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Power System Analysis, Computing and Economics Committee

Chair
MARTIN L. BAUGHMAN
Professor Emeritus
The University of Texas at Austin
5703 Painted Valley Drive
Austin, TX 78759
Vox: 512-345-8255
Fax: 512-345-9880
baughman@mail.utexas.edu

Vice Chair
CHEN-CHING LIU
Dept. of Electrical Eng.
University of Washington
Box 352500
Seattle, WA 98195
Vox: 206-543-2198
Fax: 206-543-3842
liu@ee.washington.edu

Secretary
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Sr. Consultant
Electrotek Concepts, Inc.
408 N Cedar Bluff Rd
Knoxville, TN 37923
Vox: 865-470-9222
Fax: 865-470-9223
r.dugan@ieee.org

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Nexant, Inc.
101, 2nd street, 11F
San Francisco CA 94105
Vox: 415-369-1088
Fax: 415-369-0894
exliu@nexant.com

Distribution Systems Analysis
SANDOVAL CARNEIRO, JR, Chair
Dept. of Electrical Engineering
Federal Univ. of Rio de Janeiro
Rio de Janeiro, RJ, Brazil
Vox: 55-21-25628025
Fax: 55-21-25628628
sandoval@coep.ufrj.br

Intelligent System Applications
DAGMAR NIEBUR, Chair
Department of ECE
Drexel University
3141 Chestnut Street
Philadelphia, PA 19104
Vox: (215) 895 6749
Fax: (215) 895 1695
niebur@cbis.ece.drexel.edu

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Iowa State University
Room 2210 Coover Hall
Ames, Iowa 50011
Vox: 515-294-4844
Fax: 515-294-4263
jdm@iastate.edu

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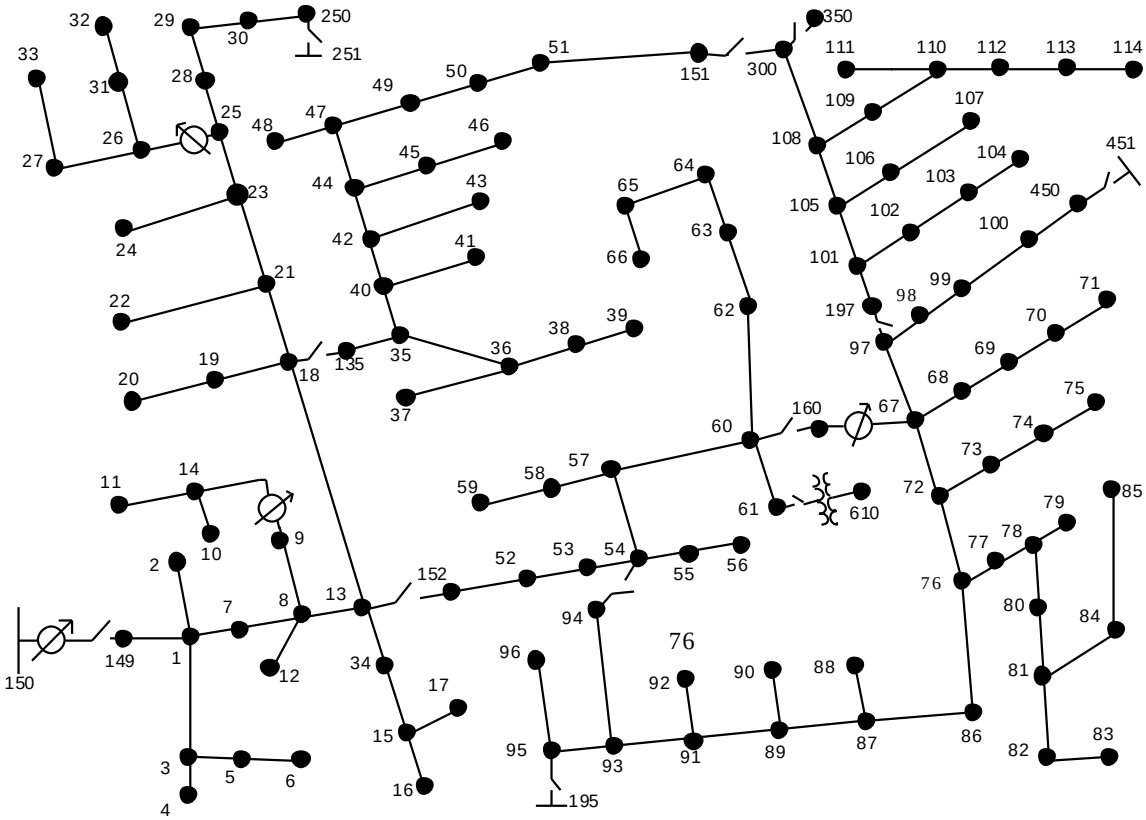
ECE Dept. , ENS 502
The University of Texas at Austin
Austin, TX 78712
Vox: 512-471-5879
Fax: 512-471-5532
baldick@ece.utexas.edu

Past Chair
JOANN V. STARON
Nexant Inc/ PCA
1921 S. Alma School Road
Suite 207
Mesa, AZ 85210
Vox: 480-345-7600
Fax: 480-345-7601
joann.staron@pca-corp.com

Distribution System Analysis Subcommittee

IEEE 123 Node Test Feeder

IEEE 123 Node Test Feeder



Line Segment Data

Node A	Node B	Length (ft.)	Config.
1	2	175	10
1	3	250	11
1	7	300	1
3	4	200	11
3	5	325	11
5	6	250	11
7	8	200	1
8	12	225	10
8	9	225	9
8	13	300	1
9	14	425	9
13	34	150	11
13	18	825	2
14	11	250	9
14	10	250	9
15	16	375	11
15	17	350	11
18	19	250	9
18	21	300	2
19	20	325	9
21	22	525	10
21	23	250	2
23	24	550	11
23	25	275	2
25	26	350	7
25	28	200	2
26	27	275	7
26	31	225	11
27	33	500	9
28	29	300	2
29	30	350	2
30	250	200	2
31	32	300	11
34	15	100	11
35	36	650	8
35	40	250	1
36	37	300	9
36	38	250	10
38	39	325	10
40	41	325	11
40	42	250	1
42	43	500	10
42	44	200	1
44	45	200	9
44	47	250	1
45	46	300	9
47	48	150	4
47	49	250	4
49	50	250	4
50	51	250	4
52	53	200	1
53	54	125	1
54	55	275	1
54	57	350	3
55	56	275	1
57	58	250	10
57	60	750	3
58	59	250	10
60	61	550	5
60	62	250	12
62	63	175	12
63	64	350	12
64	65	425	12
65	66	325	12
67	68	200	9
67	72	275	3
67	97	250	3
68	69	275	9
69	70	325	9
70	71	275	9
72	73	275	11
72	76	200	3
73	74	350	11
74	75	400	11
76	77	400	6
76	86	700	3
77	78	100	6
78	79	225	6
78	80	475	6
80	81	475	6
81	82	250	6
81	84	675	11
82	83	250	6
84	85	475	11
86	87	450	6
87	88	175	9
87	89	275	6

Line Segment Data (cont.)

89	90	225	10
89	91	225	6
91	92	300	11
91	93	225	6
93	94	275	9
93	95	300	6
95	96	200	10
97	98	275	3
98	99	550	3
99	100	300	3
100	450	800	3
101	102	225	11
101	105	275	3
102	103	325	11
103	104	700	11
105	106	225	10
105	108	325	3
106	107	575	10
108	109	450	9
108	300	1000	3
109	110	300	9
110	111	575	9
110	112	125	9
112	113	525	9
113	114	325	9
135	35	375	4
149	1	400	1
152	52	400	1
160	67	350	6
197	101	250	3

Overhead Line Configurations (Config.)

Config.	Phasing	Phase Cond.	Neutral Cond.	Spacing
		ACSR	ACSR	ID
1	A B C N	336,400 26/7	4/0 6/1	500
2	C A B N	336,400 26/7	4/0 6/1	500
3	B C A N	336,400 26/7	4/0 6/1	500
4	C B A N	336,400 26/7	4/0 6/1	500
5	B A C N	336,400 26/7	4/0 6/1	500
6	A C B N	336,400 26/7	4/0 6/1	500
7	A C N	336,400 26/7	4/0 6/1	505
8	A B N	336,400 26/7	4/0 6/1	505
9	A N	1/0	1/0	510
10	B N	1/0	1/0	510
11	C N	1/0	1/0	510

Underground Line Configuration (Config.)

Config.	Phasing	Cable	Spacing ID
12	A B C	1/0 AA, CN	515

Transformer Data

	kVA	kV-high	kV-low	R - %	X - %
Substation	5,000	115 - D	4.16 Gr-W	1	8
XFM - 1	150	4.16 - D	.480 - D	1.27	2.72

Three Phase Switches

Node A	Node B	Normal
13	152	closed
18	135	closed
60	160	closed
61	610	closed
97	197	closed
150	149	closed
250	251	open
450	451	open
54	94	open
151	300	open
300	350	open

Shunt Capacitors

Node	Ph-A	Ph-B	Ph-C
	kVAr	kVAr	kVAr
83	200	200	200
88	50		
90		50	
92			50
Total	250	250	250

Regulator Data

Regulator ID:	1		
Line Segment:	150 - 149		
Location:	150		
Phases:	A-B-C		
Connection:	3-Ph, Wye		
Monitoring Phase:	A		
Bandwidth:	2.0 volts		
PT Ratio:	20		
Primary CT Rating:	700		
Compensator:	Ph-A		
R - Setting:	3		
X - Setting:	7.5		
Voltage Level:	120		
Regulator ID:	2		
Line Segment:	9 - 14		
Location:	9		
Phases:	A		
Connection:	1-Ph, L-G		
Monitoring Phase:	A		
Bandwidth:	2.0 volts		
PT Ratio:	20		
Primary CT Rating:	50		
Compensator:	Ph-A		
R - Setting:	0.4		
X - Setting:	0.4		
Voltage Level:	120		

Regulator ID:	3		
Line Segment:	25 - 26		
Location:	25		
Phases:	A-C		
Connection:	2-Ph,L-G		
Monitoring Phase:	A & C		
Bandwidth:	1		
PT Ratio:	20		
Primary CT Rating:	50		
Compenator:	Ph-A	Ph-C	
R - Setting:	0.4	0.4	
X - Setting:	0.4	0.4	
Voltage Level:	120	120	
Regulator ID:	4		
Line Segment:	160 - 67		
Location:	160		
Phases:	A-B-C		
Connection:	3-Ph, LG		
Monitoring Phase:	A-B-C		
Bandwidth:	2		
PT Ratio:	20		
Primary CT Rating:	300		
Compensator:	Ph-A	Ph-B	Ph-C
R - Setting:	0.6	1.4	0.2
X - Setting:	1.3	2.6	1.4
Voltage Level:	124	124	124

