

ANEXO 25

CARGABILIDAD DE COMPONENTES DE TRANSMISIÓN

AÑO 2007
CASOS MHT7, MHTCB7, MHTGBC7,
MHTGDC7 Y MHTTLA7
(1, 2, 3, 4 Y 5)

AÑO 2007 ESC MODERADO DE DEMANDA. DEM MAX INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	98.7	175.0	56.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	98.7	175.0	56.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	197.4	350.0	56.4
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T1	78.6	175.0	44.9
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T2	78.6	175.0	44.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	41.2	50.0	82.3
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	41.2	50.0	82.3
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	40.4	50.0	80.9
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	40.4	50.0	80.9
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	47.3	70.0	67.5
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	47.3	70.0	67.5
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	5.6	70.0	8.0
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	5.6	70.0	8.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	12.9	70.0	18.4
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	12.9	70.0	18.4
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	12.9	70.0	18.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	18.5	70.0	26.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	18.5	70.0	26.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	18.5	70.0	26.4
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	8.0	50.0	15.9
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	8.0	50.0	15.9
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	4.4	50.0	8.7
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	4.4	50.0	8.7

AÑO 2008
CASOS MHT7, MHTCB7, MHTGBC7,
MHTGDC7 Y MHTTLA7
(1, 2, 3, 4 Y 5)

AÑO 2008 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 11:29
 PSIN CON C.A JUNIO DEL 2007
 AÑO 2008 ESC.MOD DEM MAX INV.
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	113.9	186.0	61.2
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	113.9	186.0	61.2
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	93.6	193.0	48.5
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	93.6	193.0	48.5
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	68.6	225.0	30.5
3	PANII230	230.00*	6	8	LSA230	230.00	6	2	68.6	225.0	30.5
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	115.8	186.0	62.3
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	140.2	186.0	75.4
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	79.9	193.0	41.4
5	CHO230	230.00	6	105	PAN-AM23	230.00*	6	11	91.3	193.0	47.3
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	1	74.3	193.0	38.5
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	95.8	193.0	49.6
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	95.8	193.0	49.6
8	LSA230	230.00	6	148	VELAD230	230.00*	6	3	107.2	225.0	47.6
8	LSA230	230.00	6	148	VELAD230	230.00*	6	4	107.2	225.0	47.6
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	87.5	193.0	45.3
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	17.9	193.0	9.3
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	82.6	193.0	42.8
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	82.6	193.0	42.8
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	95.1	193.0	49.3
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	95.1	193.0	49.3
14	PRO230	230.00	6	6000	FRONTER	230.00*	6	10	3.5	193.0	1.8
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	113.4	225.0	50.4
96	FOR230	230.00*	6	190	CHANG230	230.00	6	1	21.5	193.0	11.1
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	115.4	186.0	62.1
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	108.1	186.0	58.1
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	112.3	193.0	58.2
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	112.5	225.0	50.0
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	112.5	225.0	50.0
190	CHANG230	230.00	6	5180	CAU-230	230.00*	5	1	11.1	300.0	3.7
5001	RCL-230	230.00*	5	6000	FRONTER	230.00	6	10	8.6	200.0	4.3

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 11:29
 PSIN CON C.A JUNIO DEL 2007
 AÑO 2008 ESC.MOD DEM MAX INV.
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	41.3	115.0	35.9
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	62.3	115.0	54.2
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	18.4	93.0	19.7
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	6.8	93.0	7.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	44.0	93.0	47.4
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	44.0	93.0	47.4
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	7.2	93.0	7.7
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	6.7	150.0	4.5
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	6.7	150.0	4.5
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	16.2	93.0	17.4
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	4.5	150.0	3.0
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	4.5	150.0	3.0
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	6.4	93.0	6.9
87	CAL115	115.00*	6	88	EST115	115.00	6	1	44.1	93.0	47.5
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	49.8	93.0	53.5
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	5.5	150.0	3.7
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	5.5	150.0	3.7

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 11:30

PSIN CON C.A JUNIO DEL 2007
 AÑO 2008 ESC.MOD DEM MAX INV.
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	102.5	175.0	58.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	102.5	175.0	58.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	205.0	350.0	58.6
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T1	82.9	175.0	47.4
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T2	82.9	175.0	47.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	30.5	50.0	61.0
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	30.5	50.0	61.0
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	30.1	50.0	60.3
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	30.1	50.0	60.3
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	55.5	70.0	79.2
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	55.5	70.0	79.2
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	5.9	70.0	8.4
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	5.9	70.0	8.4
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	16.2	70.0	23.1
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	16.2	70.0	23.1
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	16.2	70.0	23.1
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	14.5	70.0	20.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	14.5	70.0	20.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	14.5	70.0	20.8
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	7.8	50.0	15.6
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	7.8	50.0	15.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	4.3	50.0	8.5
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	4.3	50.0	8.5

