ANEXO 25
RESULTADOS DE CORTOCIRCUITO ALTERNATIVA CON CENTROAMÉRICA

ÍNDICE GENERAL

1. Cortocircuito Año 2010

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    PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     TUE, MAY 25 2010  14:01
PLAN DE EXPANSION DEL SIN JUNIO-2010                                SHORT CIRCUIT
AÑO 2010 ESC-MOD DEMANDA-MAX-INVIERNO                              FAULT CURRENTS
                      OUTPUT FOR AREA 6 [PANAMA      ]

                                  THREE PHASE FAULT    ONE PHASE FAULT
X---------- BUS ----------X          /I+/    AN(I+)     /IA/    AN(IA)
     1 [PAN230      230.00] AMPS    5784.0   -76.99    5593.3   -81.61
     2 [PAN115      115.00] AMPS   11374.8   -78.01   11988.1   -83.25
     3 [PANII230    230.00] AMPS    5799.7   -77.19    5668.5   -81.52
     4 [PANII115    115.00] AMPS    8413.1   -81.26    6406.0   -87.99
     5 [CHO230      230.00] AMPS    4747.4   -76.73    5033.5   -80.89
     6 [CHO115      115.00] AMPS    2991.0   -89.83       0.0     0.00
     8 [LSA230      230.00] AMPS    5071.6   -71.08    3957.6   -73.27
     9 [LSA115      115.00] AMPS    4194.7   -78.55    3355.1   -83.41
    11 [M.N230      230.00] AMPS    6258.2   -63.10    6819.6   -63.77
    12 [M.N115      115.00] AMPS    5653.8   -61.94    3532.8   -52.12
    14 [PRO230      230.00] AMPS    4060.2   -61.60    4633.7   -63.38
    15 [PRO115      115.00] AMPS    2866.5   -68.44       0.0     0.00
    18 [CAC115      115.00] AMPS   11297.6   -78.15   11896.5   -83.13
    19 [C.V115      115.00] AMPS    7937.5   -80.62    5688.7   -85.69
    20 [CH.AZUL     115.00] AMPS    1785.8   -65.45       0.0     0.00
    21 [C.BAN115    115.00] AMPS   10020.5   -78.23    8070.1   -82.22
    23 [CH115       115.00] AMPS    6202.0   -83.92    4409.7   -86.08
    26 [LOC115      115.00] AMPS   10297.2   -78.00    9127.5   -81.45
    30 [MAR115      115.00] AMPS    9220.8   -78.70    7510.5   -82.65
    33 [STM115      115.00] AMPS   10253.6   -78.56    9888.5   -83.43
    37 [SAN115      115.00] AMPS    9552.2   -78.72    7084.1   -83.39
    48 [TINAJ115    115.00] AMPS    8762.0   -80.40    6761.4   -85.06
    50 [M.O115      115.00] AMPS    9290.0   -79.89    7626.9   -84.83
    52 [TOC115      115.00] AMPS    6820.9   -82.33    4239.1   -86.32
    54 [LM1115      115.00] AMPS   10067.6   -85.96   12372.7   -88.04
    55 [LM2115      115.00] AMPS   10121.1   -86.23   12426.2   -88.27
    61 [FFIELD      115.00] AMPS    7806.0   -86.14    8249.3   -82.95
    85 [PTP230      230.00] AMPS    1980.2   -39.42    2269.8   -44.44
    87 [CAL115      115.00] AMPS    5688.6   -59.22    7492.8   -58.42
    88 [EST115      115.00] AMPS    5067.9   -57.91    7052.3   -57.99
    92 [L.V115      115.00] AMPS    5455.0   -58.69    7565.5   -58.75
    96 [FOR230      230.00] AMPS    6627.6   -63.68    7766.9   -64.34
   100 [BAY230      230.00] AMPS    4663.7   -81.32    5234.2   -84.04
   103 [COPESA23    230.00] AMPS    5074.4   -78.62    5065.5   -82.34
   105 [PAN-AM23    230.00] AMPS    4713.8   -76.82    4995.5   -80.96
   109 [STA RITA115 115.00] AMPS    9119.1   -85.82    8679.2   -85.76
   115 [PACORA23    230.00] AMPS    4871.5   -79.57    4448.7   -82.50
   144 [CANJ230     230.00] AMPS    5576.2   -64.44    6023.4   -64.10
   146 [GUALACA230  230.00] AMPS    5331.2   -59.02    6092.2   -60.46
   147 [GUASQ230    230.00] AMPS    5779.6   -64.47    6491.3   -64.48
   148 [VELADERO 230230.00] AMPS    5770.5   -66.45    4540.3   -65.44
   154 [CEMPAN15    115.00] AMPS    6303.1   -85.32    6289.2   -88.17
   190 [CHANG230    230.00] AMPS    1558.0   -37.65    1541.7   -46.79
   191 [CHANG115    115.00] AMPS    1775.1   -53.30    2039.3   -57.15
   522 [TCATIVÁ 115 115.00] AMPS   10116.8   -86.20   12436.4   -88.29
   529 [TCOLON 115  115.00] AMPS    9132.2   -86.06       0.0     0.00
   700 [BAITUN230   230.00] AMPS    3496.8   -61.53    3515.8   -61.89
   701 [BAITUN115   115.00] AMPS    2145.4   -62.95    2666.6   -62.70
   702 [BJOMIN115   115.00] AMPS    2022.4   -61.48    2569.8   -61.57
  6000 [FRONTER     230.00] AMPS    3952.5   -61.55    4312.4   -63.07
  6400 [FRONTCHA    230.00] AMPS    1446.5   -57.35       0.0     0.00
  6500 [FRONTVEL    230.00] AMPS    3457.0   -62.60       0.0     0.00

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    PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     TUE, MAY 25 2010  14:01
PLAN DE EXPANSION DEL SIN JUNIO-2010                                SHORT CIRCUIT
AÑO 2010 ESC-MOD DEMANDA-MAX-INVIERNO                              FAULT CURRENTS
                      OUTPUT FOR AREA 7 [ACANAL      ]