Spot Loads

Node	Load	Ph-1	Ph-1	Ph-2	Ph-2	Ph-3	Ph-4
	Model	kW	kVAr	kW	kVAr	kW	kVAr
1	Y-PQ	40	20	0	0	0	0
2	Y-PQ	0	0	20	10	0	0
4	Y-PQ	0	0	0	0	40	20
5	Y-I	0	0	0	0	20	10
6	Y-Z	0	0	0	0	40	20
7	Y-PQ	20	10	0	0	0	0
9	Y-PQ	40	20	0	0	0	0
10	Y-I	20	10	0	0	0	0
11	Y-Z	40	20	0	0	0	0
12	Y-PQ	0	0	20	10	0	0
16	Y-PQ	0	0	0	0	40	20
17	Y-PQ	0	0	0	0	20	10
19	Y-PQ	40	20	0	0	0	0
20	Y-I	40	20	0	0	0	0
22	Y-Z	0	0	40	20	0	0
24	Y-PQ	0	0	0	0	40	20
28	Y-I	40	20	0	0	0	0
29	Y-Z	40	20	0	0	0	0
30	Y-PQ	0	0	0	0	40	20
31	Y-PQ	0	0	0	0	20	10
32	Y-PQ	0	0	0	0	20	10
33	Y-I	40	20	0	0	0	0
34	Y-Z	0	0	0	0	40	20
35	D-PQ	40	20	0	0	0	0
37	Y-Z	40	20	0	0	0	0
38	Y-I	0	0	20	10	0	0
39	Y-PQ	0	0	20	10	0	0
41	Y-PQ	0	0	0	0	20	10
42	Y-PQ	20	10	0	0	0	0
43	Y-Z	0	0	40	20	0	0
45	Y-I	20	10	0	0	0	0
46	Y-PQ	20	10	0	0	0	0
47	Y-I	35	25	35	25	35	25
48	Y-Z	70	50	70	50	70	50
49	Y-PQ	35	25	70	50	35	20
50	Y-PQ	0	0	0	0	40	20
51	Y-PQ	20	10	0	0	0	0
52	Y-PQ	40	20	0	0	0	0
53	Y-PQ	40	20	0	0	0	0
55	Y-Z	20	10	0	0	0	0
56	Y-PQ	0	0	20	10	0	0
58	Y-I	0	0	20	10	0	0
59	Y-PQ	0	0	20	10	0	0
60	Y-PQ	20	10	0	0	0	0
62	Y-Z	0	0	0	0	40	20
63	Y-PQ	40	20	0	0	0	0
64	Y-I	0	0	75	35	0	0
65	D-Z	35	25	35	25	70	50
66	Y-PQ	0	0	0	0	75	35
68	Y-PQ	20	10	0	0	0	0
69	Y-PQ	40	20	0	0	0	0
70	Y-PQ	20	10	0	0	0	0
71	Y-PQ	40	20	0	0	0	0
73	Y-PQ	0	0	0	0	40	20
74	Y-Z	0	0	0	0	40	20
75	Y-PQ	0	0	0	0	40	20
76	D-I	105	80	70	50	70	50
77	Y-PQ	0	0	40	20	0	0
79	Y-Z	40	20	0	0	0	0
80	Y-PQ	0	0	40	20	0	0
82	Y-PQ	40	20	0	0	0	0
83	Y-PQ	0	0	0	0	20	10
84	Y-PQ	0	0	0	0	20	10
85	Y-PQ	0	0	0	0	40	20
86	Y-PQ	0	0	20	10	0	0
87	Y-PQ	0	0	40	20	0	0
88	Y-PQ	40	20	0	0	0	0
90	Y-I	0	0	40	20	0	0
92	Y-PQ	0	0	0	0	40	20
94	Y-PQ	40	20	0	0	0	0
95	Y-PQ	0	0	20	10	0	0
96	Y-PQ	0	0	20	10	0	0
98	Y-PQ	40	20	0	0	0	0
99	Y-PQ	0	0	40	20	0	0
100	Y-Z	0	0	0	0	40	20
102	Y-PQ	0	0	0	0	20	10
103	Y-PQ	0	0	0	0	40	20
104	Y-PQ	0	0	0	0	40	20
106	Y-PQ	0	0	40	20	0	0
107	Y-PQ	0	0	40	20	0	0
109	Y-PQ	40	20	0	0	0	0
111	Y-PQ	20	10	0	0	0	0
112	Y-I	20	10	0	0	0	0
113	Y-Z	40	20	0	0	0	0
114	Y-PQ	20	10	0	0	0	0
Total		1420	775	915	515	1155	635

IEEE 123 Node Test Feeder
Impedances

Configuration 1:

```
          Z (R +jX) in ohms per mile
0.4576  1.0780   0.1560  0.5017   0.1535  0.3849
                 0.4666  1.0482   0.1580  0.4236
                                  0.4615  1.0651
         B in micro Siemens per mile
           5.6765   -1.8319   -0.6982
                     5.9809   -1.1645
                               5.3971
```

Configuration 2:

```
          Z (R +jX) in ohms per mile
0.4666  1.0482   0.1580  0.4236   0.1560  0.5017
                 0.4615  1.0651   0.1535  0.3849
                                  0.4576  1.0780
         B in micro Siemens per mile
           5.9809   -1.1645   -1.8319
                     5.3971   -0.6982
                               5.6765
```

Configuration 3:

```
          Z (R +jX) in ohms per mile
0.4615  1.0651   0.1535  0.3849   0.1580  0.4236
                 0.4576  1.0780   0.1560  0.5017
                                  0.4666  1.0482
         B in micro Siemens per mile
           5.3971   -0.6982   -1.1645
                     5.6765   -1.8319
                               5.9809
```

Configuration 4:

```
          Z (R +jX) in ohms per mile
0.4615  1.0651   0.1580  0.4236   0.1535  0.3849
                 0.4666  1.0482   0.1560  0.5017
                                  0.4576  1.0780
         B in micro Siemens per mile
           5.3971   -1.1645   -0.6982
                     5.9809   -1.8319
                               5.6765
```

Configuration 5:

```
           Z (R +jX) in ohms per mile
 0.4666  1.0482   0.1560  0.5017   0.1580  0.4236
                  0.4576  1.0780   0.1535  0.3849
                                   0.4615  1.0651
          B in micro Siemens per mile
            5.9809   -1.8319   -1.1645
                      5.6765   -0.6982
                                5.3971
```

Configuration 6:

```
           Z (R +jX) in ohms per mile
 0.4576  1.0780   0.1535  0.3849   0.1560  0.5017
                  0.4615  1.0651   0.1580  0.4236
                                   0.4666  1.0482
          B in micro Siemens per mile
            5.6765   -0.6982   -1.8319
                      5.3971   -1.1645
                                5.9809
```

Configuration 7:

```
           Z (R +jX) in ohms per mile
 0.4576  1.0780   0.0000  0.0000   0.1535  0.3849
                  0.0000  0.0000   0.0000  0.0000
                                   0.4615  1.0651
          B in micro Siemens per mile
            5.1154    0.0000   -1.0549
                      0.0000    0.0000
                                5.1704
```

Configuration 8:

```
           Z (R +jX) in ohms per mile
 0.4576  1.0780   0.1535  0.3849   0.0000  0.0000
                  0.4615  1.0651   0.0000  0.0000
                                   0.0000  0.0000
          B in micro Siemens per mile
            5.1154   -1.0549    0.0000
                      5.1704    0.0000
                                0.0000
```

Configuration 9:

```
           Z (R +jX) in ohms per mile
 1.3292  1.3475   0.0000  0.0000   0.0000  0.0000
                  0.0000  0.0000   0.0000  0.0000
                                   0.0000  0.0000
          B in micro Siemens per mile
            4.5193    0.0000    0.0000
                      0.0000    0.0000
                                0.0000
```

Configuration 10:

```
           Z (R +jX) in ohms per mile
 0.0000  0.0000   0.0000  0.0000   0.0000  0.0000
                  1.3292  1.3475   0.0000  0.0000
                                   0.0000  0.0000
          B in micro Siemens per mile
            0.0000    0.0000    0.0000
                      4.5193    0.0000
                                0.0000
```

Configuration 11:

```
           Z (R +jX) in ohms per mile
 0.0000  0.0000   0.0000  0.0000   0.0000  0.0000
                  0.0000  0.0000   0.0000  0.0000
                                   1.3292  1.3475
          B in micro Siemens per mile
            0.0000    0.0000    0.0000
                      0.0000    0.0000
                                4.5193
```

Configuration 12:

```
           Z (R +jX) in ohms per mile
 1.5209  0.7521   0.5198  0.2775   0.4924  0.2157
                  1.5329  0.7162   0.5198  0.2775
                                   1.5209  0.7521
          B in micro Siemens per mile
           67.2242    0.0000    0.0000
                     67.2242    0.0000
                               67.2242
```

Power-Flow Results

- **R A D I A L F L O W S U M M A R Y** - DATE: 6-24-2004 AT 16:54:14 HOURS ---
SUBSTATION: IEEE 123; FEEDER: IEEE 123

SYSTEM INPUT	PHASE (A)	PHASE (B)	PHASE (C)	TOTAL
kW :	1463.861	963.484	1193.153	3620.498
kVAr :	582.101	343.687	398.976	1324.765
kVA :	1575.351	1022.947	1258.092	3855.257
PF :	.9292	.9419	.9484	.9391

LOAD	(A-N)	(A-B)	(B-N)	(B-C)	(C-N)	(C-A)	WYE	DELTA
kW :	1242.8	182.3	822.8	108.1	1026.3	142.6	3091.9	433.0
TOT :	1425.022		930.965		1168.900		3524.887	
kVAr :	651.0	126.7	447.3	77.2	535.9	101.8	1634.3	305.8
TOT :	777.767		524.544		637.773		1940.083	
kVA :	1403.0	222.0	936.6	132.9	1157.8	175.2	3497.3	530.1
TOT :	1623.455		1068.570		1331.571		4023.524	
PF :	.8858	.8210	.8786	.8137	.8864	.8137	.8841	.8168
TOT :	.8778		.8712		.8778		.8761	

LOSSES	(A)	(B)	(C)	TOTAL
kW :	50.540	10.134	34.937	95.611
kVAr :	102.653	38.837	52.237	193.727
kVA :	114.420	40.137	62.844	216.036

CAPAC	(A-N)	(A-B)	(B-N)	(B-C)	(C-N)	(C-A)	WYE	DELTA
R-kVA:	250.0	.0	250.0	.0	250.0	.0	750.0	.0
TOT :	250.000		250.000		250.000		750.000	
A-kVA:	271.3	.0	268.0	.0	269.7	.0	809.0	.0
TOT :	271.290		268.023		269.733		809.046	

--- **V O L T A G E P R O F I L E** ---- DATE: 6-24-2004 AT 16:54:32 HOURS ----
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	MAG	ANGLE	MAG	ANGLE	MAG	ANGLE	mi.to SR
	A-N		B-N		C-N		
150	1.0000 at	.00	1.0000 at	-120.00	1.0000 at	120.00	.000
RG1	1.0437 at	.00	1.0438 at	-120.00	1.0438 at	120.00	.000
149	1.0436 at	-.02	1.0437 at	-120.02	1.0436 at	119.98	.000
1	1.0311 at	-.66	1.0412 at	-120.33	1.0348 at	119.60	.076
2			1.0410 at	-120.33			.109
3					1.0331 at	119.57	.123
4					1.0326 at	119.56	.161
5					1.0318 at	119.55	.185
6					1.0311 at	119.53	.232
7	1.0218 at	-1.13	1.0395 at	-120.57	1.0291 at	119.35	.133
8	1.0158 at	-1.44	1.0382 at	-120.74	1.0253 at	119.18	.171
12			1.0379 at	-120.74			.213
13	1.0079 at	-1.87	1.0360 at	-120.97	1.0196 at	118.90	.227
152	1.0078 at	-1.88	1.0360 at	-120.98	1.0196 at	118.89	.227
52	1.0018 at	-2.26	1.0348 at	-121.22	1.0164 at	118.64	.303
53	.9991 at	-2.43	1.0340 at	-121.34	1.0148 at	118.51	.341
54	.9976 at	-2.53	1.0334 at	-121.41	1.0138 at	118.43	.365
55	.9974 at	-2.54	1.0334 at	-121.42	1.0139 at	118.43	.417
56	.9974 at	-2.53	1.0332 at	-121.43	1.0140 at	118.43	.469
57	.9945 at	-2.83	1.0306 at	-121.61	1.0113 at	118.21	.431
58			1.0300 at	-121.63			.478
59			1.0296 at	-121.63			.526
60	.9880 at	-3.51	1.0256 at	-122.00	1.0052 at	117.76	.573
160	.9880 at	-3.52	1.0256 at	-122.01	1.0052 at	117.75	.573
RG4	1.0374 at	-3.52	1.0320 at	-122.01	1.0366 at	117.75	.573
67	1.0355 at	-3.77	1.0311 at	-122.19	1.0345 at	117.61	.640
68	1.0340 at	-3.79					.677
69	1.0322 at	-3.83					.730
70	1.0310 at	-3.85					.791
71	1.0303 at	-3.86					.843
72	1.0359 at	-3.86	1.0302 at	-122.29	1.0343 at	117.50	.692
73					1.0321 at	117.46	.744
74					1.0303 at	117.42	.810
75					1.0293 at	117.40	.886
76	1.0358 at	-3.92	1.0297 at	-122.38	1.0349 at	117.45	.730
77	1.0370 at	-3.99	1.0308 at	-122.46	1.0358 at	117.37	.805
78	1.0373 at	-4.01	1.0312 at	-122.48	1.0360 at	117.35	.824
79	1.0370 at	-4.02	1.0313 at	-122.48	1.0359 at	117.36	.867
80	1.0394 at	-4.07	1.0329 at	-122.54	1.0368 at	117.24	.914
81	1.0415 at	-4.14	1.0352 at	-122.57	1.0374 at	117.14	1.004
82	1.0424 at	-4.18	1.0364 at	-122.60	1.0382 at	117.11	1.052
83	1.0436 at	-4.20	1.0375 at	-122.63	1.0390 at	117.07	1.099
84					1.0348 at	117.09	1.132
85					1.0336 at	117.07	1.222
86	1.0349 at	-3.95	1.0279 at	-122.55	1.0364 at	117.42	.862
87	1.0342 at	-3.97	1.0272 at	-122.63	1.0369 at	117.39	.947
88	1.0342 at	-4.00					.980
89	1.0338 at	-3.96	1.0270 at	-122.68	1.0373 at	117.38	.999
90			1.0269 at	-122.72			1.042