AÑO 2009
CASOS MHT7, MHTCB7, Y MHTGDC7
(1, 2, Y 3)

AÑO 2009 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 Kv

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 14:38
 PLAN DE EXPANSION DEL SIN CON C.A. JUNIO 2007
 AÑO 2009 ESC MODERADO DE DEMANDA. DEM MAX DE INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X					X----- TO BUS -----X					CURRENT (MVA)					
BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	120.2	186.0	64.6				
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	120.2	186.0	64.6				
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	87.1	193.0	45.1				
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	87.1	193.0	45.1				
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	66.8	225.0	29.7				
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	115.5	186.0	62.1				
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	136.6	186.0	73.5				
3	PANII230	230.00*	6	515	PANPOWER230	230.00	6	1	88.9	225.0	39.5				
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	79.2	193.0	41.0				
5	CHO230	230.00	6	105	PAN-AM23	230.00*	6	11	84.0	193.0	43.5				
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	1	73.2	193.0	37.9				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	93.3	193.0	48.3				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	93.3	193.0	48.3				
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	104.6	225.0	46.5				
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	104.6	225.0	46.5				
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	86.3	193.0	44.7				
8	LSA230	230.00	6	515	PANPOWER230	230.00*	6	2	60.7	225.0	27.0				
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	40.1	193.0	20.8				
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	81.6	193.0	42.3				
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	81.6	193.0	42.3				
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	86.9	193.0	45.0				
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	86.9	193.0	45.0				
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	23.2	193.0	12.0				
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	106.9	225.0	47.5				
96	FOR230	230.00*	6	190	CHANG230	230.00	6	1	23.7	193.0	12.3				
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	115.1	186.0	61.9				
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	109.0	186.0	58.6				
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	103.6	193.0	53.7				
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	104.7	225.0	46.5				
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	104.7	225.0	46.5				
148	VELAD230	230.00	6	5001	RCL-230	230.00*	5	1	31.2	374.0	8.3				
190	CHANG230	230.00	6	5180	CAU-230	230.00*	5	1	11.7	300.0	3.9				
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	22.7	200.0	11.3				

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 14:46
 PLAN DE EXPANSION DEL SIN CON C.A. JUNIO 2007
 AÑO 2009 ESC MODERADO DE DEMANDA. DEM MAX DE INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	39.5	115.0	34.4
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	59.7	115.0	51.9
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	7.6	93.0	8.2
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	12.0	93.0	12.9
12	M.N115	115.00	6	87	CAL115	115.00*	6	1	47.3	93.0	50.9
12	M.N115	115.00	6	87	CAL115	115.00*	6	2	47.3	93.0	50.9
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	7.5	93.0	8.1
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	13.3	150.0	8.8
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	13.3	150.0	8.8
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	26.1	93.0	28.1
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	12.0	150.0	8.0
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	12.0	150.0	8.0
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	15.0	93.0	16.2
87	CAL115	115.00*	6	88	EST115	115.00	6	1	38.5	93.0	41.4
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	46.2	93.0	49.7
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	12.5	150.0	8.4
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	12.5	150.0	8.4

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 14:47
 PLAN DE EXPANSION DEL SIN CON C.A. JUNIO 2007
 AÑO 2009 ESC MODERADO DE DEMANDA. DEM MAX DE INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA	MVA		
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	102.6	105.0	97.8
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	102.6	105.0	97.8
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	205.3	210.0	97.8
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T1	83.9	105.0	79.9
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T2	83.9	105.0	79.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	32.2	30.0	107.3
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	32.2	30.0	107.3
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	31.8	30.0	105.9
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	31.8	30.0	105.9
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	58.6	42.0	139.4
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	58.6	42.0	139.4
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	6.2	42.0	14.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	6.2	42.0	14.9
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	19.2	42.0	45.8
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	19.2	42.0	45.8
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	19.2	42.0	45.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	14.0	42.0	33.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	14.0	42.0	33.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	14.0	42.0	33.4
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	8.3	30.0	27.6
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	8.3	30.0	27.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	4.5	30.0	15.0
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	4.5	30.0	15.0
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	12.4	30.0	41.5
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	12.4	30.0	41.3