                                  THREE PHASE FAULT    ONE PHASE FAULT
X---------- BUS ----------X          /I+/    AN(I+)     /IA/    AN(IA)
   123 [MIR115      115.00] AMPS    7438.8   -83.55    7118.8   -86.44
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2. Cortocircuito Año 2011

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    PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     TUE, MAY 25 2010  14:06
 PLAN DE EXPANSION DEL SIN JUNIO-2010                              SHORT CIRCUIT
 AÑO 2011 ESC-MOD DEMANDA-MAX-INVIERNO                            FAULT CURRENTS
                        OUTPUT FOR AREA 6 [PANAMA      ]
                                    THREE PHASE FAULT    ONE PHASE FAULT
 X---------- BUS ----------X          /I+/    AN(I+)     /IA/    AN(IA)
      1 [PAN230      230.00] AMPS    6271.6   -77.42    6166.8   -81.10
      2 [PAN115      115.00] AMPS   12172.5   -78.26   12633.8   -83.29
      3 [PANII230    230.00] AMPS    6284.6   -77.72    6464.5   -80.97
      4 [PANII115    115.00] AMPS    8905.7   -81.64    6678.4   -87.93
      5 [CHO230      230.00] AMPS    5136.6   -77.04    5517.1   -80.54
      6 [CHO115      115.00] AMPS    4039.0   -88.17       0.0     0.00
      8 [LSA230      230.00] AMPS    5638.6   -71.65    4979.6   -73.47
      9 [LSA115      115.00] AMPS    5489.9   -77.75    3983.3   -82.97
     11 [M.N230      230.00] AMPS    7635.2   -63.64    7753.5   -64.30
     12 [M.N115      115.00] AMPS    5872.6   -62.71    3594.9   -52.54
     14 [PRO230      230.00] AMPS    4990.1   -63.25    5282.7   -65.23
     15 [PRO115      115.00] AMPS    3061.2   -69.46       0.0     0.00
     18 [CAC115      115.00] AMPS   12078.6   -78.38   12529.2   -83.14
     19 [C.V115      115.00] AMPS    8365.8   -80.85    5895.0   -85.43
     20 [CH.AZUL     115.00] AMPS    1859.6   -65.95       0.0     0.00
     21 [C.BAN115    115.00] AMPS   10645.6   -78.42    8401.4   -81.94
     23 [CH115       115.00] AMPS    6438.3   -83.32    4517.3   -85.15
     26 [LOC115      115.00] AMPS   10954.9   -78.19    9533.6   -81.22
     30 [MAR115      115.00] AMPS    9752.2   -78.78    7796.2   -82.30
     33 [STM115      115.00] AMPS   10907.7   -78.72   10345.6   -83.29
     37 [SAN115      115.00] AMPS   10125.2   -78.91    7353.4   -83.07
     48 [TINAJ115    115.00] AMPS    9246.8   -80.46    6997.9   -84.69
     50 [M.O115      115.00] AMPS    9830.8   -80.00    7916.6   -84.53
     52 [TOC115      115.00] AMPS    7155.8   -82.53    4376.9   -85.99
     54 [LM1115      115.00] AMPS   10589.4   -85.11   12916.0   -87.11
     55 [LM2115      115.00] AMPS   10650.1   -85.40   12975.8   -87.35
     61 [FFIELD      115.00] AMPS    8132.4   -85.12    8522.4   -81.67
     85 [PTP230      230.00] AMPS    3538.3   -48.82    3231.0   -52.58
     87 [CAL115      115.00] AMPS    5818.0   -59.84    7643.9   -59.02
     88 [EST115      115.00] AMPS    5161.2   -58.49    7173.4   -58.57
     92 [L.V115      115.00] AMPS    5570.2   -59.29    7713.8   -59.34
     96 [FOR230      230.00] AMPS    8366.5   -63.66    9298.2   -64.36
    100 [BAY230      230.00] AMPS    4885.0   -81.59    5441.1   -84.09
    103 [COPESA23    230.00] AMPS    5430.3   -79.04    5525.4   -81.97
    105 [PAN-AM23    230.00] AMPS    5097.8   -77.13    5467.9   -80.61
    109 [STA RITA115 115.00] AMPS    9558.2   -85.02    8981.3   -84.66
    115 [PACORA23    230.00] AMPS    5227.2   -79.92    4813.6   -82.08
    144 [CANJ230     230.00] AMPS    6813.3   -64.86    7257.1   -64.11
    146 [GUALACA230  230.00] AMPS    6618.6   -59.63    7563.4   -61.11
    147 [GUASQ230    230.00] AMPS    7153.1   -64.85    7974.4   -64.48
    148 [VELADERO 230230.00] AMPS    6753.1   -67.21    5147.1   -65.74
    154 [CEMPAN15    115.00] AMPS    6832.4   -84.74    6661.8   -87.31
    190 [CHANG230    230.00] AMPS    3201.4   -55.55    2347.4   -60.20
    191 [CHANG115    115.00] AMPS    2400.6   -66.20    2561.8   -67.32
    306 [CHAN1 230   230.00] AMPS    3410.6   -52.71    3902.2   -57.39
    310 [CONCEPCION23230.00] AMPS    5611.7   -63.45    4482.4   -63.07
    341 [PRUDENCIA230230.00] AMPS    5267.5   -48.37    5892.2   -48.44
    345 [LORENA230   230.00] AMPS    5903.8   -53.70    6712.1   -54.75
    370 [LSA CAP 230 230.00] AMPS    5638.6   -71.65    4979.6   -73.47
    511 [LGUIAS230   230.00] AMPS    3655.2   -75.42    3389.0   -77.54
    522 [TCATIVÁ 115 115.00] AMPS   10644.0   -85.36   12985.5   -87.37
    529 [TCOLON 115  115.00] AMPS    9570.8   -85.20       0.0     0.00
    540 [ANTON       230.00] AMPS    2924.6   -81.55    3801.7   -81.63
    700 [BAITUN230   230.00] AMPS    4351.0   -62.81    3999.7   -62.82
    701 [BAITUN115   115.00] AMPS    2220.9   -62.58    2739.0   -62.23
    702 [BJOMIN115   115.00] AMPS    2084.4   -60.91    2632.9   -60.94
   6000 [FRONTER     230.00] AMPS    4720.6   -63.50    4796.9   -65.11
   6400 [FRONTCHA    230.00] AMPS    3122.3   -57.25    2093.5   -60.64
   6500 [FRONTVEL    230.00] AMPS    3832.8   -65.20       0.0     0.00
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                        OUTPUT FOR AREA 7 [ACANAL      ]
                                    THREE PHASE FAULT    ONE PHASE FAULT
 X---------- BUS ----------X          /I+/    AN(I+)     /IA/    AN(IA)
    123 [MIR115      115.00] AMPS    7735.9   -83.24    7330.5   -85.90
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3. Cortocircuito Año 2012