--- **V O L T A G E P R O F I L E** ---- DATE: 6-24-2004 AT 16:54:32 HOURS ----
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	MAG	ANGLE	MAG	ANGLE	MAG	ANGLE	mi.to SR
91	1.0336 at	-3.96	1.0266 at	-122.69	1.0376 at	117.36	1.042
92					1.0375 at	117.31	1.099
93	1.0333 at	-3.97	1.0265 at	-122.71	1.0377 at	117.37	1.085
94	1.0326 at	-3.98					1.137
95	1.0332 at	-3.96	1.0261 at	-122.73	1.0378 at	117.37	1.141
96			1.0258 at	-122.73			1.179
97	1.0345 at	-3.82	1.0306 at	-122.21	1.0338 at	117.60	.687
197	1.0345 at	-3.82	1.0306 at	-122.21	1.0338 at	117.59	.687
101	1.0337 at	-3.86	1.0303 at	-122.22	1.0332 at	117.59	.734
102					1.0318 at	117.56	.777
103					1.0301 at	117.53	.838
104					1.0283 at	117.49	.971
105	1.0323 at	-3.90	1.0301 at	-122.27	1.0335 at	117.61	.786
106			1.0290 at	-122.29			.829
107			1.0275 at	-122.32			.938
108	1.0309 at	-3.97	1.0308 at	-122.28	1.0334 at	117.65	.848
109	1.0267 at	-4.05					.933
110	1.0248 at	-4.09					.990
111	1.0240 at	-4.10					1.099
112	1.0241 at	-4.10					1.014
113	1.0220 at	-4.14					1.113
114	1.0216 at	-4.15					1.175
300	1.0309 at	-3.97	1.0308 at	-122.28	1.0334 at	117.65	1.037
98	1.0343 at	-3.83	1.0303 at	-122.22	1.0336 at	117.59	.739
99	1.0346 at	-3.82	1.0295 at	-122.23	1.0332 at	117.55	.843
100	1.0348 at	-3.82	1.0294 at	-122.21	1.0328 at	117.53	.900
450	1.0348 at	-3.82	1.0294 at	-122.21	1.0328 at	117.53	1.052
61	.9880 at	-3.51	1.0256 at	-122.00	1.0052 at	117.76	.677
XF1	.9880 at	-3.51	1.0256 at	-122.00	1.0052 at	117.76	.677
610	.9880 at	-3.51	1.0256 at	-122.00	1.0052 at	117.76	.677
62	.9872 at	-3.50	1.0245 at	-121.98	1.0032 at	117.75	.620
63	.9866 at	-3.49	1.0236 at	-121.97	1.0022 at	117.74	.654
64	.9863 at	-3.47	1.0217 at	-121.93	1.0000 at	117.70	.720
65	.9856 at	-3.48	1.0214 at	-121.89	.9970 at	117.70	.800
66	.9858 at	-3.51	1.0216 at	-121.87	.9955 at	117.70	.862
18	.9988 at	-2.29	1.0319 at	-121.22	1.0122 at	118.83	.384
135	.9988 at	-2.29	1.0318 at	-121.23	1.0122 at	118.83	.384
35	.9960 at	-2.38	1.0293 at	-121.31	1.0112 at	118.77	.455
36	.9951 at	-2.40	1.0288 at	-121.36			.578
37	.9943 at	-2.41					.635
38			1.0282 at	-121.37			.625
39			1.0278 at	-121.38			.687
40	.9945 at	-2.42	1.0282 at	-121.36	1.0101 at	118.72	.502
41					1.0097 at	118.71	.564
42	.9929 at	-2.45	1.0270 at	-121.41	1.0092 at	118.68	.549
43			1.0257 at	-121.43			.644
44	.9918 at	-2.48	1.0263 at	-121.44	1.0084 at	118.65	.587

--- **V O L T A G E P R O F I L E** ---- DATE: 6-24-2004 AT 16:54:32 HOURS ----
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	MAG ANGLE	MAG ANGLE	MAG ANGLE	mi.to SR
45	.9913 at -2.49			.625
46	.9909 at -2.50			.682
47	.9908 at -2.50	1.0253 at -121.47	1.0074 at 118.61	.635
48	.9905 at -2.51	1.0250 at -121.47	1.0072 at 118.60	.663
49	.9905 at -2.51	1.0247 at -121.48	1.0071 at 118.58	.682
50	.9905 at -2.52	1.0247 at -121.47	1.0067 at 118.57	.729
51	.9903 at -2.53	1.0248 at -121.47	1.0067 at 118.58	.777
151	.9903 at -2.53	1.0248 at -121.47	1.0067 at 118.58	.871
19	.9975 at -2.31			.431
20	.9967 at -2.33			.493
21	.9983 at -2.34	1.0320 at -121.22	1.0111 at 118.81	.441
22		1.0305 at -121.25		.540
23	.9979 at -2.39	1.0323 at -121.20	1.0100 at 118.79	.488
24			1.0085 at 118.77	.592
25	.9972 at -2.45	1.0328 at -121.20	1.0091 at 118.80	.540
28	.9968 at -2.48	1.0330 at -121.19	1.0087 at 118.80	.578
29	.9967 at -2.50	1.0332 at -121.19	1.0083 at 118.79	.635
30	.9969 at -2.50	1.0331 at -121.18	1.0078 at 118.77	.701
250	.9969 at -2.50	1.0331 at -121.18	1.0078 at 118.77	.739
RG3	.9972 at -2.45		1.0028 at 118.80	.540
26	.9970 at -2.48		1.0023 at 118.79	.606
27	.9966 at -2.49		1.0022 at 118.79	.659
33	.9953 at -2.52			.753
31			1.0017 at 118.77	.649
32			1.0013 at 118.77	.706
34			1.0187 at 118.88	.256
15			1.0183 at 118.87	.275
16			1.0173 at 118.85	.346
17			1.0178 at 118.86	.341
9	1.0144 at -1.47			.213
RG2	1.0080 at -1.47			.213
14	1.0063 at -1.50			.294
10	1.0060 at -1.50			.341
11	1.0057 at -1.51			.341

---------- **VOLTAGE REGULATOR DATA** ---- DATE: 6-24-2004 AT 16:54:35 HOURS --
SUBSTATION: IEEE 123; FEEDER: IEEE 123

[NODE]	[VREG]	[SEG]	[NODE]	MODEL	OPT	BNDW
150	RG1	149	149	Phase A, 3 Phase Ganged Wye	RX	2.00

PHASE	LDCTR	VOLT HOLD	R-VOLT	X-VOLT	PT RATIO	CT RATE	TAP
1		120.000	3.000	7.500	20.00	700.00	7

[NODE]	[VREG]	[SEG]	[NODE]	MODEL	OPT	BNDW
160	RG4	67	67	Phase A & B & C, Wye	RX	2.00

PHASE	LDCTR	VOLT HOLD	R-VOLT	X-VOLT	PT RATIO	CT RATE	TAP
1		124.000	.600	1.300	20.00	300.00	8
2		124.000	1.400	2.600	20.00	300.00	1
3		124.000	.200	1.400	20.00	300.00	5

[NODE]	[VREG]	[SEG]	[NODE]	MODEL	OPT	BNDW
25	RG3	26	26	Phase A & C, Wye	RX	1.00

PHASE	LDCTR	VOLT HOLD	R-VOLT	X-VOLT	PT RATIO	CT RATE	TAP
1		120.000	.400	.400	20.00	50.00	0
3		120.000	.400	.400	20.00	50.00	-1

[NODE]	[VREG]	[SEG]	[NODE]	MODEL	OPT	BNDW
9	RG2	14	14	Phase A, Wye	RX	2.00

PHASE	LDCTR	VOLT HOLD	R-VOLT	X-VOLT	PT RATIO	CT RATE	TAP
1		120.000	.400	.400	20.00	50.00	-1

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- R A D I A L  P O W E R  F L O W  ---  DATE:  6-24-2004 AT 16:54:45 HOURS ---
 SUBSTATION:  IEEE 123;   FEEDER:  IEEE 123
 ------------------------------------------------------------------------------
    NODE      VALUE          PHASE A          PHASE B          PHASE C     UNT O/L<
                             (LINE A)         (LINE B)         (LINE C)         60.%
 ---------------------*--------A-------*-------B-------*-------C-------*--------
 NODE: 150       VOLTS:   1.000     .00   1.000 -120.00   1.000  120.00 MAG/ANG
 kVll   4.160           NO LOAD OR CAPACITOR REPRESENTED AT SOURCE NODE

 TO NODE RG1   <VRG>..:  655.91  -21.69  425.91 -139.63  523.82  101.51 AMP/DG <
 <RG1   > LOSS=   .000:    (   .000)       (   .000)       (   .000)    kW
 ---------------------*--------A-------*-------B-------*-------C-------*--------
 NODE: RG1       VOLTS:   1.044     .00   1.044 -120.00   1.044  120.00 MAG/ANG
                   -LD:     .00     .00     .00     .00     .00     .00 kW/kVR
 kVll   4.160      CAP:             .00             .00             .00 kVR

 FROM NODE 150   <VRG>:  628.42  -21.69  408.06 -139.63  501.86  101.51 AMP/DG <
 <RG1   > LOSS=   .000:    (   .000)       (   .000)       (   .000)    kW
 TO NODE 149   .......:  628.42  -21.69  408.06 -139.63  501.86  101.51 AMP/DG <
 <149   > LOSS=   .000:    (   .000)       (   .000)       (   .000)    kW
 ---------------------*--------A-------*-------B-------*-------C-------*--------
 NODE: 149       VOLTS:   1.044    -.02   1.044 -120.02   1.044  119.98 MAG/ANG
                   -LD:     .00     .00     .00     .00     .00     .00 kW/kVR
 kVll   4.160      CAP:             .00             .00             .00 kVR

 FROM NODE RG1   .....:  628.42  -21.69  408.06 -139.63  501.86  101.51 AMP/DG <
 <149   > LOSS=   .000:    (   .000)       (   .000)       (   .000)    kW
 TO NODE 1     .......:  628.42  -21.69  408.06 -139.63  501.86  101.51 AMP/DG <
 <1     > LOSS= 19.159:    ( 11.176)       (   .429)       (  7.554)    kW
 ---------------------*--------A-------*-------B-------*-------C-------*--------
 NODE: 1         VOLTS:   1.031    -.66   1.041 -120.33   1.035  119.60 MAG/ANG
                  Y-LD:   40.00   20.00     .00     .00     .00     .00 kW/kVR
 kVll   4.160   Y CAP:             .00             .00             .00 kVR