AÑO 2010
CASOS MHT7, MHTCB7, Y MHTGDC7
(1, 2, Y 3)

AÑO 2010 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

-----X-----

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 15:29
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2010 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	147.4	186.0	79.2
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	147.4	186.0	79.2
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	120.1	193.0	62.2
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	120.1	193.0	62.2
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	110.8	225.0	49.2
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	106.8	186.0	57.4
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	120.2	186.0	64.6
3	PANII230	230.00*	6	515	PANPOWER230	230.00	6	1	131.9	225.0	58.6
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	135.6	193.0	70.2
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	47.4	193.0	24.5
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	128.8	193.0	66.7
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	143.8	193.0	74.5
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	143.8	193.0	74.5
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	162.0	225.0	72.0
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	162.0	225.0	72.0
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	144.3	193.0	74.7
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	106.9	225.0	47.5
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	10.4	193.0	5.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	104.9	193.0	54.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	104.9	193.0	54.4
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	131.9	193.0	68.4
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	131.9	193.0	68.4
11	M.N230	230.00*	6	310	CONCEPCION23	230.00	6	1	4.2	193.0	2.2
14	PRO230	230.00	6	310	CONCEPCION23	230.00*	6	1	18.4	193.0	9.5
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	9.3	193.0	4.8
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	200.8	225.0	89.2
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	140.6	193.0	72.8
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	106.0	186.0	57.0
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	102.3	186.0	55.0
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	87.9	193.0	45.6
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	144.3	225.0	64.1
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	144.3	225.0	64.1
148	VELAD230	230.00	6	5001	RCL-230	230.00*	5	1	62.9	374.0	16.8
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	64.5	193.0	33.4
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	52.6	300.0	17.5
5001	RCL-230	230.00*	5	6000	FRONTER	230.00	6	10	10.7	200.0	5.4

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 15:29
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2010 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)					
BUS#	X--	NAME	--X BASKV	AREA	BUS#	X--	NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115		115.00	6	18	CAC115		115.00*	6	1	55.0	115.0	47.8
2	PAN115		115.00	6	18	CAC115		115.00*	6	ST	83.1	115.0	72.2
2	PAN115		115.00*	6	23	CH115		115.00	6	3A	26.8	93.0	28.8
2	PAN115		115.00*	6	154	CEMPAN15		115.00	6	4A	11.9	93.0	12.8
12	M.N115		115.00*	6	87	CAL115		115.00	6	1	52.2	93.0	56.1
12	M.N115		115.00*	6	87	CAL115		115.00	6	2	52.2	93.0	56.1
15	PRO115		115.00	6	20	CH.AZUL		115.00*	6	1	7.7	93.0	8.3
18	CAC115		115.00*	6	110	PTMD115A		115.00	6	1	10.1	150.0	6.7
18	CAC115		115.00*	6	111	PTMD115B		115.00	6	2	10.1	150.0	6.7
23	CH115		115.00*	6	55	LM2115		115.00	6	3B	7.9	93.0	8.5
54	LM1115		115.00	6	109	STA RITA115		115.00*	6	1	9.3	150.0	6.2
54	LM1115		115.00	6	109	STA RITA115		115.00*	6	2	9.3	150.0	6.2
55	LM2115		115.00	6	154	CEMPAN15		115.00*	6	4B	7.1	93.0	7.6
87	CAL115		115.00*	6	88	EST115		115.00	6	1	39.2	93.0	42.2
87	CAL115		115.00*	6	92	L.V115		115.00	6	1	46.9	93.0	50.4
109	STA RITA115		115.00	6	110	PTMD115A		115.00*	6	1	9.6	150.0	6.4
109	STA RITA115		115.00	6	111	PTMD115B		115.00*	6	2	9.6	150.0	6.4

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 15:30
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2010 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	125.1	175.0	71.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	125.1	175.0	71.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	250.2	350.0	71.5
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T1	91.7	175.0	52.4
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T2	91.7	175.0	52.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	33.0	50.0	65.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	33.0	50.0	65.9
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	32.5	50.0	65.0
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	32.5	50.0	65.0
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	60.0	70.0	85.7
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	60.0	70.0	85.7
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	6.4	70.0	9.1
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	6.4	70.0	9.1
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	21.7	70.0	31.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	21.7	70.0	31.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	21.7	70.0	31.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	14.3	70.0	20.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	14.3	70.0	20.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	14.3	70.0	20.4
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	8.4	50.0	16.8
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	8.4	50.0	16.8
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	4.6	50.0	9.2
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	4.6	50.0	9.2
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	12.8	50.0	25.6
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	12.7	50.0	25.5