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E TUE, MAY 25 2010 14:17
PLAN DE EXPANSION DEL SIN JUNIO-2010 SHORT CIRCUIT
AÑO 2012 ESC-MOD DEMANDA-MAX-INVIERNO FAULT CURRENTS

OUTPUT FOR AREA 6 [PANAMA]

X---------- BUS ----------X		THREE PHASE FAULT /I+/	AN(I+)	ONE PHASE FAULT /IA/	AN(IA)
1 [PAN230 230.00]	AMPS	5738.2	-72.61	5928.5	-77.44
2 [PAN115 115.00]	AMPS	11051.8	-73.59	12157.0	-79.16
3 [PANII230 230.00]	AMPS	5757.5	-73.18	6143.3	-77.40
4 [PANII115 115.00]	AMPS	9094.3	-77.34	7119.0	-84.93
5 [CHO230 230.00]	AMPS	4812.0	-72.29	5281.2	-76.48
6 [CHO115 115.00]	AMPS	3925.8	-85.21	0.0	0.00
8 [LSA230 230.00]	AMPS	5431.8	-64.66	5071.2	-67.10
9 [LSA115 115.00]	AMPS	5381.1	-71.56	3955.3	-77.52
11 [M.N230 230.00]	AMPS	7784.9	-54.34	7886.9	-54.68
12 [M.N115 115.00]	AMPS	6115.3	-52.27	3652.7	-41.95
14 [PRO230 230.00]	AMPS	5043.3	-52.83	5318.1	-54.86
15 [PRO115 115.00]	AMPS	3065.0	-59.13	0.0	0.00
18 [CAC115 115.00]	AMPS	10966.5	-73.74	12045.1	-79.03
19 [C.V115 115.00]	AMPS	8195.3	-77.12	5990.4	-82.97
20 [CH.AZUL 115.00]	AMPS	1858.9	-55.62	0.0	0.00
21 [C.BAN115 115.00]	AMPS	9806.4	-74.20	8160.6	-78.98
23 [CH115 115.00]	AMPS	6020.1	-80.50	4370.5	-83.66
26 [LOC115 115.00]	AMPS	10057.6	-73.90	9225.4	-77.96
30 [MAR115 115.00]	AMPS	9029.2	-74.78	7584.1	-79.47
33 [STM115 115.00]	AMPS	10002.6	-74.37	10015.5	-79.76
37 [SAN115 115.00]	AMPS	9384.0	-74.84	7181.7	-80.37
48 [TINAJ115 115.00]	AMPS	8596.2	-76.51	6837.0	-82.04
50 [M.O115 115.00]	AMPS	9097.6	-75.88	7717.3	-81.62
52 [TOC115 115.00]	AMPS	7303.0	-79.03	4574.9	-83.87
54 [LM1115 115.00]	AMPS	9770.4	-80.97	12122.1	-83.63
55 [LM2115 115.00]	AMPS	9786.9	-81.16	12136.9	-83.78
61 [FFIELD 115.00]	AMPS	7630.3	-82.01	8106.0	-79.71
85 [PTP230 230.00]	AMPS	4400.2	-53.90	4293.2	-47.66
87 [CAL115 115.00]	AMPS	6252.1	-49.28	8144.5	-48.38
88 [EST115 115.00]	AMPS	5475.4	-47.80	7579.6	-47.88
92 [L.V115 115.00]	AMPS	5956.1	-48.69	8208.1	-48.73
96 [FOR230 230.00]	AMPS	8644.3	-54.96	9869.1	-53.90
100 [BAY230 230.00]	AMPS	4568.8	-78.92	5173.0	-81.95
103 [COPESA23 230.00]	AMPS	5036.4	-75.14	5271.2	-78.97
105 [PAN-AM23 230.00]	AMPS	4777.9	-72.40	5235.4	-76.58
109 [STA RITA115 115.00]	AMPS	9306.1	-80.55	9284.6	-81.80
115 [PACORA23 230.00]	AMPS	4678.2	-76.15	4498.5	-79.52
144 [CANJ230 230.00]	AMPS	7370.6	-55.50	7815.9	-54.35
146 [GUALACA230 230.00]	AMPS	7107.1	-49.75	8099.4	-50.88
147 [GUASQ230 230.00]	AMPS	7747.1	-55.53	8637.2	-54.78
148 [VELADERO 230230.00]	AMPS	6827.7	-58.66	5560.9	-57.94
154 [CEMPAN15 115.00]	AMPS	6106.6	-81.79	6167.2	-85.32
190 [CHANG230 230.00]	AMPS	4471.2	-52.49	3528.1	-50.12
191 [CHANG115 115.00]	AMPS	2663.3	-58.37	2918.6	-58.14
306 [CHAN1 230 230.00]	AMPS	4425.0	-52.35	5090.2	-49.77
310 [CONCEPCION23230.00]	AMPS	5730.6	-53.45	4528.5	-52.99
341 [PRUDENCIA230230.00]	AMPS	5543.4	-37.83	6165.3	-37.62
345 [LORENA230 230.00]	AMPS	6267.9	-43.36	7091.8	-44.09
354 [SANBARTOLO23230.00]	AMPS	4354.5	-63.33	3647.2	-63.34
370 [LSA CAP 230 230.00]	AMPS	5431.8	-64.66	5071.2	-67.10
511 [LGUIAS230 230.00]	AMPS	3520.8	-70.14	3319.8	-72.81
522 [TCATIVÁ 115 115.00]	AMPS	9789.3	-81.11	12154.5	-83.79
529 [TCOLON 115 115.00]	AMPS	6804.5	-82.69	0.0	0.00
540 [ANTON 230.00]	AMPS	2837.5	-77.36	3699.6	-77.63
700 [BAITUN230 230.00]	AMPS	4388.6	-52.45	4017.1	-52.48
701 [BAITUN115 115.00]	AMPS	2227.0	-52.72	2745.6	-52.37
702 [BJOMIN115 115.00]	AMPS	2089.8	-51.11	2639.1	-51.15
6000 [FRONTER 230.00]	AMPS	4758.3	-52.93	4817.9	-54.59
6400 [FRONTCHA 230.00]	AMPS	4083.8	-52.40	2910.7	-49.37
6500 [FRONTVEL 230.00]	AMPS	3833.1	-54.58	0.0	0.00