 FROM NODE 149   .....:  628.42  -21.69  408.06 -139.63  501.86  101.51 AMP/DG <
 <1     > LOSS= 19.159:    ( 11.176)       (   .429)       (  7.554)    kW
 TO NODE 2     .......:                    8.94 -146.89                 AMP/DG
 <2     > LOSS=   .004:                    (   .004)                    kW
 TO NODE 3     .......:                                      46.54   92.99 AMP/DG
 <3     > LOSS=   .136:                                      (   .136)    kW
 TO NODE 7     .......:  610.45  -21.52  399.19 -139.47  455.89  102.38 AMP/DG <
 <7     > LOSS= 13.090:    (  8.408)       (   .167)       (  4.515)    kW
 ---------------------*--------A-------*-------B-------*-------C-------*--------
 NODE: 2         VOLTS:                  1.041 -120.33                 MAG/ANG
                  Y-LD:                  20.00   10.00                 kW/kVR
 kVll   4.160   Y CAP:                          .00                   kVR

 FROM NODE 1     .....:                    8.94 -146.89                 AMP/DG
 <2     > LOSS=   .004:                    (   .004)                    kW
```

- R A D I A L P O W E R F L O W --- DATE: 6-24-2004 AT 16:54:45 HOURS ---
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 3	VOLTS:			1.033 119.57	MAG/ANG
	-LD:			.00 .00	kW/kVR
kVLL 4.160	CAP:			.00	kVR
FROM NODE 1	.....:			46.54 92.98	AMP/DG
<3 > LOSS=	.136:			(.136)	kW
TO NODE 4	.....:			18.03 93.00	AMP/DG
<4 > LOSS=	.016:			(.016)	kW
TO NODE 5	.....:			28.51 92.98	AMP/DG
<5 > LOSS=	.066:			(.066)	kW
NODE: 4	VOLTS:			1.033 119.56	MAG/ANG
	Y-LD:			40.00 20.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 3	.....:			18.03 93.00	AMP/DG
<4 > LOSS=	.016:			(.016)	kW
NODE: 5	VOLTS:			1.032 119.55	MAG/ANG
	Y-LD:			20.64 10.32	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 3	.....:			28.51 92.97	AMP/DG
<5 > LOSS=	.066:			(.066)	kW
TO NODE 6	.....:			19.20 92.97	AMP/DG
<6 > LOSS=	.023:			(.023)	kW
NODE: 6	VOLTS:			1.031 119.53	MAG/ANG
	Y-LD:			42.53 21.27	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 5	.....:			19.20 92.97	AMP/DG
<6 > LOSS=	.023:			(.023)	kW
NODE: 7	VOLTS:	1.022 -1.13	1.039 -120.57	1.029 119.35	MAG/ANG
	Y-LD:	20.00 10.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 1	.....:	610.45 -21.52	399.19 -139.47	455.89 102.38	AMP/DG <
<7 > LOSS=	13.090:	(8.408)	(.167)	(4.515)	kW
TO NODE 8	.....:	601.39 -21.43	399.19 -139.47	455.89 102.38	AMP/DG <
<8 > LOSS=	8.583:	(5.420)	(.184)	(2.979)	kW

- **R A D I A L P O W E R F L O W** --- DATE: 6-24-2004 AT 16:54:45 HOURS ---
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 8	VOLTS:	1.016 -1.44	1.038 -120.74	1.025 119.18	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 7	.....:	601.39 -21.43	399.19 -139.47	455.89 102.38	AMP/DG <
<8 > LOSS=	8.583:	(5.420)	(.184)	(2.979)	kW
TO NODE 12	.....:		8.97 -147.31		AMP/DG
<12 > LOSS=	.005:		(.005)		kW
TO NODE 13	.....:	555.51 -20.88	390.31 -139.29	455.89 102.38	AMP/DG <
<13 > LOSS=	11.745:	(6.704)	(.700)	(4.341)	kW
TO NODE 9	.....:	46.22 -28.05			AMP/DG
<9 > LOSS=	.122:	(.122)			kW
NODE: 12	VOLTS:		1.038 -120.74		MAG/ANG
	Y-LD:		20.00 10.00		kW/kVR
kVll 4.160	Y CAP:		.00		kVR
FROM NODE 8	.....:		8.97 -147.31		AMP/DG
<12 > LOSS=	.005:		(.005)		kW
NODE: 13	VOLTS:	1.008 -1.87	1.036 -120.97	1.020 118.90	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 8	.....:	555.51 -20.88	390.31 -139.29	455.89 102.38	AMP/DG <
<13 > LOSS=	11.745:	(6.704)	(.700)	(4.341)	kW
TO NODE 152	.....:	332.01 -14.31	244.34 -129.30	265.02 112.07	AMP/DG
<152 > LOSS=	.000:	(.000)	(.000)	(.000)	kW
TO NODE 18	.....:	228.85 -30.43	155.56 -155.10	153.35 88.61	AMP/DG
<18 > LOSS=	4.907:	(2.436)	(.341)	(2.131)	kW
TO NODE 34	.....:			46.42 92.30	AMP/DG
<34 > LOSS=	.081:			(.081)	kW
NODE: 152	VOLTS:	1.008 -1.88	1.036 -120.98	1.020 118.89	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 13	.....:	332.01 -14.31	244.34 -129.30	265.02 112.07	AMP/DG
<152 > LOSS=	.000:	(.000)	(.000)	(.000)	kW
TO NODE 52	.....:	332.01 -14.31	244.34 -129.30	265.02 112.07	AMP/DG <
<52 > LOSS=	5.621:	(3.538)	(.363)	(1.719)	kW

- R A D I A L P O W E R F L O W --- DATE: 6-24-2004 AT 16:54:45 HOURS ---
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 52	VOLTS:	1.002 -2.26	1.035 -121.22	1.016 118.64	MAG/ANG
	Y-LD:	40.00 20.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 152	.....:	332.01 -14.31	244.34 -129.30	265.02 112.07	AMP/DG <
<52 > LOSS=	5.621:	(3.538)	(.363)	(1.719)	kW
TO NODE 53	.....:	314.05 -13.46	244.34 -129.30	265.02 112.07	AMP/DG
<53 > LOSS=	2.663:	(1.555)	(.271)	(.837)	kW
NODE: 53	VOLTS:	.999 -2.43	1.034 -121.34	1.015 118.51	MAG/ANG
	Y-LD:	40.00 20.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 52	.....:	314.05 -13.46	244.34 -129.30	265.02 112.07	AMP/DG
<53 > LOSS=	2.663:	(1.555)	(.271)	(.837)	kW
TO NODE 54	.....:	296.14 -12.50	244.34 -129.30	265.02 112.07	AMP/DG
<54 > LOSS=	1.580:	(.846)	(.226)	(.508)	kW
NODE: 54	VOLTS:	.998 -2.53	1.033 -121.41	1.014 118.43	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 53	.....:	296.14 -12.50	244.34 -129.30	265.02 112.07	AMP/DG
<54 > LOSS=	1.580:	(.846)	(.226)	(.508)	kW
TO NODE 55	.....:	9.28 -29.09	9.01 -147.98	.00 .00	AMP/DG
<55 > LOSS=	.003:	(.003)	(.000)	(.000)	kW
TO NODE 57	.....:	287.25 -11.97	235.82 -128.60	265.02 112.07	AMP/DG
<57 > LOSS=	4.240:	(1.543)	(1.328)	(1.369)	kW
NODE: 55	VOLTS:	.997 -2.54	1.033 -121.42	1.014 118.43	MAG/ANG
	Y-LD:	19.90 9.95	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 54	.....:	9.29 -29.10	9.01 -147.99	.00 .00	AMP/DG
<55 > LOSS=	.003:	(.003)	(.000)	(.000)	kW
TO NODE 56	.....:	.00 .00	9.01 -147.99	.00 .00	AMP/DG
<56 > LOSS=	.002:	(.000)	(.002)	(.000)	kW
NODE: 56	VOLTS:	.997 -2.53	1.033 -121.43	1.014 118.43	MAG/ANG
	Y-LD:	.00 .00	20.00 10.00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 55	.....:	.00 .00	9.01 -147.99	.00 .00	AMP/DG
<56 > LOSS=	.002:	(.000)	(.002)	(.000)	kW

- **R A D I A L P O W E R F L O W** --- DATE: 6-24-2004 AT 16:54:45 HOURS ---
SUBSTATION: IEEE 123; FEEDER: IEEE 123

NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT	O/L< 60.%
NODE: 57	VOLTS:	.994	-2.83	1.031	-121.61	1.011	118.21	MAG/ANG	
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	CAP:		.00		.00		.00	kVR	
FROM NODE 54	.....:	287.25	-11.97	235.82	-128.60	265.02	112.07	AMP/DG	
<57 > LOSS=	4.240:	(1.543)		(1.328)		(1.369)		kW	
TO NODE 58	.....:			18.35	-148.19			AMP/DG	
<58 > LOSS=	.021:			(.021)				kW	
TO NODE 60	.....:	287.25	-11.97	218.62	-126.99	265.02	112.07	AMP/DG	
<60 > LOSS=	8.780:	(3.190)		(2.296)		(3.294)		kW	
NODE: 58	VOLTS:			1.030	-121.63			MAG/ANG	
	Y-LD:			20.60	10.30			kW/kVR	
kVll 4.160	Y CAP:				.00			kVR	
FROM NODE 57	.....:			18.35	-148.19			AMP/DG	
<58 > LOSS=	.021:			(.021)				kW	
TO NODE 59	.....:			9.04	-148.19			AMP/DG	
<59 > LOSS=	.005:			(.005)				kW	
NODE: 59	VOLTS:			1.030	-121.63			MAG/ANG	
	Y-LD:			20.00	10.00			kW/kVR	
kVll 4.160	Y CAP:				.00			kVR	
FROM NODE 58	.....:			9.04	-148.20			AMP/DG	
<59 > LOSS=	.005:			(.005)				kW	
NODE: 60	VOLTS:	.988	-3.51	1.026	-122.00	1.005	117.76	MAG/ANG	
	Y-LD:	20.00	10.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	Y CAP:		.00		.00		.00	kVR	
FROM NODE 57	.....:	287.25	-11.97	218.62	-126.99	265.02	112.07	AMP/DG	
<60 > LOSS=	8.780:	(3.190)		(2.296)		(3.294)		kW	
TO NODE 160	.....:	240.09	-5.95	172.00	-120.02	191.06	120.31	AMP/DG	
<160 > LOSS=	.000:	(.000)		(.000)		(.000)		kW	
TO NODE 61	.....:	.00	.00	.00	.00	.00	.00	AMP/DG	
<61 > LOSS=	.000:	(.000)		(.001)		(.000)		kW	
TO NODE 62	.....:	45.37	-41.35	52.24	-150.54	80.73	92.22	AMP/DG	
<62 > LOSS=	.565:	(.072)		(.151)		(.341)		kW	
NODE: 160	VOLTS:	.988	-3.52	1.026	-122.01	1.005	117.75	MAG/ANG	
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	CAP:		.00		.00		.00	kVR	
FROM NODE 60	.....:	240.09	-5.95	172.00	-120.02	191.06	120.31	AMP/DG	
<160 > LOSS=	.000:	(.000)		(.000)		(.000)		kW	
TO NODE RG4	.<VRG>.:	240.09	-5.95	172.00	-120.02	191.06	120.31	AMP/DG	<
<RG4 > LOSS=	.000:	(.000)		(.000)		(.000)		kW	

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT O/L< 60.%