AÑO 2013
CASOS MHT7 Y MHTCB7
(1, Y 2)

AÑO 2013 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

-----X-----
 PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:08
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:
 -----X-----

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	171.3	186.0	92.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	171.3	186.0	92.1
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	142.1	193.0	73.6
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	142.1	193.0	73.6
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	133.1	225.0	59.2
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	90.2	186.0	48.5
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	113.2	186.0	60.9
3	PANII230	230.00	6	515	PANPOWER230	230.00*	6	1	210.4	225.0	93.5
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	161.2	193.0	83.5
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	47.5	193.0	24.6
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	153.4	193.0	79.5
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	167.9	193.0	87.0
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	167.9	193.0	87.0
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	189.5	225.0	84.2
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	189.5	225.0	84.2
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	171.2	193.0	88.7
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	118.5	225.0	52.7
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	109.6	193.0	56.8
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	109.6	193.0	56.8
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	153.5	193.0	79.5
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	153.5	193.0	79.5
11	M.N230	230.00*	6	310	CONCEPCION23230.00	6	1	35.1	193.0	18.2	
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	31.1	193.0	16.1	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	14.3	193.0	7.4
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	217.9	225.0	96.8
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	157.1	193.0	81.4
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	89.3	186.0	48.0
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	81.4	186.0	43.8
144	CANJ230	230.00	6	147	GUASQ230	230.00*	6	1	89.2	193.0	46.2
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	1	166.1	225.0	73.8
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	2	166.1	225.0	73.8
148	VELAD230	230.00*	6	5001	RCL-230	230.00	5	1	76.1	374.0	20.3
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	47.8	193.0	24.8
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	60.7	300.0	20.2
309	CAISAN230	230.00	6	310	CONCEPCION23230.00*	6	1	45.8	193.0	23.7	
5001	RCL-230	230.00*	5	6000	FRONTER	230.00	6	10	14.3	200.0	7.2

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:08
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	63.7	115.0	55.4
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	96.2	115.0	83.6
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	26.4	93.0	28.4
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	8.2	93.0	8.8
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	53.5	93.0	57.5
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	53.5	93.0	57.5
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	8.8	93.0	9.4
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	6.2	150.0	4.2
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	6.2	150.0	4.2
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	9.4	93.0	10.1
26	LOC115	115.00	6	30	MAR115	115.00*	6	1	16.4	114.0	14.4
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	5.8	150.0	3.9
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	5.8	150.0	3.9
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	3.0	93.0	3.3
87	CAL115	115.00*	6	88	EST115	115.00	6	1	41.6	93.0	44.7
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	49.1	93.0	52.8
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	5.9	150.0	3.9
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	5.9	150.0	3.9

AÑO 2016
CASO MHT7
(1)

AÑO 2016 CASO MHT7
ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO
Cargabilidad de Líneas y Transformadores
Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:17
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X					X----- TO BUS -----X					CURRENT (MVA)					
BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	72.7	186.0	39.1				
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	72.7	186.0	39.1				
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	76.0	225.0	33.8				
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	155.0	193.0	80.3				
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	155.0	193.0	80.3				
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	158.9	225.0	70.6				
3	PANII230	230.00	6	5	CHO230	230.00*	6	2	106.1	225.0	47.1				
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	81.4	186.0	43.8				
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	101.4	186.0	54.5				
3	PANII230	230.00	6	515	PANPOWER230	230.00*	6	1	134.5	225.0	59.8				
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	138.3	193.0	71.7				
5	CHO230	230.00	6	8	LSA230	230.00*	6	3	143.2	225.0	63.6				
5	CHO230	230.00	6	8	LSA230	230.00*	6	4	143.2	225.0	63.6				
5	CHO230	230.00	6	8	LSA230	230.00*	6	5	143.2	225.0	63.6				
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	0.1	193.0	0.0				
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	137.5	193.0	71.3				
5	CHO230	230.00*	6	515	PANPOWER230	230.00	6	1	53.9	225.0	24.0				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	164.4	193.0	85.2				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	164.4	193.0	85.2				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	3	185.0	225.0	82.2				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	4	185.0	225.0	82.2				
8	LSA230	230.00	6	148	VELAD230	230.00*	6	5	185.0	225.0	82.2				
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	157.4	193.0	81.6				
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	38.1	193.0	19.7				
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	38.1	193.0	19.7				
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	166.0	193.0	86.0				
11	M.N230	230.00	6	310	CONCEPCION23230.00*	6	1	68.9	193.0	35.7					
11	M.N230	230.00	6	310	CONCEPCION23230.00*	6	2	68.9	193.0	35.7					
11	M.N230	230.00	6	341	NVAEST230	230.00*	6	1	91.0	193.0	47.1				
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	49.6	193.0	25.7					
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	29.4	193.0	15.2				
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	179.7	225.0	79.9				
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	2	179.7	225.0	79.9				
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	155.5	193.0	80.6				
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	80.5	186.0	43.3				
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	73.5	186.0	39.5				
144	CANJ230	230.00	6	147	GUASQ230	230.00*	6	1	88.6	193.0	45.9				
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	154.8	225.0	68.8				
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	154.8	225.0	68.8				
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	3	154.8	225.0	68.8				
148	VELAD230	230.00	6	341	NVAEST230	230.00*	6	1	176.1	193.0	91.2				
148	VELAD230	230.00	6	5001	RCL-230	230.00*	5	1	80.6	374.0	21.5				
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	39.7	193.0	20.6				
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	50.8	300.0	16.9				
309	CAISAN230	230.00*	6	310	CONCEPCION23230.00	6	1	85.1	193.0	44.1					
309	CAISAN230	230.00*	6	310	CONCEPCION23230.00	6	2	85.1	193.0	44.1					
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	29.1	200.0	14.5				