OUTPUT FOR AREA 7 [ACANAL]

X---------- BUS ----------X		THREE PHASE FAULT /I+/	AN(I+)	ONE PHASE FAULT /IA/	AN(IA)
123 [MIR115 115.00]	AMPS	7339.3	-80.32	7126.7	-83.64

4. Cortocircuito Año 2013

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    PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     TUE, MAY 25 2010  14:20
PLAN DE EXPANSION DEL SIN JUNIO-2010                                SHORT CIRCUIT
AÑO 2013 ESC-MOD DEMANDA-MAX-INVIERNO                              FAULT CURRENTS
                      OUTPUT FOR AREA 6 [PANAMA      ]
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X---------- BUS ----------X		THREE PHASE FAULT /I+/	THREE PHASE FAULT AN(I+)	ONE PHASE FAULT /IA/	ONE PHASE FAULT AN(IA)
1	[PAN230 230.00] AMPS	6160.9	-73.42	6232.9	-78.14
2	[PAN115 115.00] AMPS	11843.1	-74.35	12795.7	-79.94
3	[PANII230 230.00] AMPS	6194.3	-74.02	6479.8	-78.12
4	[PANII115 115.00] AMPS	9633.1	-78.15	7372.4	-85.46
5	[CHO230 230.00] AMPS	5090.6	-72.96	5508.7	-77.04
6	[CHO115 115.00] AMPS	4021.1	-85.61	0.0	0.00
8	[LSA230 230.00] AMPS	5766.9	-64.92	5373.4	-67.02
9	[LSA115 115.00] AMPS	5542.8	-71.63	4022.1	-77.43
11	[M.N230 230.00] AMPS	7931.4	-54.40	8047.9	-54.64
12	[M.N115 115.00] AMPS	6118.5	-52.07	3647.5	-41.71
14	[PRO230 230.00] AMPS	5732.8	-52.55	5851.7	-54.37
15	[PRO115 115.00] AMPS	3202.4	-58.32	0.0	0.00
18	[CAC115 115.00] AMPS	11744.3	-74.50	12672.3	-79.79
19	[C.V115 115.00] AMPS	8639.8	-77.84	6177.4	-83.40
20	[CH.AZUL 115.00] AMPS	1916.9	-54.53	0.0	0.00
21	[C.BAN115 115.00] AMPS	10429.8	-74.92	8466.4	-79.50
23	[CH115 115.00] AMPS	6309.2	-81.01	4488.4	-83.89
26	[LOC115 115.00] AMPS	10712.9	-74.62	9608.9	-78.52
30	[MAR115 115.00] AMPS	9559.2	-75.46	7849.6	-79.96
33	[STM115 115.00] AMPS	10652.0	-75.10	10458.0	-80.41
37	[SAN115 115.00] AMPS	9955.9	-75.56	7424.5	-80.87
48	[TINAJ115 115.00] AMPS	9077.3	-77.22	7055.6	-82.52
50	[M.O115 115.00] AMPS	9635.2	-76.61	7989.3	-82.16
52	[TOC115 115.00] AMPS	7663.8	-79.72	4701.3	-84.17
54	[LM1115 115.00] AMPS	10751.9	-81.83	13126.1	-84.45
55	[LM2115 115.00] AMPS	10768.4	-82.01	13140.2	-84.59
61	[FFIELD 115.00] AMPS	8223.7	-82.66	8573.8	-79.95
85	[PTP230 230.00] AMPS	4473.0	-54.39	4367.0	-48.14
87	[CAL115 115.00] AMPS	6237.9	-48.94	8122.6	-48.04
88	[EST115 115.00] AMPS	5455.4	-47.46	7550.4	-47.55
92	[L.V115 115.00] AMPS	5939.5	-48.34	8183.3	-48.39
96	[FOR230 230.00] AMPS	8296.8	-55.02	9580.2	-54.03
100	[BAY230 230.00] AMPS	4805.1	-79.55	5381.7	-82.47
103	[COPESA23 230.00] AMPS	5362.8	-75.92	5516.0	-79.59
105	[PAN-AM23 230.00] AMPS	5052.5	-73.07	5458.9	-77.13
109	[STA RITA115 115.00] AMPS	10110.2	-81.36	9837.4	-82.28
115	[PACORA23 230.00] AMPS	5042.6	-77.03	4729.8	-80.10
144	[CANJ230 230.00] AMPS	7352.0	-55.73	7830.8	-54.55
146	[GUALACA230 230.00] AMPS	7096.5	-50.01	8114.8	-51.05
147	[GUASQ230 230.00] AMPS	7725.4	-55.77	8652.6	-54.98
148	[VELADERO 230230.00] AMPS	7207.5	-58.90	6119.2	-58.14
149	[BBLANCO 230.00] AMPS	6092.5	-59.37	4797.3	-58.12
154	[CEMPAN15 115.00] AMPS	6448.2	-82.28	6412.5	-85.66
190	[CHANG230 230.00] AMPS	4789.9	-53.77	3856.7	-51.78
191	[CHANG115 115.00] AMPS	3501.0	-58.01	3933.0	-57.95
306	[CHAN1 230 230.00] AMPS	4624.6	-53.50	5276.9	-50.74
310	[CONCEPCION23230.00] AMPS	6179.9	-53.23	5015.3	-53.03
311	[PANDO230 230.00] AMPS	4632.9	-55.31	3551.2	-57.26
341	[PRUDENCIA230230.00] AMPS	5550.2	-38.12	6186.0	-37.81
345	[LORENA230 230.00] AMPS	6268.3	-43.65	7110.5	-44.27
354	[SANBARTOLO23230.00] AMPS	4604.5	-63.18	3827.9	-62.86
370	[LSA CAP 230 230.00] AMPS	5766.9	-64.92	5373.4	-67.02
371	[CAISAN230 230.00] AMPS	4953.0	-55.29	3419.2	-55.73
511	[LGUIAS230 230.00] AMPS	3657.9	-70.41	3411.7	-72.84
522	[TCATIVÁ 115 115.00] AMPS	10780.8	-82.01	13169.8	-84.64
529	[TCOLON 115 115.00] AMPS	7242.5	-83.30	0.0	0.00
540	[ANTON 230.00] AMPS	2919.8	-77.66	3794.9	-77.85
700	[BAITUN230 230.00] AMPS	4871.8	-51.98	4304.0	-51.65
701	[BAITUN115 115.00] AMPS	2284.8	-52.37	2810.5	-51.98
702	[BJOMIN115 115.00] AMPS	2139.3	-50.81	2696.8	-50.81
6000	[FRONTER 230.00] AMPS	5460.1	-52.74	5317.6	-54.12
6400	[FRONTCHA 230.00] AMPS	4318.9	-53.66	3121.8	-50.86
6500	[FRONT CAISAN230.00] AMPS	4984.2	-55.01	3246.5	-55.14