NODE: RG4	VOLTS:	1.037	-3.52	1.032	-122.01	1.037	117.75	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 160	<VRG>:	228.66	-5.95	170.93	-120.02	185.27	120.31	AMP/DG
<RG4 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
TO NODE 67	.....:	228.66	-5.95	170.93	-120.02	185.27	120.31	AMP/DG
<67 > LOSS=	2.371:	(.940)		(.429)		(1.001)		kW
NODE: 67	VOLTS:	1.036	-3.77	1.031	-122.19	1.035	117.61	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE RG4	.....:	228.66	-5.95	170.93	-120.02	185.27	120.31	AMP/DG
<67 > LOSS=	2.371:	(.940)		(.429)		(1.001)		kW
TO NODE 68	.....:	54.15	-30.40					AMP/DG
<68 > LOSS=	.148:	(.148)						kW
TO NODE 72	.....:	118.75	22.68	126.10	-108.04	132.91	134.06	AMP/DG
<72 > LOSS=	.769:	(.117)		(.396)		(.256)		kW
TO NODE 97	.....:	82.68	-30.60	54.30	-148.83	64.43	90.97	AMP/DG
<97 > LOSS=	.206:	(.094)		(.035)		(.077)		kW
NODE: 68	VOLTS:	1.034	-3.79					MAG/ANG
	Y-LD:	20.00	10.00					kW/kVR
kVll 4.160	Y CAP:		.00					kVR
FROM NODE 67	.....:	54.15	-30.40					AMP/DG
<68 > LOSS=	.148:	(.148)						kW
TO NODE 69	.....:	45.14	-30.41					AMP/DG
<69 > LOSS=	.141:	(.141)						kW
NODE: 69	VOLTS:	1.032	-3.83					MAG/ANG
	Y-LD:	40.00	20.00					kW/kVR
kVll 4.160	Y CAP:		.00					kVR
FROM NODE 68	.....:	45.14	-30.41					AMP/DG
<69 > LOSS=	.141:	(.141)						kW
TO NODE 70	.....:	27.10	-30.42					AMP/DG
<70 > LOSS=	.060:	(.060)						kW
NODE: 70	VOLTS:	1.031	-3.85					MAG/ANG
	Y-LD:	20.00	10.00					kW/kVR
kVll 4.160	Y CAP:		.00					kVR
FROM NODE 69	.....:	27.10	-30.42					AMP/DG
<70 > LOSS=	.060:	(.060)						kW
TO NODE 71	.....:	18.07	-30.43					AMP/DG
<71 > LOSS=	.023:	(.023)						kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT O/L< 60.%
NODE: 71	VOLTS:	1.030	-3.86					MAG/ANG
	Y-LD:	40.00	20.00					kW/kVR
kVll 4.160	Y CAP:		.00					kVR
FROM NODE 70	.....:	18.07	-30.43					AMP/DG
<71 > LOSS=	.023:	(	.023)					kW
NODE: 72	VOLTS:	1.036	-3.86	1.030	-122.29	1.034	117.50	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 67	.....:	118.75	22.68	126.10	-108.04	132.91	134.06	AMP/DG
<72 > LOSS=	.769:	(	.117)	(	.396)	(	.256)	kW
TO NODE 73	.....:					55.31	90.86	AMP/DG
<73 > LOSS=	.212:					(	.212)	kW
TO NODE 76	.....:	118.75	22.68	126.10	-108.04	100.03	156.30	AMP/DG
<76 > LOSS=	.473:	(	.168)	(	.284)	(	.020)	kW
NODE: 73	VOLTS:					1.032	117.46	MAG/ANG
	Y-LD:					40.00	20.00	kW/kVR
kVLL 4.160	Y CAP:						.00	kVR
FROM NODE 72	.....:					55.31	90.86	AMP/DG
<73 > LOSS=	.212:					(	.212)	kW
TO NODE 74	.....:					37.27	90.85	AMP/DG
<74 > LOSS=	.122:					(	.122)	kW
NODE: 74	VOLTS:					1.030	117.42	MAG/ANG
	Y-LD:					42.46	21.23	kW/kVR
kVLL 4.160	Y CAP:						.00	kVR
FROM NODE 73	.....:					37.27	90.85	AMP/DG
<74 > LOSS=	.122:					(	.122)	kW
TO NODE 75	.....:					18.09	90.84	AMP/DG
<75 > LOSS=	.033:					(	.033)	kW
NODE: 75	VOLTS:					1.029	117.40	MAG/ANG
	Y-LD:					40.00	20.00	kW/kVR
kVLL 4.160	Y CAP:						.00	kVR
FROM NODE 74	.....:					18.09	90.84	AMP/DG
<75 > LOSS=	.033:					(	.033)	kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 76	VOLTS:	1.036 -3.92	1.030 -122.38	1.035 117.45	MAG/ANG
	D-LD:	107.59 81.97	72.32 51.66	72.97 52.12	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 72	.....:	118.75 22.68	126.10 -108.04	100.03 156.30	AMP/DG
<76 > LOSS=	.473:	(.168)	(.284)	(.020)	kW
TO NODE 77	.....:	77.82 60.48	77.40 -57.30	77.45 -177.48	AMP/DG
<77 > LOSS=	.418:	(.101)	(.151)	(.166)	kW
TO NODE 86	.....:	32.69 5.55	57.67 -129.86	21.03 157.54	AMP/DG
<86 > LOSS=	.229:	(.075)	(.191)	(-.036)	kW
NODE: 77	VOLTS:	1.037 -3.99	1.031 -122.46	1.036 117.37	MAG/ANG
	Y-LD:	.00 .00	40.00 20.00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 76	.....:	77.82 60.48	77.40 -57.30	77.45 -177.48	AMP/DG
<77 > LOSS=	.418:	(.101)	(.151)	(.166)	kW
TO NODE 78	.....:	77.82 60.48	80.01 -44.26	77.45 -177.48	AMP/DG
<78 > LOSS=	.108:	(.034)	(.031)	(.043)	kW
NODE: 78	VOLTS:	1.037 -4.01	1.031 -122.48	1.036 117.35	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 77	.....:	77.82 60.48	80.01 -44.26	77.45 -177.48	AMP/DG
<78 > LOSS=	.108:	(.034)	(.031)	(.043)	kW
TO NODE 79	.....:	19.31 -30.58	.00 .00	.00 .00	AMP/DG
<79 > LOSS=	.007:	(.008)	(.000)	(.000)	kW
TO NODE 80	.....:	80.52 74.35	80.01 -44.26	77.45 -177.48	AMP/DG
<80 > LOSS=	.524:	(.126)	(.139)	(.259)	kW
NODE: 79	VOLTS:	1.037 -4.02	1.031 -122.48	1.036 117.36	MAG/ANG
	Y-LD:	43.01 21.51	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 78	.....:	19.31 -30.59	.00 .00	.00 .00	AMP/DG
<79 > LOSS=	.007:	(.008)	(.000)	(.000)	kW
NODE: 80	VOLTS:	1.039 -4.07	1.033 -122.54	1.037 117.24	MAG/ANG
	Y-LD:	.00 .00	40.00 20.00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 78	.....:	80.52 74.35	80.01 -44.26	77.45 -177.48	AMP/DG
<80 > LOSS=	.524:	(.126)	(.139)	(.259)	kW
TO NODE 81	.....:	80.52 74.35	86.40 -32.63	77.45 -177.48	AMP/DG
<81 > LOSS=	.562:	(.175)	(.120)	(.267)	kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 81	VOLTS:	1.042 -4.14	1.035 -122.57	1.037 117.14	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 80	.....:	80.52 74.35	86.40 -32.63	77.44 -177.48	AMP/DG
<81 > LOSS=	.562:	(.175)	(.120)	(.267)	kW
TO NODE 82	.....:	80.52 74.35	86.40 -32.63	82.90 -158.48	AMP/DG
<82 > LOSS=	.304:	(.091)	(.112)	(.100)	kW
TO NODE 84	.....:			27.01 90.52	AMP/DG
<84 > LOSS=	.124:			(.124)	kW
NODE: 82	VOLTS:	1.042 -4.18	1.036 -122.60	1.038 117.11	MAG/ANG
	Y-LD:	40.00 20.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 81	.....:	80.52 74.35	86.40 -32.63	82.90 -158.48	AMP/DG
<82 > LOSS=	.304:	(.091)	(.112)	(.100)	kW
TO NODE 83	.....:	86.90 85.80	86.40 -32.63	82.90 -158.48	AMP/DG
<83 > LOSS=	.318:	(.081)	(.102)	(.135)	kW
NODE: 83	VOLTS:	1.044 -4.20	1.038 -122.63	1.039 117.07	MAG/ANG
	Y-LD:	.00 .00	.00 .00	20.00 10.00	kW/kVR
kVll 4.160	Y CAP:	217.81	215.30	215.91	kVR
FROM NODE 82	.....:	86.90 85.80	86.40 -32.63	82.90 -158.48	AMP/DG
<83 > LOSS=	.318:	(.081)	(.102)	(.135)	kW
NODE: 84	VOLTS:			1.035 117.09	MAG/ANG
	Y-LD:			20.00 10.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 81	.....:			27.01 90.52	AMP/DG
<84 > LOSS=	.124:			(.124)	kW
TO NODE 85	.....:			18.01 90.51	AMP/DG
<85 > LOSS=	.039:			(.039)	kW
NODE: 85	VOLTS:			1.034 117.07	MAG/ANG
	Y-LD:			40.00 20.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 84	.....:			18.01 90.51	AMP/DG
<85 > LOSS=	.039:			(.039)	kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT O/L< 60.%
NODE: 86	VOLTS:	1.035	-3.95	1.028	-122.55	1.036	117.42	MAG/ANG
	Y-LD:	.00	.00	20.00	10.00	.00	.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 76 ....:		32.69	5.55	57.67	-129.86	21.02	157.54	AMP/DG
<86 > LOSS= .229:		(.075)		(.191)		(-.036)		kW
TO NODE 87 .....:		32.69	5.55	49.21	-126.38	21.02	157.54	AMP/DG
<87 > LOSS= .116:		(.059)		(.066)		(-.009)		kW
NODE: 87	VOLTS:	1.034	-3.97	1.027	-122.63	1.037	117.39	MAG/ANG
	Y-LD:	.00	.00	40.00	20.00	.00	.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 86 ....:		32.69	5.55	49.21	-126.39	21.02	157.54	AMP/DG
<87 > LOSS= .116:		(.059)		(.066)		(-.009)		kW
TO NODE 88 .....:		21.00	35.93					AMP/DG
<88 > LOSS= .019:		(.019)						kW
TO NODE 89 .....:		18.03	-30.54	33.25	-114.18	21.02	157.54	AMP/DG
<89 > LOSS= .040:		(.019)		(.031)		(-.009)		kW
NODE: 88	VOLTS:	1.034	-4.00					MAG/ANG
	Y-LD:	40.00	20.00					kW/kVR
kVll 4.160	Y CAP:		53.48					kVR
FROM NODE 87 ....:		21.00	35.93					AMP/DG
<88 > LOSS= .019:		(.019)						kW
NODE: 89	VOLTS:	1.034	-3.96	1.027	-122.68	1.037	117.38	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 87 ....:		18.03	-30.54	33.25	-114.19	21.02	157.53	AMP/DG
<89 > LOSS= .040:		(.019)		(.031)		(-.009)		kW
TO NODE 90 .....:				21.16	-84.64			AMP/DG
<90 > LOSS= .025:				(.025)				kW
TO NODE 91 .....:		18.03	-30.54	18.15	-149.29	21.02	157.53	AMP/DG
<91 > LOSS= .018:		(.009)		(.008)		(.001)		kW
NODE: 90	VOLTS:			1.027	-122.72			MAG/ANG
	Y-LD:			41.08	20.54			kW/kVR
kVll 4.160	Y CAP:				52.72			kVR
FROM NODE 89 ....:				21.16	-84.64			AMP/DG
<90 > LOSS= .025:				(.025)				kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT	O/L< 60.%
NODE: 91	VOLTS:	1.034	-3.96	1.027	-122.69	1.038	117.36	MAG/ANG	
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	CAP:		.00		.00		.00	kVR	