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:17
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X					X----- TO BUS -----X					CURRENT (MVA)					
BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
2		PAN115		115.00	6	18		CAC115		115.00*	6	1	66.6	115.0	57.9
2		PAN115		115.00	6	18		CAC115		115.00*	6	ST	100.5	115.0	87.4
2		PAN115		115.00*	6	23		CH115		115.00	6	3A	19.9	93.0	21.4
2		PAN115		115.00*	6	154		CEMPAN15		115.00	6	4A	7.6	93.0	8.2
12		M.N115		115.00*	6	87		CAL115		115.00	6	1	52.3	93.0	56.3
12		M.N115		115.00*	6	87		CAL115		115.00	6	2	52.3	93.0	56.3
15		PRO115		115.00	6	20		CH.AZUL		115.00*	6	1	9.8	93.0	10.6
18		CAC115		115.00*	6	110		PTMD115A		115.00	6	1	12.5	150.0	8.4
18		CAC115		115.00*	6	111		PTMD115B		115.00	6	2	12.5	150.0	8.4
18		CAC115		115.00*	6	123		MIR115		115.00	7	2	16.6	97.6	17.0
23		CH115		115.00*	6	55		LM2115		115.00	6	3B	22.3	93.0	23.9
54		LM1115		115.00*	6	109		STA RITA115		115.00	6	1	36.8	150.0	24.5
54		LM1115		115.00*	6	109		STA RITA115		115.00	6	2	36.8	150.0	24.5
55		LM2115		115.00	6	154		CEMPAN15		115.00*	6	4B	9.6	93.0	10.3
87		CAL115		115.00*	6	88		EST115		115.00	6	1	40.1	93.0	43.1
87		CAL115		115.00*	6	92		L.V115		115.00	6	1	47.7	93.0	51.3
109		STA RITA115		115.00	6	110		PTMD115A		115.00*	6	1	11.6	150.0	7.7
109		STA RITA115		115.00	6	111		PTMD115B		115.00*	6	2	11.6	150.0	7.7

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:18
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	156.6	175.0	89.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	156.6	175.0	89.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	313.2	350.0	89.5
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T1	118.6	175.0	67.8
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T2	118.6	175.0	67.8
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	43.7	50.0	87.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	43.7	50.0	87.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	42.9	50.0	85.8
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	42.9	50.0	85.8
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	50.3	70.0	71.8
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	50.3	70.0	71.8
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	50.3	70.0	71.8
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	8.4	70.0	12.0
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	8.4	70.0	12.0
11	M.N230	230.00	6	12	M.N115	115.00*	6	T1	16.2	70.0	23.2
11	M.N230	230.00	6	12	M.N115	115.00*	6	T2	16.2	70.0	23.2
11	M.N230	230.00	6	12	M.N115	115.00*	6	T3	16.2	70.0	23.2
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	19.5	70.0	27.9
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	19.5	70.0	27.9
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	19.5	70.0	27.9
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	10.7	50.0	21.4
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	10.7	50.0	21.4
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	5.8	50.0	11.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	5.8	50.0	11.6

