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	851.1	99.9	14.9	
Bus64	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	853.4	99.6	14.9	
Bus66	0.400		91.3	39.7	22.4	9.8	0.0	0.0	0.0	0.0	124.0	91.7	180.6	
Bus68	0.400		55.4	16.3	13.7	4.0	0.0	0.0	0.0	0.0	72.1	95.9	104.6	
Bus69	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.4	95.7	1.3	
Bus70	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	671.3	99.3	11.8	
Bus72	0.400		93.5	28.1	23.0	6.9	0.0	0.0	0.0	0.0	121.6	95.8	176.9	
Bus73	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	117.0	98.7	2.0	
Bus75	0.400		37.5	14.9	9.3	3.7	0.0	0.0	0.0	0.0	50.4	93.0	73.0	
Bus76	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	74.0	92.7	1.3	
Bus78	0.400		12.8	9.8	3.2	-37.8	0.0	0.0	0.0	0.0	43.3	36.9	62.3	
Bus79	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.1	97.0	0.9	
Bus81	0.400		42.0	10.1	10.4	2.5	0.0	0.0	0.0	0.0	53.8	97.2	78.2	
Bus82	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	54.1	97.0	0.9	
Bus83	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	444.0	97.8	7.8	
Bus85	0.400		43.8	10.9	10.8	2.7	0.0	0.0	0.0	0.0	56.3	97.0	81.8	
Bus86	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56.6	96.8	1.0	
Bus87	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	394.8	96.2	6.9	
Bus89	0.400		37.1	13.0	9.1	3.2	0.0	0.0	0.0	0.0	49.0	94.4	71.1	
Bus90	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	375.9	92.7	6.6	
Bus92	0.400		68.5	25.6	16.9	6.3	0.0	0.0	0.0	0.0	91.2	93.7	132.5	
Bus93	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	285.3	92.1	5.0	
Bus95	0.400		18.0	11.1	4.5	2.8	0.0	0.0	0.0	0.0	26.4	85.0	38.3	
Bus96	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	293.1	82.0	5.1	
Bus98	0.400		44.9	12.3	11.1	3.1	0.0	0.0	0.0	0.0	58.1	96.4	84.2	
Bus99	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	181.6	38.3	3.2	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
Bus101	0.400		55.1	59.5	14.0	-229.6	0.0	0.0	0.0	0.0	254.4	27.2	363.5	
Bus102	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	181.6	38.3	3.2	
Bus103	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	121.8	94.2	2.1	
Bus105	0.400		37.5	14.9	9.3	3.7	0.0	0.0	0.0	0.0	50.3	93.0	73.2	
Bus106	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	71.2	95.1	1.2	
Bus108	0.400		54.2	16.9	13.3	4.2	0.0	0.0	0.0	0.0	70.7	95.4	102.9	
Bus113	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	46.5	32.7	0.8	
Bus114	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	96.6	74.3	1.7	
Bus116	0.400		25.8	10.2	6.4	2.5	0.0	0.0	0.0	0.0	34.6	92.9	50.2	
Bus119	0.400		19.4	6.1	4.8	1.5	0.0	0.0	0.0	0.0	25.4	95.4	36.8	
Bus120	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.5	95.3	0.4	
Bus121	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	182.1	85.9	3.2	
Bus124	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	89.4	94.7	1.6	
Bus125	0.400		67.7	22.3	16.7	5.5	0.0	0.0	0.0	0.0	88.8	95.0	129.1	
Bus126	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	256.9	89.1	4.5	
Bus127	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	291.9	90.6	5.1	
Bus129	0.400		28.3	5.7	7.0	1.4	0.0	0.0	0.0	0.0	36.0	98.0	52.2	
Bus132	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	332.0	91.1	5.8	
Bus133	0.400		30.6	10.1	7.6	2.5	0.0	0.0	0.0	0.0	40.2	95.0	58.3	
Bus134	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Bus135	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	332.1	91.1	5.8	
Bus138	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	412.5	90.6	7.2	
Bus139	0.400		56.7	29.6	13.9	7.2	0.0	0.0	0.0	0.0	79.6	88.7	116.3	
Bus142	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.2	95.3	1.3	
Bus143	0.400		57.9	17.9	14.2	4.4	0.0	0.0	0.0	0.0	75.5	95.6	110.0	
Bus145	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	688.0	95.3	12.0	
Bus146	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	690.8	94.9	12.1	
Bus148	0.400		45.4	24.0	11.3	-33.8	0.0	0.0	0.0	0.0	69.2	81.9	100.2	
Bus150	0.400		12.8	4.4	3.2	1.1	0.0	0.0	0.0	0.0	16.9	94.5	24.4	
Bus151	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.9	94.5	0.3	
Bus152	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	143.6	94.5	2.5	
Bus154	0.400		5.2	1.7	1.3	0.4	0.0	0.0	0.0	0.0	6.9	94.9	9.9	
Bus155	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	136.8	94.5	2.4	
Bus157	0.400		12.8	4.4	3.2	1.1	0.0	0.0	0.0	0.0	16.9	94.5	24.4	
Bus158	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	119.8	94.5	2.1	
Bus159	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	119.8	94.5	2.1	
Bus160	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	119.8	94.5	2.1	
Bus162	0.400		54.5	17.0	13.4	4.2	0.0	0.0	0.0	0.0	71.2	95.5	103.6	