FROM NODE 89	.....:	18.03	-30.54	18.15	-149.29	21.02	157.53	AMP/DG	
<91 > LOSS=	.018:	(.009)		(.008)		(.001)		kW	
TO NODE 92	.....:					21.02	157.53	AMP/DG	
<92 > LOSS=	.033:					(.033)		kW	
TO NODE 93	.....:	18.03	-30.54	18.15	-149.29	.00	.00	AMP/DG	
<93 > LOSS=	.011:	(.010)		(.001)		(.000)		kW	
NODE: 92	VOLTS:					1.037	117.31	MAG/ANG	
	Y-LD:					40.00	20.00	kW/kVR	
kVLL 4.160	Y CAP:						53.82	kVR	
FROM NODE 91	.....:					21.02	157.53	AMP/DG	
<92 > LOSS=	.033:					(.033)		kW	
NODE: 93	VOLTS:	1.033	-3.97	1.026	-122.71	1.038	117.37	MAG/ANG	
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	CAP:		.00		.00		.00	kVR	
FROM NODE 91	.....:	18.03	-30.54	18.15	-149.29	.00	.00	AMP/DG	
<93 > LOSS=	.011:	(.010)		(.001)		(.000)		kW	
TO NODE 94	.....:	18.03	-30.55					AMP/DG	
<94 > LOSS=	.023:	(.023)						kW	
TO NODE 95	.....:	.00	.00	18.15	-149.29	.00	.00	AMP/DG	
<95 > LOSS=	.009:	(.000)		(.008)		(.000)		kW	
NODE: 94	VOLTS:	1.033	-3.98					MAG/ANG	
	Y-LD:	40.00	20.00					kW/kVR	
kVll 4.160	Y CAP:		.00					kVR	
FROM NODE 93	.....:	18.03	-30.55					AMP/DG	
<94 > LOSS=	.023:	(.023)						kW	
NODE: 95	VOLTS:	1.033	-3.96	1.026	-122.73	1.038	117.37	MAG/ANG	
	Y-LD:	.00	.00	20.00	10.00	.00	.00	kW/kVR	
kVll 4.160	Y CAP:		.00		.00		.00	kVR	
FROM NODE 93	.....:	.00	.00	18.15	-149.29	.00	.00	AMP/DG	
<95 > LOSS=	.009:	(.000)		(.008)		(.000)		kW	
TO NODE 96	.....:			9.08	-149.29			AMP/DG	
<96 > LOSS=	.004:			(.004)				kW	

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 96	VOLTS:		1.026 -122.73		MAG/ANG
	Y-LD:		20.00 10.00		kW/kVR
kVll 4.160	Y CAP:		.00		kVR
FROM NODE 95	.....:		9.08 -149.30		AMP/DG
<96 > LOSS=	.004:		(.004)		kW
NODE: 97	VOLTS:	1.035 -3.82	1.031 -122.21	1.034 117.60	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 67	.....:	82.68 -30.60	54.30 -148.83	64.43 90.97	AMP/DG
<97 > LOSS=	.206:	(.094)	(.035)	(.077)	kW
TO NODE 197	.....:	64.68 -30.66	36.21 -148.86	45.20 90.96	AMP/DG
<197 > LOSS=	.000:	(.000)	(.000)	(.000)	kW
TO NODE 98	.....:	18.00 -30.38	18.08 -148.77	19.23 90.98	AMP/DG
<98 > LOSS=	.016:	(.004)	(.007)	(.005)	kW
NODE: 197	VOLTS:	1.034 -3.82	1.031 -122.21	1.034 117.59	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 97	.....:	64.68 -30.66	36.21 -148.86	45.20 90.96	AMP/DG
<197 > LOSS=	.000:	(.000)	(.000)	(.000)	kW
TO NODE 101	.....:	64.68 -30.66	36.21 -148.86	45.20 90.96	AMP/DG
<101 > LOSS=	.114:	(.060)	(.010)	(.044)	kW
NODE: 101	VOLTS:	1.034 -3.86	1.030 -122.22	1.033 117.59	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 197	.....:	64.68 -30.66	36.21 -148.86	45.20 90.96	AMP/DG
<101 > LOSS=	.114:	(.060)	(.010)	(.044)	kW
TO NODE 102	.....:			45.20 90.96	AMP/DG
<102 > LOSS=	.116:			(.116)	kW
TO NODE 105	.....:	64.68 -30.66	36.21 -148.86	.01 .00	AMP/DG
<105 > LOSS=	.114:	(.133)	(-.019)	(.000)	kW
NODE: 102	VOLTS:			1.032 117.56	MAG/ANG
	Y-LD:			20.00 10.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 101	.....:			45.20 90.96	AMP/DG
<102 > LOSS=	.116:			(.116)	kW
TO NODE 103	.....:			36.18 90.95	AMP/DG
<103 > LOSS=	.107:			(.107)	kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 103	VOLTS:			1.030 117.53	MAG/ANG
	Y-LD:			40.00 20.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 102 ....:				36.18 90.95	AMP/DG
<103 > LOSS= .107:				(.107)	kW
TO NODE 104 .....:				18.11 90.93	AMP/DG
<104 > LOSS= .058:				(.058)	kW
NODE: 104	VOLTS:			1.028 117.49	MAG/ANG
	Y-LD:			40.00 20.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 103 ....:				18.11 90.93	AMP/DG
<104 > LOSS= .058:				(.058)	kW
NODE: 105	VOLTS:	1.032 -3.90	1.030 -122.27	1.034 117.61	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 101 ....:		64.68 -30.66	36.21 -148.86	.00 .00	AMP/DG
<105 > LOSS= .114:		(.133)	(-.019)	(.000)	kW
TO NODE 106 .....:			36.22 -148.87		AMP/DG
<106 > LOSS= .074:			(.074)		kW
TO NODE 108 .....:		64.68 -30.66	.00 .00	.00 .00	AMP/DG
<108 > LOSS= .119:		(.119)	(.000)	(.000)	kW
NODE: 106	VOLTS:		1.029 -122.29		MAG/ANG
	Y-LD:		40.00 20.00		kW/kVR
kVll 4.160	Y CAP:		.00		kVR
FROM NODE 105 ....:			36.22 -148.87		AMP/DG
<106 > LOSS= .074:			(.074)		kW
TO NODE 107 .....:			18.12 -148.88		AMP/DG
<107 > LOSS= .048:			(.048)		kW
NODE: 107	VOLTS:		1.028 -122.32		MAG/ANG
	Y-LD:		40.00 20.00		kW/kVR
kVll 4.160	Y CAP:		.00		kVR
FROM NODE 106 ....:			18.12 -148.88		AMP/DG
<107 > LOSS= .048:			(.048)		kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT	O/L< 60.%
NODE: 108	VOLTS:	1.031	-3.97	1.031	-122.28	1.033	117.65	MAG/ANG	
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	CAP:		.00		.00		.00	kVR	
FROM NODE 105 ....:		64.68	-30.66	.00	.00	.00	.00	AMP/DG	
<108 > LOSS= .119:		(.119)		(.000)		(.000)		kW	
TO NODE 109 .....:		64.68	-30.66					AMP/DG	
<109 > LOSS= .474:		(.474)						kW	
TO NODE 300 .....:		.00	.00	.00	.00	.00	.00	AMP/DG	
<300 > LOSS= .000:		(.000)		(-.001)		(.001)		kW	
NODE: 109	VOLTS:	1.027	-4.05					MAG/ANG	
	Y-LD:	40.00	20.00					kW/kVR	
kVll 4.160	Y CAP:		.00					kVR	
FROM NODE 108 ....:		64.68	-30.67					AMP/DG	
<109 > LOSS= .474:		(.474)						kW	
TO NODE 110 .....:		46.54	-30.69					AMP/DG	
<110 > LOSS= .164:		(.164)						kW	
NODE: 110	VOLTS:	1.025	-4.09					MAG/ANG	
	-LD:	.00	.00					kW/kVR	
kVll 4.160	CAP:		.00					kVR	
FROM NODE 109 ....:		46.54	-30.69					AMP/DG	
<110 > LOSS= .164:		(.164)						kW	
TO NODE 111 .....:		9.09	-30.66					AMP/DG	
<111 > LOSS= .012:		(.012)						kW	
TO NODE 112 .....:		37.45	-30.69					AMP/DG	
<112 > LOSS= .044:		(.044)						kW	
NODE: 111	VOLTS:	1.024	-4.10					MAG/ANG	
	Y-LD:	20.00	10.00					kW/kVR	
kVll 4.160	Y CAP:		.00					kVR	
FROM NODE 110 ....:		9.09	-30.67					AMP/DG	
<111 > LOSS= .012:		(.012)						kW	
NODE: 112	VOLTS:	1.024	-4.10					MAG/ANG	
	Y-LD:	20.48	10.24					kW/kVR	
kVll 4.160	Y CAP:		.00					kVR	
FROM NODE 110 ....:		37.45	-30.69					AMP/DG	
<112 > LOSS= .044:		(.044)						kW	
TO NODE 113 .....:		28.14	-30.70					AMP/DG	
<113 > LOSS= .105:		(.105)						kW	

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 113	VOLTS:	1.022 -4.14			MAG/ANG
	Y-LD:	41.78 20.89			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 112	.....:	28.14 -30.70			AMP/DG
<113 > LOSS=	.105:	(.105)			kW
TO NODE 114	.....:	9.11 -30.71			AMP/DG
<114 > LOSS=	.007:	(.007)			kW
NODE: 114	VOLTS:	1.022 -4.15			MAG/ANG
	Y-LD:	20.00 10.00			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 113	.....:	9.11 -30.71			AMP/DG
<114 > LOSS=	.007:	(.007)			kW
NODE: 300	VOLTS:	1.031 -3.97	1.031 -122.28	1.033 117.65	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 108	.....:	.00 .00	.00 .00	.00 .00	AMP/DG
<300 > LOSS=	.000:	(.000)	(-.001)	(.001)	kW
NODE: 98	VOLTS:	1.034 -3.83	1.030 -122.22	1.034 117.59	MAG/ANG
	Y-LD:	40.00 20.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 97	.....:	18.00 -30.38	18.08 -148.78	19.23 90.98	AMP/DG
<98 > LOSS=	.016:	(.004)	(.007)	(.005)	kW
TO NODE 99	.....:	.00 .00	18.08 -148.78	19.23 90.98	AMP/DG
<99 > LOSS=	.028:	(.000)	(.028)	(.000)	kW
NODE: 99	VOLTS:	1.035 -3.82	1.029 -122.23	1.033 117.55	MAG/ANG
	Y-LD:	.00 .00	40.00 20.00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 98	.....:	.00 .00	18.08 -148.78	19.23 90.97	AMP/DG
<99 > LOSS=	.028:	(.000)	(.028)	(.000)	kW
TO NODE 100	.....:	.00 .00	.00 .00	19.23 90.97	AMP/DG
<100 > LOSS=	.010:	(.000)	(.000)	(.010)	kW
NODE: 100	VOLTS:	1.035 -3.82	1.029 -122.21	1.033 117.53	MAG/ANG
	Y-LD:	.00 .00	.00 .00	42.67 21.33	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 99	.....:	.00 .00	.00 .00	19.23 90.97	AMP/DG
<100 > LOSS=	.010:	(.000)	(.000)	(.010)	kW
TO NODE 450	.....:	.00 .00	.00 .00	.00 .00	AMP/DG
<450 > LOSS=	.000:	(.000)	(-.001)	(.001)	kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT O/L< 60.%
NODE: 450	VOLTS:	1.035	-3.82	1.029	-122.21	1.033	117.53	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 100	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<450 > LOSS=	.000:	(.000)		(-.001)		(.001)		kW
NODE: 61	VOLTS:	.988	-3.51	1.026	-122.00	1.005	117.76	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 60	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<61 > LOSS=	.000:	(.000)		(.001)		(.000)		kW