AÑO 2016
CASO MHTCB7
(2)

Líneas 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:25
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESC MOD DEM MAX INV MMV 50 MW
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X					X----- TO BUS -----X					CURRENT (MVA)					
BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
2		PAN115		115.00	6	18		CAC115		115.00*	6	1	75.5	115.0	65.6
2		PAN115		115.00	6	18		CAC115		115.00*	6	ST	113.9	115.0	99.1
2		PAN115		115.00*	6	23		CH115		115.00	6	3A	30.7	93.0	33.0
2		PAN115		115.00*	6	154		CEMPAN15		115.00	6	4A	11.2	93.0	12.1
12		M.N115		115.00*	6	87		CAL115		115.00	6	1	52.6	93.0	56.6
12		M.N115		115.00*	6	87		CAL115		115.00	6	2	52.6	93.0	56.6
15		PRO115		115.00	6	20		CH.AZUL		115.00*	6	1	9.9	93.0	10.6
18		CAC115		115.00*	6	110		PTMD115A		115.00	6	1	8.9	150.0	5.9
18		CAC115		115.00*	6	111		PTMD115B		115.00	6	2	8.9	150.0	5.9
23		CH115		115.00*	6	55		LM2115		115.00	6	3B	14.1	93.0	15.2
54		LM1115		115.00*	6	109		STA RITA115		115.00	6	1	26.9	150.0	18.0
54		LM1115		115.00*	6	109		STA RITA115		115.00	6	2	26.9	150.0	18.0
55		LM2115		115.00	6	154		CEMPAN15		115.00*	6	4B	7.1	93.0	7.7
87		CAL115		115.00*	6	88		EST115		115.00	6	1	40.1	93.0	43.2
87		CAL115		115.00*	6	92		L.V115		115.00	6	1	47.8	93.0	51.4
109		STA RITA115		115.00	6	110		PTMD115A		115.00*	6	1	7.9	150.0	5.2
109		STA RITA115		115.00	6	111		PTMD115B		115.00*	6	2	7.9	150.0	5.2

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E WED, MAY 16 2007 16:26
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESC MOD DEM MAX INV MMV 50 MW
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	PERCENT
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	166.2	175.0	95.0
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	166.2	175.0	95.0
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	332.4	350.0	95.0
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T1	120.7	175.0	69.0
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T2	120.7	175.0	69.0
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	43.7	50.0	87.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	43.7	50.0	87.4
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	42.8	50.0	85.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	42.8	50.0	85.6
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	50.1	70.0	71.5
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	50.1	70.0	71.5
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	50.1	70.0	71.5
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	8.4	70.0	11.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	8.4	70.0	11.9
11	M.N230	230.00	6	12	M.N115	115.00*	6	T1	16.2	70.0	23.2
11	M.N230	230.00	6	12	M.N115	115.00*	6	T2	16.2	70.0	23.2
11	M.N230	230.00	6	12	M.N115	115.00*	6	T3	16.2	70.0	23.2
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	19.5	70.0	27.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	19.5	70.0	27.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	19.5	70.0	27.8
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	10.7	50.0	21.3
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	10.7	50.0	21.3
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	5.8	50.0	11.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	5.8	50.0	11.6
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	12.3	50.0	24.7
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	16.4	50.0	32.9

AÑO 2009
CASO MHTGBC7

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	95.6	175.0	54.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	95.6	175.0	54.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	191.2	350.0	54.6
3	PANII230	230.00*	6	4	PANII115	115.00	6	T1	81.4	175.0	46.5
3	PANII230	230.00*	6	4	PANII115	115.00	6	T2	81.4	175.0	46.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	32.2	50.0	64.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	32.2	50.0	64.4
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	31.8	50.0	63.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	31.8	50.0	63.5
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	58.6	70.0	83.7
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	58.6	70.0	83.7
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	6.2	70.0	8.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	6.2	70.0	8.9
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	19.3	70.0	27.6
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	19.3	70.0	27.6
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	19.3	70.0	27.6
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	14.0	70.0	20.1
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	14.0	70.0	20.1
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	14.0	70.0	20.1
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	8.3	50.0	16.5
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	8.3	50.0	16.5
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	4.5	50.0	9.0
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	4.5	50.0	9.0
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	12.4	50.0	24.9
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	12.4	50.0	24.8