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    PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     TUE, MAY 25 2010  14:20
PLAN DE EXPANSION DEL SIN JUNIO-2010                              SHORT CIRCUIT
AÑO 2013 ESC-MOD DEMANDA-MAX-INVIERNO                            FAULT CURRENTS
                      OUTPUT FOR AREA 7 [ACANAL      ]

                                    THREE PHASE FAULT    ONE PHASE FAULT
X---------- BUS ----------X          /I+/    AN(I+)     /IA/    AN(IA)
   123 [MIR115      115.00] AMPS    7632.2   -80.81    7324.1   -83.99
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5. Cortocircuito Año 2014

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    PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E     TUE, MAY 25 2010  14:22
PLAN DE EXPANSION DEL SIN JUNIO-2010                              SHORT CIRCUIT
AÑO 2014 ESC-MOD DEMANDA-MAX-INVIERNO                            FAULT CURRENTS
                      OUTPUT FOR AREA 6 [PANAMA      ]

                                    THREE PHASE FAULT    ONE PHASE FAULT
X---------- BUS ----------X          /I+/    AN(I+)     /IA/    AN(IA)
     1 [PAN230      230.00] AMPS    6213.8   -72.33    6265.9   -77.41
     2 [PAN115      115.00] AMPS   12025.1   -73.32   12942.0   -79.32
     3 [PANII230    230.00] AMPS    6217.6   -72.94    6495.0   -77.35
     4 [PANII115    115.00] AMPS    9738.8   -77.35    7410.2   -85.15
     5 [CHO230      230.00] AMPS    5145.3   -71.80    5546.3   -76.11
     6 [CHO115      115.00] AMPS    4028.6   -84.93       0.0     0.00
     8 [LSA230      230.00] AMPS    5994.5   -62.87    5504.5   -65.04
     9 [LSA115      115.00] AMPS    5655.2   -69.71    4060.9   -75.64
    11 [M.N230      230.00] AMPS    8075.6   -50.63    8165.5   -50.86
    12 [M.N115      115.00] AMPS    6206.3   -47.86    3694.0   -37.48
    14 [PRO230      230.00] AMPS    5694.0   -47.92    5835.6   -49.78
    15 [PRO115      115.00] AMPS    3209.6   -53.78       0.0     0.00
    18 [CAC115      115.00] AMPS   11924.9   -73.49   12816.1   -79.19
    19 [C.V115      115.00] AMPS    8731.4   -77.13    6200.8   -83.20
    20 [CH.AZUL     115.00] AMPS    1923.8   -50.03       0.0     0.00
    21 [C.BAN115    115.00] AMPS   10576.8   -74.00    8521.1   -79.17
    23 [CH115       115.00] AMPS    6398.7   -80.72    4518.2   -83.87
    26 [LOC115      115.00] AMPS   10867.1   -73.67    9682.8   -78.10
    30 [MAR115      115.00] AMPS    9681.8   -74.65    7895.1   -79.68
    33 [STM115      115.00] AMPS   10799.6   -74.20   10550.5   -79.95
    37 [SAN115      115.00] AMPS   10090.1   -74.69    7464.0   -80.62
    48 [TINAJ115    115.00] AMPS    9185.8   -76.51    7091.2   -82.28
    50 [M.O115      115.00] AMPS    9757.9   -75.83    8038.6   -81.87
    52 [TOC115      115.00] AMPS    7730.4   -79.10    4711.3   -84.00
    54 [LM1115      115.00] AMPS   11153.1   -81.52   13538.6   -84.29
    55 [LM2115      115.00] AMPS   11170.5   -81.71   13553.4   -84.44
    61 [FFIELD      115.00] AMPS    8465.9   -82.46    8759.1   -79.81
    85 [PTP230      230.00] AMPS    4491.2   -50.18    4389.5   -43.96
    87 [CAL115      115.00] AMPS    6351.5   -44.58    8266.9   -43.68
    88 [EST115      115.00] AMPS    5554.4   -43.08    7685.7   -43.16
    92 [L.V115      115.00] AMPS    6047.4   -43.98    8329.8   -44.03
    96 [FOR230      230.00] AMPS    8405.1   -51.33    9699.0   -50.35
   100 [BAY230      230.00] AMPS    4795.2   -78.92    5376.8   -81.99
   103 [COPESA23    230.00] AMPS    5374.3   -75.02    5522.4   -78.95
   105 [PAN-AM23    230.00] AMPS    5106.3   -71.92    5495.7   -76.21
   109 [STA RITA115 115.00] AMPS   10416.1   -80.99   10041.7   -82.08
   115 [PACORA23    230.00] AMPS    4961.2   -76.06    4679.6   -79.48
   144 [CANJ230     230.00] AMPS    7398.6   -52.21    7885.7   -51.04
   146 [GUALACA230  230.00] AMPS    7110.7   -46.25    8142.6   -47.36
   147 [GUASQ230    230.00] AMPS    7771.8   -52.23    8710.0   -51.45
   148 [VELADERO 230230.00] AMPS    7396.6   -55.77    6214.9   -54.96
   149 [BBLANCO     230.00] AMPS    6267.7   -56.32    4873.1   -54.99
   154 [CEMPAN15    115.00] AMPS    6571.5   -82.08    6500.5   -85.60
   190 [CHANG230    230.00] AMPS    4768.6   -48.19    3858.4   -46.27
   191 [CHANG115    115.00] AMPS    3355.4   -53.03    3813.5   -53.02
   306 [CHAN1 230   230.00] AMPS    4625.6   -48.30    5286.6   -45.58
   310 [CONCEPCION23230.00] AMPS    6211.8   -49.03    5044.5   -48.86
   311 [PANDO230    230.00] AMPS    4640.2   -49.99    3558.2   -51.96
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341	[PRUDENCIA230	230.00]	AMPS	5560.2	-34.48	6205.1	-34.21
345	[LORENA230	230.00]	AMPS	6279.3	-39.96	7132.6	-40.63
354	[SANBARTOLO23	230.00]	AMPS	4697.5	-60.51	3872.2	-60.16
370	[LSA CAP 230	230.00]	AMPS	5994.5	-62.87	5504.5	-65.04
371	[CAISAN230	230.00]	AMPS	4960.1	-49.98	3425.8	-50.43
511	[LGUIAS230	230.00]	AMPS	3713.7	-68.85	3439.5	-71.39
522	[TCATIVÁ 115	115.00]	AMPS	11187.1	-81.72	13587.9	-84.50
529	[TCOLON 115	115.00]	AMPS	7406.9	-83.09	0.0	0.00
540	[ANTON	230.00]	AMPS	2939.4	-76.48	3815.3	-76.68
700	[BAITUN230	230.00]	AMPS	4853.1	-47.44	4304.8	-47.16
701	[BAITUN115	115.00]	AMPS	2297.9	-47.78	2827.4	-47.40
702	[BJOMIN115	115.00]	AMPS	2152.6	-46.22	2714.1	-46.22
6000	[FRONTER	230.00]	AMPS	5435.7	-47.85	5311.9	-49.27
6400	[FRONTCHA	230.00]	AMPS	4307.8	-47.58	3127.1	-44.85
6500	[FRONT CAISAN	230.00]	AMPS	4989.8	-49.64	3252.7	-49.79