TO NODE XF1	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<XF1 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
NODE: XF1	VOLTS:	.988	-3.51	1.026	-122.00	1.005	117.76	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll .480	CAP:		.00		.00		.00	kVR
FROM NODE 61	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<XF1 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
TO NODE 610	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<610 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
NODE: 610	VOLTS:	.988	-3.51	1.026	-122.00	1.005	117.76	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll .480	CAP:		.00		.00		.00	kVR
FROM NODE XF1	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<610 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
NODE: 62	VOLTS:	.987	-3.50	1.024	-121.98	1.003	117.75	MAG/ANG
	Y-LD:	.00	.00	.00	.00	40.25	20.13	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 60	.....:	45.37	-41.36	52.24	-150.55	80.73	92.21	AMP/DG
<62 > LOSS=	.565:	(.072)		(.151)		(.341)		kW
TO NODE 63	.....:	45.37	-41.36	52.24	-150.55	62.06	92.52	AMP/DG
<63 > LOSS=	.295:	(.065)		(.106)		(.125)		kW
NODE: 63	VOLTS:	.987	-3.49	1.024	-121.97	1.002	117.74	MAG/ANG
	Y-LD:	40.00	20.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 62	.....:	45.37	-41.36	52.25	-150.56	62.06	92.52	AMP/DG
<63 > LOSS=	.295:	(.065)		(.106)		(.125)		kW
TO NODE 64	.....:	27.12	-49.20	52.25	-150.56	62.06	92.52	AMP/DG
<64 > LOSS=	.533:	(.032)		(.245)		(.256)		kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT O/L< 60.%
NODE: 64	VOLTS:	.986	-3.47	1.022	-121.93	1.000	117.70	MAG/ANG
	Y-LD:	.00	.00	76.63	35.76	.00	.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 63 ....:		27.13	-49.22	52.25	-150.57	62.06	92.51	AMP/DG
<64 > LOSS= .533:		(.032)		(.245)		(.256)		kW
TO NODE 65 .....:		27.13	-49.22	17.99	-157.50	62.06	92.51	AMP/DG
<65 > LOSS= .452:		(.024)		(.031)		(.398)		kW
NODE: 65	VOLTS:	.986	-3.48	1.021	-121.89	.997	117.70	MAG/ANG
	D-LD:	34.68	24.77	35.79	25.57	69.60	49.72	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 64 ....:		27.14	-49.24	18.00	-157.54	62.07	92.50	AMP/DG
<65 > LOSS= .452:		(.024)		(.031)		(.398)		kW
TO NODE 66 .....:		.01	.00	.01	.00	34.61	92.69	AMP/DG
<66 > LOSS= .112:		(.000)		(.000)		(.112)		kW
NODE: 66	VOLTS:	.986	-3.51	1.022	-121.87	.996	117.70	MAG/ANG
	Y-LD:	.00	.00	.00	.00	75.00	35.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 65 ....:		.00	.00	.00	.00	34.62	92.68	AMP/DG
<66 > LOSS= .112:		(.000)		(.000)		(.112)		kW
NODE: 18	VOLTS:	.999	-2.29	1.032	-121.22	1.012	118.83	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 13 ....:		228.85	-30.43	155.56	-155.10	153.36	88.61	AMP/DG
<18 > LOSS= 4.907:		(2.436)		(.341)		(2.131)		kW
TO NODE 135 .....:		135.82	-31.42	136.56	-156.13	98.12	86.58	AMP/DG
<135 > LOSS= .000:		(.000)		(.000)		(.000)		kW
TO NODE 19 .....:		37.29	-28.89					AMP/DG
<19 > LOSS= .087:		(.087)						kW
TO NODE 21 .....:		55.79	-29.05	19.19	-147.79	55.41	92.21	AMP/DG
<21 > LOSS= .125:		(.011)		(-.002)		(.116)		kW
NODE: 135	VOLTS:	.999	-2.29	1.032	-121.23	1.012	118.83	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 18 ....:		135.82	-31.42	136.56	-156.13	98.12	86.58	AMP/DG
<135 > LOSS= .000:		(.000)		(.000)		(.000)		kW
TO NODE 35 .....:		135.82	-31.42	136.56	-156.13	98.12	86.58	AMP/DG
<35 > LOSS= 1.026:		(.555)		(.397)		(.074)		kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT	O/L< 60.%
NODE: 35	VOLTS:	.996	-2.38	1.029	-121.31	1.011	118.77	MAG/ANG	
	D-LD:	40.00	20.00	.00	.00	.00	.00	kW/kVR	
kVll 4.160	Y CAP:		.00		.00		.00	kVR	
FROM NODE 135	.....:	135.82	-31.42	136.56	-156.13	98.12	86.58	AMP/DG	
<35 > LOSS=	1.026:	(.555)		(.397)		(.074)		kW	
TO NODE 36	.....:	18.51	-28.97	18.37	-147.93			AMP/DG	
<36 > LOSS=	.032:	(.030)		(.003)				kW	
TO NODE 40	.....:	108.64	-34.95	108.47	-155.43	98.12	86.58	AMP/DG	
<40 > LOSS=	.482:	(.246)		(.126)		(.110)		kW	
NODE: 36	VOLTS:	.995	-2.40	1.029	-121.36			MAG/ANG	
	-LD:	.00	.00	.00	.00			kW/kVR	
kVLL 4.160	CAP:		.00		.00			kVR	
FROM NODE 35	.....:	18.51	-28.98	18.37	-147.94			AMP/DG	
<36 > LOSS=	.032:	(.030)		(.003)				kW	
TO NODE 37	.....:	18.51	-28.98					AMP/DG	
<37 > LOSS=	.026:	(.026)						kW	
TO NODE 38	.....:			18.37	-147.94			AMP/DG	
<38 > LOSS=	.021:			(.021)				kW	
NODE: 37	VOLTS:	.994	-2.41					MAG/ANG	
	Y-LD:	39.55	19.77					kW/kVR	
kVll 4.160	Y CAP:		.00					kVR	
FROM NODE 36	.....:	18.51	-28.98					AMP/DG	
<37 > LOSS=	.026:	(.026)						kW	
NODE: 38	VOLTS:			1.028	-121.37			MAG/ANG	
	Y-LD:			20.56	10.28			kW/kVR	
kVll 4.160	Y CAP:				.00			kVR	
FROM NODE 36	.....:			18.37	-147.94			AMP/DG	
<38 > LOSS=	.021:			(.021)				kW	
TO NODE 39	.....:			9.06	-147.94			AMP/DG	
<39 > LOSS=	.007:			(.007)				kW	
NODE: 39	VOLTS:			1.028	-121.38			MAG/ANG	
	Y-LD:			20.00	10.00			kW/kVR	
kVll 4.160	Y CAP:				.00			kVR	
FROM NODE 38	.....:			9.06	-147.94			AMP/DG	
<39 > LOSS=	.007:			(.007)				kW	

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 40	VOLTS:	.994 -2.42	1.028 -121.36	1.010 118.72	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 35 ....:		108.64 -34.95	108.47 -155.43	98.12 86.58	AMP/DG
<40 > LOSS= .482:		(.246)	(.126)	(.110)	kW
TO NODE 41 .....:				9.22 92.15	AMP/DG
<41 > LOSS= .007:				(.007)	kW
TO NODE 42 .....:		108.64 -34.95	108.47 -155.43	88.95 86.00	AMP/DG
<42 > LOSS= .459:		(.265)	(.110)	(.083)	kW
NODE: 41	VOLTS:			1.010 118.71	MAG/ANG
	Y-LD:			20.00 10.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 40 ....:				9.22 92.15	AMP/DG
<41 > LOSS= .007:				(.007)	kW
NODE: 42	VOLTS:	.993 -2.45	1.027 -121.41	1.009 118.68	MAG/ANG
	Y-LD:	20.00 10.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 40 ....:		108.64 -34.95	108.47 -155.43	88.95 86.00	AMP/DG
<42 > LOSS= .459:		(.265)	(.110)	(.083)	kW
TO NODE 43 .....:			19.10 -148.00		AMP/DG
<43 > LOSS= .046:			(.046)		kW
TO NODE 44 .....:		99.32 -35.51	89.57 -157.01	88.95 86.00	AMP/DG
<44 > LOSS= .299:		(.151)	(.063)	(.086)	kW
NODE: 43	VOLTS:		1.026 -121.43		MAG/ANG
	Y-LD:		42.08 21.04		kW/kVR
kVll 4.160	Y CAP:		.00		kVR
FROM NODE 42 ....:			19.10 -148.00		AMP/DG
<43 > LOSS= .046:			(.046)		kW
NODE: 44	VOLTS:	.992 -2.48	1.026 -121.44	1.008 118.65	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 42 ....:		99.32 -35.51	89.57 -157.01	88.95 86.00	AMP/DG
<44 > LOSS= .299:		(.151)	(.063)	(.086)	kW
TO NODE 45 .....:		18.71 -29.06			AMP/DG
<45 > LOSS= .018:		(.018)			kW
TO NODE 47 .....:		80.76 -37.00	89.57 -157.01	88.95 86.00	AMP/DG
<47 > LOSS= .327:		(.125)	(.117)	(.085)	kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 45	VOLTS:	.991 -2.49			MAG/ANG
	Y-LD:	19.83 9.91			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 44	.....:	18.71 -29.06			AMP/DG
<45 > LOSS=	.018:	(.018)			kW
TO NODE 46	.....:	9.40 -29.06			AMP/DG
<46 > LOSS=	.007:	(.007)			kW
NODE: 46	VOLTS:	.991 -2.50			MAG/ANG
	Y-LD:	20.00 10.00			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 45	.....:	9.40 -29.06			AMP/DG
<46 > LOSS=	.007:	(.007)			kW
NODE: 47	VOLTS:	.991 -2.50	1.025 -121.47	1.007 118.61	MAG/ANG
	Y-LD:	34.68 24.77	35.88 25.63	35.26 25.18	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 44	.....:	80.76 -37.00	89.57 -157.01	88.95 86.00	AMP/DG
<47 > LOSS=	.327:	(.125)	(.117)	(.085)	kW
TO NODE 48	.....:	35.48 -38.05	36.71 -157.01	36.07 83.06	AMP/DG
<48 > LOSS=	.034:	(.012)	(.015)	(.007)	kW
TO NODE 49	.....:	27.40 -34.98	34.95 -157.01	35.15 90.51	AMP/DG
<49 > LOSS=	.047:	(.010)	(.030)	(.007)	kW
NODE: 48	VOLTS:	.990 -2.51	1.025 -121.47	1.007 118.60	MAG/ANG
	Y-LD:	68.68 49.05	73.54 52.53	71.01 50.72	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 47	.....:	35.48 -38.05	36.71 -157.01	36.07 83.06	AMP/DG
<48 > LOSS=	.034:	(.012)	(.015)	(.007)	kW
NODE: 49	VOLTS:	.991 -2.51	1.025 -121.48	1.007 118.58	MAG/ANG
	Y-LD:	35.00 25.00	70.00 50.00	35.00 20.00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 47	.....:	27.40 -34.98	34.95 -157.01	35.15 90.51	AMP/DG
<49 > LOSS=	.047:	(.010)	(.030)	(.007)	kW
TO NODE 50	.....:	9.40 -29.08	.00 .00	18.49 92.02	AMP/DG