AÑO 2010
CASO MHTGBC7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:20
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2010 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	143.4	186.0	77.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	143.4	186.0	77.1
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	120.0	193.0	62.2
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	120.0	193.0	62.2
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	110.6	225.0	49.1
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	109.3	186.0	58.8
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	122.8	186.0	66.0
3	PANII230	230.00	6	515	PANPOWER230	230.00*	6	1	116.3	225.0	51.7
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	135.1	193.0	70.0
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	48.4	193.0	25.1
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	128.4	193.0	66.5
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	144.1	193.0	74.6
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	144.1	193.0	74.6
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	162.4	225.0	72.2
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	162.4	225.0	72.2
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	143.8	193.0	74.5
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	109.7	225.0	48.8
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	10.6	193.0	5.5
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	105.0	193.0	54.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	105.0	193.0	54.4
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	132.2	193.0	68.5
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	132.2	193.0	68.5
11	M.N230	230.00*	6	310	CONCEPCION23230	230.00	6	1	4.4	193.0	2.3
14	PRO230	230.00	6	310	CONCEPCION23230	230.00*	6	1	18.4	193.0	9.5
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	9.4	193.0	4.9
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	201.1	225.0	89.4
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	141.3	193.0	73.2
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	108.6	186.0	58.4
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	105.0	186.0	56.5
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	88.0	193.0	45.6
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	144.5	225.0	64.2
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	144.5	225.0	64.2
148	VELAD230	230.00	6	5001	RCL-230	230.00*	5	1	63.0	374.0	16.8
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	64.9	193.0	33.6
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	53.1	300.0	17.7
5001	RCL-230	230.00*	5	6000	FRONTER	230.00	6	10	10.5	200.0	5.2

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:21
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2010 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	53.6	115.0	46.6
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	80.9	115.0	70.3
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	25.1	93.0	27.0
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	10.8	93.0	11.6
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	53.9	93.0	57.9
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	53.9	93.0	57.9
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	7.7	93.0	8.2
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	9.1	150.0	6.1
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	9.1	150.0	6.1
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	9.1	93.0	9.8
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	8.1	150.0	5.4
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	8.1	150.0	5.4
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	6.4	93.0	6.8
87	CAL115	115.00*	6	88	EST115	115.00	6	1	42.9	93.0	46.1
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	49.4	93.0	53.1
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	8.5	150.0	5.7
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	8.5	150.0	5.7

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:21
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2010 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X	X----- TO BUS -----X	MVA	MVA
------------------------	----------------------	-----	-----

BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN	230		230.00*	6	2	PAN	115		115.00	6	T1	123.1	175.0	70.3
1	PAN	230		230.00*	6	2	PAN	115		115.00	6	T2	123.1	175.0	70.3
1	PAN	230		230.00*	6	2	PAN	115		115.00	6	T3	246.1	350.0	70.3
3	PAN	II230		230.00	6	4	PAN	II115		115.00*	6	T1	90.8	175.0	51.9
3	PAN	II230		230.00	6	4	PAN	II115		115.00*	6	T2	90.8	175.0	51.9
5	CHO	230		230.00*	6	6	CHO	115		115.00	6	T1	32.8	50.0	65.6
5	CHO	230		230.00*	6	6	CHO	115		115.00	6	T2	32.8	50.0	65.6
6	CHO	115		115.00*	6	7	CHO	34		34.500	6	T1	32.4	50.0	64.7
6	CHO	115		115.00*	6	7	CHO	34		34.500	6	T2	32.4	50.0	64.7
8	LSA	230		230.00*	6	9	LSA	115		115.00	6	T1	59.7	70.0	85.3
8	LSA	230		230.00*	6	9	LSA	115		115.00	6	T2	59.7	70.0	85.3
9	LSA	115		115.00*	6	10	L.S.	34		34.500	6	T1	6.4	70.0	9.1
9	LSA	115		115.00*	6	10	L.S.	34		34.500	6	T2	6.4	70.0	9.1
11	M.	N230		230.00*	6	12	M.	N115		115.00	6	T1	21.7	70.0	31.1
11	M.	N230		230.00*	6	12	M.	N115		115.00	6	T2	21.7	70.0	31.1
11	M.	N230		230.00*	6	12	M.	N115		115.00	6	T3	21.7	70.0	31.1
12	M.	N115		115.00*	6	13	MDNA	34		34.500	6	T1	17.1	70.0	24.5
12	M.	N115		115.00*	6	13	MDNA	34		34.500	6	T2	17.1	70.0	24.5
12	M.	N115		115.00*	6	13	MDNA	34		34.500	6	T3	17.1	70.0	24.5
14	PRO	230		230.00*	6	15	PRO	115		115.00	6	T1	8.4	50.0	16.7
14	PRO	230		230.00*	6	15	PRO	115		115.00	6	T2	8.4	50.0	16.7
15	PRO	115		115.00*	6	16	PRO	34		34.500	6	T1	4.6	50.0	9.1
15	PRO	115		115.00*	6	16	PRO	34		34.500	6	T2	4.6	50.0	9.1
190	CHANG	230		230.00*	6	191	CHANG	115		115.00	6	T1	12.7	50.0	25.5
191	CHANG	115		115.00*	6	192	CHANG	34		34.500	6	T1	12.7	50.0	25.4
310	CONCEPCION	23230		230.00*	6	320	CONCEP	34.5		34.500	6	T1	21.1	83.3	25.4

