Branch

	ID	Bus From	Bus To	DBase ID	Type
1	L10	B5	B8	L10	Line
2	L20	B15	B16	L20	Line
3	L30	B25	B26	L30	Line
4	L11	B6	B7	L11	Line
5	L21	B16	B17	L21	Line
6	L31	B26	B27	L31	Line
7	L01	B1	B2	L1	Line
8	L12	B6	B11	L12	Line
9	L22	B16	B19	L22	Line
10	L32	B26	B28	L32	Line
11	L02	B1	B39	L2	Line
12	L13	B7	B8	L13	Line
13	L23	B16	B21	L23	Line
14	L33	B26	B29	L33	Line
15	L03	B2	B3	L3	Line
16	L14	B8	B9	L14	Line
17	L24	B16	B24	L24	Line
18	L34	B28	B29	L34	Line
19	L04	B2	B25	L4	Line
20	L15	B9	B39	L15	Line
21	L25	B17	B18	L25	Line
22	L05	B3	B4	L5	Line
23	L16	B10	B11	L16	Line
24	L26	B17	B27	L26	Line
25	L06	B3	B18	L6	Line
26	L17	B10	B13	L17	Line
27	L27	B21	B22	L27	Line
28	L07	B4	B5	L7	Line
29	L18	B13	B14	L18	Line
30	L28	B22	B23	L28	Line
31	L08	B4	B14	L8	Line
32	L19	B14	B15	L19	Line
33	L29	B23	B24	L29	Line
34	L09	B5	B6	L9	Line

Branch

	kV Nominal	Length	P [MW]	Q [MVAR]	S [MVA]	P. Factor [%]	I [pu]	I angle [deg]
1	345.00	75.1000	316.50	27.79	317.72	99.6	3.338	-13.7
2	345.00	63.0000	-311.33	-174.93	357.11	-87.2	3.691	142.8
3	345.00	216.5000	70.24	0.41	70.25	100.0	0.684	-4.7
4	345.00	61.7000	420.28	58.00	424.26	99.1	4.452	-15.8
5	345.00	59.7000	230.75	-68.44	240.68	95.9	2.439	10.3
6	345.00	98.5000	261.83	92.28	277.61	94.3	2.730	-25.0
7	345.00	275.5000	-126.16	20.26	127.78	-98.7	1.234	-179.6
8	345.00	55.0000	-358.83	-4.29	358.86	-100.0	3.766	171.4
9	345.00	130.7000	-502.62	38.59	504.10	-99.7	5.108	178.2
10	345.00	317.7000	-140.78	-26.76	143.30	-98.2	1.409	163.7
11	345.00	167.6000	126.16	-20.26	127.78	98.7	1.234	0.4
12	345.00	30.8000	185.29	-34.13	188.41	98.3	1.994	0.0
13	345.00	90.5000	-327.08	-34.12	328.85	-99.5	3.332	167.9
14	345.00	418.9000	-189.97	-30.25	192.37	-98.8	1.892	165.4
15	345.00	101.2000	362.39	155.44	394.32	91.9	3.872	-29.1
16	345.00	243.3000	-21.26	-176.42	177.70	-12.0	1.879	85.9
17	345.00	39.5000	-42.59	-139.46	145.82	-29.2	1.477	100.8
18	345.00	101.2000	-347.62	17.28	348.05	-99.9	3.417	-179.0
19	345.00	57.6000	-239.68	82.32	253.42	-94.6	2.489	-166.9
20	345.00	167.6000	-21.93	-150.59	152.18	-14.4	1.510	87.6
21	345.00	55.0000	210.06	0.69	210.06	100.0	2.119	-7.6
22	345.00	142.8000	90.10	156.23	180.35	50.0	1.822	-68.9
23	345.00	28.8000	360.69	45.64	363.57	99.2	3.789	-12.4
24	345.00	116.0000	20.28	-61.21	64.49	31.4	0.651	64.3
25	345.00	89.1000	-51.72	-0.53	51.72	-100.0	0.522	170.6
26	345.00	28.8000	287.01	6.99	287.10	100.0	2.992	-6.5
27	345.00	93.8000	-601.96	-139.03	617.81	-97.4	6.218	163.4
28	345.00	85.8000	-141.11	12.97	141.70	-99.6	1.487	175.4
29	345.00	67.7000	279.38	-37.24	281.85	99.1	2.942	1.7
30	345.00	64.3000	43.08	-3.39	43.21	99.7	0.424	5.6
31	345.00	86.5000	-269.26	-27.67	270.68	-99.5	2.840	164.3
32	345.00	145.4000	8.70	-55.51	56.19	15.5	0.586	73.4
33	345.00	234.6000	354.00	49.00	357.38	99.1	3.508	-7.0
34	345.00	17.4000	-457.79	-5.51	457.82	-100.0	4.810	170.6

Branch

	P losses [MW]	Q losses [MVAR]	Ampacity (Norm.) [pu]	Loading %	Ampacity (Emer.) [pu]	Loading(Emer) %
1	0.89	-0.76	5.976	55.9	8.963	37.2
2	1.20	-3.79	7.171	51.5	8.963	41.2
3	0.17	-51.86	5.976	11.4	8.963	7.6
4	1.19	8.12	5.976	74.5	8.963	49.7
5	0.41	-7.91	5.976	40.8	8.963	27.2
6	1.08	-13.04	5.976	45.7	8.963	30.5
7	0.63	-66.31	5.976	20.6	8.963	13.8
8	0.99	-1.02	5.976	63.0	8.963	42.0
9	4.00	21.47	10.756	47.5	11.951	42.7
10	0.83	-71.64	5.976	23.6	8.963	15.7
11	0.15	-76.20	5.976	20.6	8.963	13.8
12	0.16	-5.16	5.976	33.4	8.963	22.2
13	0.88	-10.09	5.976	55.8	8.963	37.2
14	2.02	-84.62	5.976	31.7	8.963	21.1
15	2.00	-2.66	5.976	64.8	8.963	43.2
16	0.66	-25.83	5.976	31.4	8.963	21.0
17	0.06	-5.45	5.976	24.7	8.963	16.5
18	1.64	-8.16	5.976	57.2	8.963	38.1
19	4.42	-9.84	5.976	41.6	8.963	27.8
20	0.08	-122.46	5.976	25.3	8.963	16.9
21	0.31	-9.24	5.976	35.5	8.963	23.6
22	0.48	-13.07	5.976	30.5	8.963	20.3
23	0.57	-0.50	5.976	63.4	8.963	42.3
24	0.03	-31.40	5.976	10.9	8.963	7.3
25	0.03	-20.60	5.976	8.7	8.963	5.8
26	0.36	-2.85	5.976	50.1	8.963	33.4
27	3.08	27.65	7.768	80.0	11.951	52.0
28	0.18	-9.31	5.976	24.9	8.963	16.6
29	0.77	-7.14	5.976	49.2	8.963	32.8
30	0.01	-19.00	5.976	7.1	8.963	4.7
31	0.64	-2.27	5.976	47.5	8.963	31.7
32	0.03	-33.58	5.976	9.8	8.963	6.5
33	2.75	7.18	5.976	58.7	8.963	39.1
34	0.46	2.08	5.976	80.5	8.963	53.7