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E TUE, MAY 25 2010 14:22
PLAN DE EXPANSION DEL SIN JUNIO-2010 SHORT CIRCUIT
AÑO 2014 ESC-MOD DEMANDA-MAX-INVIERNO FAULT CURRENTS
OUTPUT FOR AREA 7 [ACANAL]

				THREE PHASE FAULT		ONE PHASE FAULT	
X---------- BUS ----------X				/I+/	AN(I+)	/IA/	AN(IA)
123	[MIR115	115.00]	AMPS	7689.9	-80.40	7352.5	-83.81

6. Cortocircuito Año 2017

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E TUE, MAY 25 2010 14:26
PLAN DE EXPANSION DEL SIN JUNIO-2010 SHORT CIRCUIT
AÑO 2017 ESC-MOD DEMANDA-MAX-INVIERNO FAULT CURRENTS
OUTPUT FOR AREA 6 [PANAMA]

				THREE PHASE FAULT		ONE PHASE FAULT	
X---------- BUS ----------X				/I+/	AN(I+)	/IA/	AN(IA)
1	[PAN230	230.00]	AMPS	7716.6	-75.58	7155.8	-80.52
2	[PAN115	115.00]	AMPS	14497.8	-76.62	14728.2	-82.76
3	[PANII230	230.00]	AMPS	7838.8	-75.99	7477.4	-80.14
4	[PANII115	115.00]	AMPS	12672.7	-80.03	9620.4	-87.16
5	[CHO230	230.00]	AMPS	6257.2	-75.44	6277.9	-79.68
6	[CHO115	115.00]	AMPS	4341.7	-87.81	0.0	0.00
8	[LSA230	230.00]	AMPS	6926.0	-67.09	5588.6	-68.76
9	[LSA115	115.00]	AMPS	6077.1	-73.94	4167.1	-79.79
11	[M.N230	230.00]	AMPS	8454.7	-52.66	8410.2	-52.82
12	[M.N115	115.00]	AMPS	6557.3	-49.50	3805.1	-38.97
14	[PRO230	230.00]	AMPS	5960.1	-48.54	6011.7	-50.39
15	[PRO115	115.00]	AMPS	3240.8	-54.31	0.0	0.00
18	[CAC115	115.00]	AMPS	14333.5	-76.77	14556.3	-82.57
19	[C.V115	115.00]	AMPS	10578.7	-79.89	7151.4	-84.94
20	[CH.AZUL	115.00]	AMPS	1932.1	-50.47	0.0	0.00
21	[C.BAN115	115.00]	AMPS	12521.1	-77.15	9380.9	-81.87
23	[CH115	115.00]	AMPS	6946.2	-83.32	4691.4	-85.98
26	[LOC115	115.00]	AMPS	12906.8	-76.82	10738.5	-80.91
30	[MAR115	115.00]	AMPS	11232.9	-77.74	8555.0	-82.38
33	[STM115	115.00]	AMPS	12749.6	-77.43	11710.5	-83.05
37	[SAN115	115.00]	AMPS	11887.4	-77.84	8193.3	-83.18
48	[TINAJ115	115.00]	AMPS	10551.1	-79.77	7597.9	-84.99
50	[M.O115	115.00]	AMPS	11315.3	-79.12	8694.1	-84.72
52	[TOC115	115.00]	AMPS	9482.8	-81.61	5545.2	-85.14
54	[LM1115	115.00]	AMPS	12676.2	-84.35	14980.7	-87.04
55	[LM2115	115.00]	AMPS	12697.0	-84.54	14997.8	-87.18
61	[FFIELD	115.00]	AMPS	9304.1	-84.91	9344.9	-81.67
85	[PTP230	230.00]	AMPS	4519.8	-52.13	4601.6	-46.84
87	[CAL115	115.00]	AMPS	6965.3	-46.49	9084.8	-45.69
88	[EST115	115.00]	AMPS	5980.7	-44.85	8236.4	-44.93
92	[L.V115	115.00]	AMPS	6585.0	-45.81	9035.8	-45.85
96	[FOR230	230.00]	AMPS	8612.8	-53.49	9900.1	-52.33
100	[BAY230	230.00]	AMPS	5422.4	-81.02	5871.8	-83.87
103	[COPESA23	230.00]	AMPS	6483.1	-77.90	6211.7	-81.49