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Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
Bus163	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.1	93.4	0.8	
Bus165	0.400		24.6	8.9	6.1	2.2	0.0	0.0	0.0	0.0	32.6	94.0	47.3	
Bus166	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	92.4	0.3	
Bus167	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	92.4	0.3	
Bus168	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	92.4	0.3	
Bus170	0.400		11.4	4.7	2.8	1.2	0.0	0.0	0.0	0.0	15.3	92.5	22.2	
Bus171	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	92.4	0.3	
Bus172	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	476.5	93.8	8.3	
Bus173	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	476.4	93.8	8.3	
Bus175	0.400		43.0	14.1	10.5	3.4	0.0	0.0	0.0	0.0	56.2	95.0	82.2	
Bus176	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	419.5	93.7	7.3	
Bus178	0.400		32.2	10.8	7.9	2.6	0.0	0.0	0.0	0.0	42.3	94.8	61.7	
Bus179	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.7	94.6	0.7	
Bus180	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	376.8	93.6	6.6	
Bus181	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	80.2	93.3	1.4	
Bus183	0.400		38.0	14.7	9.4	3.6	0.0	0.0	0.0	0.0	50.8	93.3	73.9	
Bus184	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.1	93.8	0.5	
Bus185	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.1	93.8	0.5	
Bus188	0.400		12.8	4.4	3.2	1.1	0.0	0.0	0.0	0.0	16.9	94.5	24.4	
Bus189	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	92.9	0.2	
Bus191	0.400		9.1	3.6	2.3	0.9	0.0	0.0	0.0	0.0	12.2	92.9	17.6	
Bus192	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	92.9	0.2	
Bus193	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Bus194	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	237.2	93.3	4.2	
Bus195	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	237.2	93.3	4.2	
Bus196	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	237.2	93.3	4.2	
Bus197	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	237.2	93.3	4.2	
Bus198	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	125.1	91.2	2.2	
Bus200	0.400		91.3	39.7	22.4	9.7	0.0	0.0	0.0	0.0	124.0	91.7	180.7	
Bus201	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.4	92.5	0.3	
Bus203	0.400		11.4	4.7	2.8	1.2	0.0	0.0	0.0	0.0	15.4	92.5	22.2	
Bus204	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Bus205	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Bus206	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Bus208	0.400		45.2	14.5	11.2	3.6	0.0	0.0	0.0	0.0	59.3	95.3	85.9	
Bus209	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.5	95.3	2.0	
Bus211	0.400		74.4	21.8	18.4	5.4	0.0	0.0	0.0	0.0	96.6	96.0	140.4	
Bus212	0.400		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	422.2	90.0	610.6	

Project:

Location:

Contract:

Engineer:

Filename: unbalance~

ETAP

12.6.0H

Study Case: LF

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Date: 11-26-2017

SN:

Revision: Base

Config.: Normal

Bus			Directly Connected Load								Total Bus Load			
			Constant kVA		Constant Z		Constant I		Generic		kVA	% PF	Amp	Percent Loading
ID	kV	Rated Amp	kW	kvar	kW	kvar	kW	kvar	kW	kvar				
Bus213	33.000		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	412.5	90.6	7.2	

* 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).