<50 > LOSS=	.008:	(-.002)	(.000)	(.010)	kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 50	VOLTS:	.990 -2.52	1.025 -121.47	1.007 118.57	MAG/ANG
	Y-LD:	.00 .00	.00 .00	40.00 20.00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 49	.....:	9.40 -29.08	.00 .00	18.49 92.01	AMP/DG
<50 > LOSS=	.008:	(-.002)	(.000)	(.010)	kW
TO NODE 51	.....:	9.40 -29.08	.00 .00	.00 .00	AMP/DG
<51 > LOSS=	.002:	(.002)	(.000)	(.000)	kW
NODE: 51	VOLTS:	.990 -2.53	1.025 -121.47	1.007 118.58	MAG/ANG
	Y-LD:	20.00 10.00	.00 .00	.00 .00	kW/kVR
kVll 4.160	Y CAP:	.00	.00	.00	kVR
FROM NODE 50	.....:	9.40 -29.09	.00 .00	.00 .00	AMP/DG
<51 > LOSS=	.002:	(.002)	(.000)	(.000)	kW
TO NODE 151	.....:	.00 .00	.00 .00	.00 .00	AMP/DG
<151 > LOSS=	.000:	(.000)	(.000)	(.001)	kW
NODE: 151	VOLTS:	.990 -2.53	1.025 -121.47	1.007 118.58	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 51	.....:	.00 .00	.00 .00	.00 .00	AMP/DG
<151 > LOSS=	.000:	(.000)	(.000)	(.001)	kW
NODE: 19	VOLTS:	.998 -2.31			MAG/ANG
	Y-LD:	40.00 20.00			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 18	.....:	37.29 -28.89			AMP/DG
<19 > LOSS=	.087:	(.087)			kW
TO NODE 20	.....:	18.62 -28.89			AMP/DG
<20 > LOSS=	.028:	(.028)			kW
NODE: 20	VOLTS:	.997 -2.33			MAG/ANG
	Y-LD:	39.87 19.93			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 19	.....:	18.62 -28.90			AMP/DG
<20 > LOSS=	.028:	(.028)			kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 21	VOLTS:	.998 -2.34	1.032 -121.22	1.011 118.81	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 18	.....:	55.80 -29.06	19.19 -147.80	55.41 92.21	AMP/DG
<21 > LOSS=	.125:	(.011)	(-.002)	(.116)	kW
TO NODE 22	.....:		19.19 -147.81		AMP/DG
<22 > LOSS=	.049:		(.049)		kW
TO NODE 23	.....:	55.80 -29.06	.00 .00	55.41 92.21	AMP/DG
<23 > LOSS=	.112:	(-.006)	(.000)	(.117)	kW
NODE: 22	VOLTS:		1.031 -121.25		MAG/ANG
	Y-LD:		42.48 21.24		kW/kVR
kVll 4.160	Y CAP:		.00		kVR
FROM NODE 21	.....:		19.19 -147.81		AMP/DG
<22 > LOSS=	.049:		(.049)		kW
NODE: 23	VOLTS:	.998 -2.39	1.032 -121.20	1.010 118.79	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 21	.....:	55.80 -29.06	.00 .00	55.41 92.21	AMP/DG
<23 > LOSS=	.112:	(-.006)	(.000)	(.117)	kW
TO NODE 24	.....:			18.46 92.21	AMP/DG
<24 > LOSS=	.047:			(.047)	kW
TO NODE 25	.....:	55.80 -29.06	.00 .00	36.95 92.21	AMP/DG
<25 > LOSS=	.091:	(.021)	(.000)	(.070)	kW
NODE: 24	VOLTS:			1.009 118.77	MAG/ANG
	Y-LD:			40.00 20.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 23	.....:			18.46 92.20	AMP/DG
<24 > LOSS=	.047:			(.047)	kW
NODE: 25	VOLTS:	.997 -2.45	1.033 -121.20	1.009 118.80	MAG/ANG
	-LD:	.00 .00	.00 .00	.00 .00	kW/kVR
kVll 4.160	CAP:	.00	.00	.00	kVR
FROM NODE 23	.....:	55.80 -29.06	.00 .00	36.95 92.21	AMP/DG
<25 > LOSS=	.091:	(.021)	(.000)	(.070)	kW
TO NODE 28	.....:	37.18 -29.05	.00 .00	18.47 92.21	AMP/DG
<28 > LOSS=	.026:	(.011)	(.000)	(.015)	kW
TO NODE RG3	.<VRG>.:	18.62 -29.08		18.47 92.21	AMP/DG
<RG3 > LOSS=	.000:	(.000)		(.000)	kW

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NODE	VALUE	PHASE A (LINE A)		PHASE B (LINE B)		PHASE C (LINE C)		UNT O/L< 60.%
NODE: 28	VOLTS:	.997	-2.48	1.033	-121.19	1.009	118.80	MAG/ANG
	Y-LD:	39.87	19.94	.00	.00	.00	.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 25	.....:	37.18	-29.05	.00	.00	18.47	92.21	AMP/DG
<28 > LOSS=	.026:	(.011)		(.000)		(.015)		kW
TO NODE 29	.....:	18.56	-29.05	.00	.00	18.47	92.21	AMP/DG
<29 > LOSS=	.015:	(-.001)		(.000)		(.015)		kW
NODE: 29	VOLTS:	.997	-2.50	1.033	-121.19	1.008	118.79	MAG/ANG
	Y-LD:	39.73	19.87	.00	.00	.00	.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 28	.....:	18.56	-29.06	.00	.00	18.47	92.21	AMP/DG
<29 > LOSS=	.015:	(-.001)		(.000)		(.015)		kW
TO NODE 30	.....:	.00	.00	.00	.00	18.47	92.21	AMP/DG
<30 > LOSS=	.010:	(.000)		(.000)		(.010)		kW
NODE: 30	VOLTS:	.997	-2.50	1.033	-121.18	1.008	118.77	MAG/ANG
	Y-LD:	.00	.00	.00	.00	40.00	20.00	kW/kVR
kVll 4.160	Y CAP:		.00		.00		.00	kVR
FROM NODE 29	.....:	.00	.00	.00	.00	18.47	92.21	AMP/DG
<30 > LOSS=	.010:	(.000)		(.000)		(.010)		kW
TO NODE 250	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<250 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
NODE: 250	VOLTS:	.997	-2.50	1.033	-121.18	1.008	118.77	MAG/ANG
	-LD:	.00	.00	.00	.00	.00	.00	kW/kVR
kVll 4.160	CAP:		.00		.00		.00	kVR
FROM NODE 30	.....:	.00	.00	.00	.00	.00	.00	AMP/DG
<250 > LOSS=	.000:	(.000)		(.000)		(.000)		kW
NODE: RG3	VOLTS:	.997	-2.45			1.003	118.80	MAG/ANG
	-LD:	.00	.00			.00	.00	kW/kVR
kVll 4.160	CAP:		.00				.00	kVR
FROM NODE 25	<VRG>:	18.62	-29.08			18.59	92.21	AMP/DG
<RG3 > LOSS=	.000:	(.000)				(.000)		kW
TO NODE 26	.....:	18.62	-29.08			18.59	92.21	AMP/DG
<26 > LOSS=	.017:	(.001)				(.016)		kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 26	VOLTS:	.997 -2.48		1.002 118.79	MAG/ANG
	-LD:	.00 .00		.00 .00	kW/kVR
kVll 4.160	CAP:	.00		.00	kVR
FROM NODE RG3 ....:		18.62 -29.08		18.59 92.21	AMP/DG
<26 > LOSS= .017:		(.001)		(.016)	kW
TO NODE 27 .....:		18.62 -29.08		.00 .00	AMP/DG
<27 > LOSS= .008:		(.009)		(.000)	kW
TO NODE 31 .....:				18.59 92.21	AMP/DG
<31 > LOSS= .020:				(.020)	kW
NODE: 27	VOLTS:	.997 -2.49		1.002 118.79	MAG/ANG
	-LD:	.00 .00		.00 .00	kW/kVR
kVll 4.160	CAP:	.00		.00	kVR
FROM NODE 26 ....:		18.62 -29.08		.00 .00	AMP/DG
<27 > LOSS= .008:		(.009)		(.000)	kW
TO NODE 33 .....:		18.62 -29.08			AMP/DG
<33 > LOSS= .044:		(.044)			kW
NODE: 33	VOLTS:	.995 -2.52			MAG/ANG
	Y-LD:	39.81 19.91			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 27 ....:		18.62 -29.08			AMP/DG
<33 > LOSS= .044:		(.044)			kW
NODE: 31	VOLTS:			1.002 118.77	MAG/ANG
	Y-LD:			20.00 10.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 26 ....:				18.59 92.21	AMP/DG
<31 > LOSS= .020:				(.020)	kW
TO NODE 32 .....:				9.30 92.20	AMP/DG
<32 > LOSS= .007:				(.007)	kW
NODE: 32	VOLTS:			1.001 118.77	MAG/ANG
	Y-LD:			20.00 10.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 31 ....:				9.30 92.20	AMP/DG
<32 > LOSS= .007:				(.007)	kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: 34	VOLTS:			1.019 118.88	MAG/ANG
	Y-LD:			41.51 20.75	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 13	.....:			46.42 92.30	AMP/DG
<34 > LOSS=	.081:			(.081)	kW
TO NODE 15	.....:			27.45 92.30	AMP/DG
<15 > LOSS=	.019:			(.019)	kW
NODE: 15	VOLTS:			1.018 118.87	MAG/ANG
	-LD:			.00 .00	kW/kVR
kVLL 4.160	CAP:			.00	kVR
FROM NODE 34	.....:			27.45 92.30	AMP/DG
<15 > LOSS=	.019:			(.019)	kW
TO NODE 16	.....:			18.30 92.29	AMP/DG
<16 > LOSS=	.032:			(.032)	kW
TO NODE 17	.....:			9.15 92.30	AMP/DG
<17 > LOSS=	.007:			(.007)	kW
NODE: 16	VOLTS:			1.017 118.85	MAG/ANG
	Y-LD:			40.00 20.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 15	.....:			18.30 92.29	AMP/DG
<16 > LOSS=	.032:			(.032)	kW
NODE: 17	VOLTS:			1.018 118.86	MAG/ANG
	Y-LD:			20.00 10.00	kW/kVR
kVLL 4.160	Y CAP:			.00	kVR
FROM NODE 15	.....:			9.15 92.30	AMP/DG
<17 > LOSS=	.007:			(.007)	kW
NODE: 9	VOLTS:	1.014 -1.47			MAG/ANG
	Y-LD:	40.00 20.00			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 8	.....:	46.22 -28.05			AMP/DG
<9 > LOSS=	.122:	(.122)			kW
TO NODE RG2	.<VRG>.:	27.86 -28.07			AMP/DG
<RG2 > LOSS=	.000:	(.000)			kW

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NODE	VALUE	PHASE A (LINE A)	PHASE B (LINE B)	PHASE C (LINE C)	UNT O/L< 60.%
NODE: RG2	VOLTS:	1.008 -1.47			MAG/ANG
	-LD:	.00 .00			kW/kVR
kVll 4.160	CAP:	.00			kVR
FROM NODE 9	<VRG>:	28.03 -28.07			AMP/DG
<RG2 > LOSS= .000:		(.000)			kW
TO NODE 14	:	28.03 -28.07			AMP/DG
<14 > LOSS= .084:		(.084)			kW
NODE: 14	VOLTS:	1.006 -1.50			MAG/ANG
	-LD:	.00 .00			kW/kVR
kVll 4.160	CAP:	.00			kVR
FROM NODE RG2	:	28.04 -28.07			AMP/DG
<14 > LOSS= .084:		(.084)			kW
TO NODE 10	:	9.31 -28.07			AMP/DG
<10 > LOSS= .005:		(.005)			kW
TO NODE 11	:	18.73 -28.07			AMP/DG
<11 > LOSS= .022:		(.022)			kW
NODE: 10	VOLTS:	1.006 -1.50			MAG/ANG
	Y-LD:	20.12 10.06			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 14	:	9.31 -28.07			AMP/DG
<10 > LOSS= .005:		(.005)			kW
NODE: 11	VOLTS:	1.006 -1.51			MAG/ANG
	Y-LD:	40.45 20.23			kW/kVR
kVll 4.160	Y CAP:	.00			kVR
FROM NODE 14	:	18.73 -28.08			AMP/DG
<11 > LOSS= .022:		(.022)			kW