105	[PAN-AM23 230.00]	AMPS	6210.3	-75.56	6222.4	-79.77
109	[STA RITA115 115.00]	AMPS	11872.9	-83.96	10916.8	-84.40
115	[PACORA23 230.00]	AMPS	6082.1	-79.03	5267.1	-81.68
144	[CANJ230 230.00]	AMPS	7464.1	-54.57	7997.6	-53.19
146	[GUALACA230 230.00]	AMPS	7086.2	-47.79	8166.0	-48.83
147	[GUASQ230 230.00]	AMPS	7845.5	-54.61	8848.4	-53.61
148	[VELADERO 230230.00]	AMPS	8159.5	-58.92	6428.0	-57.60
149	[BBLANCO 230.00]	AMPS	6850.5	-59.42	5006.1	-57.60
154	[CEMPAN15 115.00]	AMPS	7753.6	-85.03	7234.5	-88.03
155	[TABASARAII23230.00]	AMPS	5856.5	-58.72	4868.5	-57.64
190	[CHANG230 230.00]	AMPS	4808.7	-49.56	4752.0	-49.01
191	[CHANG115 115.00]	AMPS	3375.1	-54.29	3932.2	-54.66
306	[CHAN1 230 230.00]	AMPS	4668.8	-49.79	5362.7	-47.05
310	[CONCEPCION23230.00]	AMPS	6471.4	-50.25	5156.7	-50.01
311	[PANDO230 230.00]	AMPS	4951.0	-50.33	3663.2	-52.14
341	[PRUDENCIA230230.00]	AMPS	5421.3	-35.21	6097.6	-35.14
345	[LORENA230 230.00]	AMPS	6152.6	-40.60	7044.8	-41.43
354	[SANBARTOLO23230.00]	AMPS	5046.5	-64.12	3956.7	-63.37
370	[LSA CAP 230 230.00]	AMPS	6926.0	-67.09	5588.6	-68.76
371	[CAISAN230 230.00]	AMPS	5270.3	-50.42	3507.2	-50.66
506	[CHAN2 230 230.00]	AMPS	4244.4	-50.06	4911.0	-50.80
511	[LGUIAS230 230.00]	AMPS	5461.7	-71.34	4508.9	-73.64
522	[TCATIVÁ 115 115.00]	AMPS	12715.0	-84.55	15036.3	-87.25
529	[TCOLON 115 115.00]	AMPS	8113.2	-85.65	0.0	0.00
540	[ANTON 230.00]	AMPS	4600.9	-77.38	5543.2	-77.92
700	[BAITUN230 230.00]	AMPS	5029.3	-47.95	4389.9	-47.60
701	[BAITUN115 115.00]	AMPS	2305.3	-48.11	2833.7	-47.71
702	[BJOMIN115 115.00]	AMPS	2158.4	-46.52	2719.3	-46.52
6000	[FRONTER 230.00]	AMPS	5674.8	-48.39	5454.2	-49.77
6400	[FRONTCHA 230.00]	AMPS	4337.8	-48.79	3688.4	-46.92
6500	[FRONT CAISAN230.00]	AMPS	5282.6	-50.06	3319.8	-49.99

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E TUE, MAY 25 2010 14:26
PLAN DE EXPANSION DEL SIN JUNIO-2010 SHORT CIRCUIT
AÑO 2017 ESC-MOD DEMANDA-MAX-INVIERNO FAULT CURRENTS
OUTPUT FOR AREA 7 [ACANAL]

			THREE PHASE FAULT		ONE PHASE FAULT	
X---------- BUS ----------X			/I+/	AN(I+)	/IA/	AN(IA)
123	[MIR115 115.00]	AMPS	8420.8	-83.14	7783.5	-86.22

7. Cortocircuito Año 2020

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E TUE, MAY 25 2010 14:29
PLAN DE EXPANSION DEL SIN JUNIO-2010 SHORT CIRCUIT
AÑO 2020 ESC-MOD DEMANDA-MAX-INVIERNO FAULT CURRENTS
OUTPUT FOR AREA 6 [PANAMA]

			THREE PHASE FAULT		ONE PHASE FAULT	
X---------- BUS ----------X			/I+/	AN(I+)	/IA/	AN(IA)
1	[PAN230 230.00]	AMPS	8398.8	-76.53	7650.0	-82.48
2	[PAN115 115.00]	AMPS	15309.6	-77.92	15428.9	-84.97
3	[PANII230 230.00]	AMPS	8947.7	-76.89	8436.6	-81.78
4	[PANII115 115.00]	AMPS	12723.4	-82.76	9401.1	-90.92
5	[CHO230 230.00]	AMPS	6316.5	-76.80	6310.6	-81.81
6	[CHO115 115.00]	AMPS	4323.3	-90.78	0.0	0.00
8	[LSA230 230.00]	AMPS	7426.9	-67.65	5809.4	-69.84
9	[LSA115 115.00]	AMPS	6301.6	-75.10	4239.1	-81.62
11	[M.N230 230.00]	AMPS	9082.0	-50.87	8820.0	-51.13
12	[M.N115 115.00]	AMPS	6649.4	-47.67	3835.6	-37.06
14	[PRO230 230.00]	AMPS	6186.8	-47.25	6175.0	-49.18
15	[PRO115 115.00]	AMPS	3286.6	-53.16	0.0	0.00
18	[CAC115 115.00]	AMPS	15126.6	-78.12	15244.1	-84.81
19	[C.V115 115.00]	AMPS	10834.1	-82.41	7158.6	-88.62
20	[CH.AZUL 115.00]	AMPS	1952.7	-49.28	0.0	0.00
21	[C.BAN115 115.00]	AMPS	13150.6	-78.77	9588.4	-84.98
23	[CH115 115.00]	AMPS	6968.6	-85.83	4661.6	-89.23

26	[LOC115	115.00]	AMPS	13573.3	-78.35	11048.8	-83.71
30	[MAR115	115.00]	AMPS	11713.0	-79.70	8719.4	-85.59
33	[STM115	115.00]	AMPS	13359.5	-79.13	12106.1	-85.72
37	[SAN115	115.00]	AMPS	12452.3	-79.65	8322.9	-86.58
48	[TINAJ115	115.00]	AMPS	10950.2	-82.05	7715.0	-88.32
50	[M.O115	115.00]	AMPS	11786.3	-81.20	8872.1	-87.89
52	[TOC115	115.00]	AMPS	9528.8	-84.52	5479.4	-88.94
54	[LM1115	115.00]	AMPS	12874.5	-85.44	15584.3	-88.03
55	[LM2115	115.00]	AMPS	12797.9	-85.36	15479.6	-87.91
61	[FFIELD	115.00]	AMPS	9357.4	-86.47	9459.6	-83.21
85	[PTP230	230.00]	AMPS	4994.8	-49.44	4928.5	-43.72
87	[CAL115	115.00]	AMPS	7043.8	-44.52	9180.9	-43.71
88	[EST115	115.00]	AMPS	6043.7	-42.85	8320.3	-42.93
92	[L.V115	115.00]	AMPS	6657.3	-43.83	9131.2	-43.86
96	[FOR230	230.00]	AMPS	9452.4	-51.39	10632.8	-50.14
100	[BAY230	230.00]	AMPS	5714.6	-82.04	6115.7	-85.25
103	[COPESA23	230.00]	AMPS	7165.8	-79.34	6733.5	-83.48
105	[PAN-AM23	230.00]	AMPS	6257.6	-76.94	6246.4	-81.91
109	[STA RITA115	115.00]	AMPS	13630.0	-85.19	15422.3	-87.74
115	[PACORA23	230.00]	AMPS	6362.5	-80.32	5477.1	-83.69
144	[CANJ230	230.00]	AMPS	8344.1	-52.41	8655.5	-50.87
146	[GUALACA230	230.00]	AMPS	7997.7	-45.76	8960.9	-46.79
147	[GUASQ230	230.00]	AMPS	8829.5	-52.46	9664.0	-51.33
148	[VELADERO 230	230.00]	AMPS	8864.1	-58.12	6701.4	-56.84
149	[BBLANCO	230.00]	AMPS	7325.3	-58.79	5163.3	-57.01
154	[CEMPAN15	115.00]	AMPS	7074.4	-86.68	6778.1	-90.33
155	[TABASARAII23	230.00]	AMPS	6296.9	-58.00	5062.7	-56.87
190	[CHANG230	230.00]	AMPS	5539.8	-46.94	5247.0	-46.12
191	[CHANG115	115.00]	AMPS	3674.5	-50.81	4269.4	-51.15
306	[CHAN1 230	230.00]	AMPS	5195.1	-46.83	5829.9	-43.78
310	[CONCEPCION23	230.00]	AMPS	6763.4	-48.73	5288.5	-48.55
311	[PANDO230	230.00]	AMPS	5214.8	-49.45	3761.0	-51.21
325	[STA RITA230	230.00]	AMPS	8157.4	-83.13	10080.7	-85.54
341	[PRUDENCIA230	230.00]	AMPS	6054.3	-32.84	6634.5	-32.71
345	[LORENA230	230.00]	AMPS	6935.0	-38.66	7724.6	-39.41
354	[SANBARTOLO23	230.00]	AMPS	5279.3	-64.02	4046.2	-63.33
370	[LSA CAP 230	230.00]	AMPS	7426.9	-67.65	5809.4	-69.84
371	[CAISAN230	230.00]	AMPS	5538.5	-49.57	3588.8	-49.74
506	[CHAN2 230	230.00]	AMPS	5108.4	-47.21	5670.5	-47.76
511	[LGUIAS230	230.00]	AMPS	5657.4	-72.50	4584.0	-75.42
522	[TCATIVÁ 115	115.00]	AMPS	12835.3	-85.40	15551.0	-88.01
529	[TCOLON 115	115.00]	AMPS	8828.3	-87.33	0.0	0.00
540	[ANTON	230.00]	AMPS	4849.2	-79.17	5781.4	-79.82
700	[BAITUN230	230.00]	AMPS	5186.6	-46.63	4479.8	-46.32
701	[BAITUN115	115.00]	AMPS	2327.1	-46.46	2858.7	-46.06
702	[BJOMIN115	115.00]	AMPS	2178.7	-44.80	2743.5	-44.80
6000	[FRONTER	230.00]	AMPS	5885.5	-47.25	5592.6	-48.69
6400	[FRONTCHA	230.00]	AMPS	4850.0	-46.48	3954.9	-44.29
6500	[FRONT CAISAN	230.00]	AMPS	5538.1	-49.23	3390.4	-49.10

OUTPUT FOR AREA 7 [ACANAL]

				THREE PHASE FAULT		ONE PHASE FAULT	
X---------- BUS ----------X				/I+/	AN(I+)	/IA/	AN(IA)
123	[MIR115	115.00]	AMPS	8646.8	-86.40	7891.0	-89.85