AÑO 2013
CASO MHTGBC7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:27
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	152.6	186.0	82.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	152.6	186.0	82.1
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	136.9	193.0	70.9
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	136.9	193.0	70.9
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	111.8	225.0	49.7
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	134.7	186.0	72.4
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	157.4	186.0	84.6
3	PANII230	230.00	6	515	PANPOWER230	230.00*	6	1	110.1	225.0	48.9
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	133.7	193.0	69.3
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	103.2	193.0	53.4
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	126.0	193.0	65.3
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	148.9	193.0	77.1
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	148.9	193.0	77.1
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	168.6	225.0	74.9
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	168.6	225.0	74.9
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	143.9	193.0	74.5
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	112.3	225.0	49.9
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	92.1	193.0	47.7
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	92.1	193.0	47.7
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	137.0	193.0	71.0
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	137.0	193.0	71.0
11	M.N230	230.00	6	310	CONCEPCION23230.00*	6	1	53.4	193.0	27.7	
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	40.4	193.0	20.9	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	22.4	193.0	11.6
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	191.3	225.0	85.0
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	120.3	193.0	62.4
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	134.0	186.0	72.0
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	127.4	186.0	68.5
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	85.7	193.0	44.4
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	1	146.6	225.0	65.1
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	2	146.6	225.0	65.1
148	VELAD230	230.00*	6	5001	RCL-230	230.00	5	1	67.7	374.0	18.1
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	34.9	193.0	18.1
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	45.3	300.0	15.1
309	CAISAN230	230.00*	6	310	CONCEPCION23230.00	6	1	74.2	193.0	38.5	
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	21.9	200.0	10.9

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:27
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	55.7	115.0	48.4
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	84.1	115.0	73.1
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	15.6	93.0	16.8
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	7.7	93.0	8.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	44.9	93.0	48.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	44.9	93.0	48.3
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	8.8	93.0	9.5
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	8.8	150.0	5.9
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	8.8	150.0	5.9
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	21.5	93.0	23.1
54	LM115	115.00	6	109	STA RITA115	115.00*	6	1	7.0	150.0	4.7
54	LM115	115.00	6	109	STA RITA115	115.00*	6	2	7.0	150.0	4.7
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	10.5	93.0	11.3
87	CAL115	115.00*	6	88	EST115	115.00	6	1	38.9	93.0	41.8
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	42.9	93.0	46.2
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	7.8	150.0	5.2
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	7.8	150.0	5.2

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:05
 PLAN DE EXPANSION DEL SIN CON C.A. JUNIO 2007
 AÑO 2009 ESCENARIO MOD DEMANDA MAXIMA DE INVIERNO. MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	95.6	175.0	54.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	95.6	175.0	54.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	191.2	350.0	54.6
3	PANII230	230.00*	6	4	PANII115	115.00	6	T1	81.4	175.0	46.5
3	PANII230	230.00*	6	4	PANII115	115.00	6	T2	81.4	175.0	46.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	32.2	50.0	64.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	32.2	50.0	64.4
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	31.8	50.0	63.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	31.8	50.0	63.5
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	58.6	70.0	83.7
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	58.6	70.0	83.7
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	6.2	70.0	8.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	6.2	70.0	8.9
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	19.3	70.0	27.6
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	19.3	70.0	27.6
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	19.3	70.0	27.6
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	14.0	70.0	20.1
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	14.0	70.0	20.1
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	14.0	70.0	20.1
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	8.3	50.0	16.5
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	8.3	50.0	16.5
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	4.5	50.0	9.0
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	4.5	50.0	9.0
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	12.4	50.0	24.9
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	12.4	50.0	24.8

AÑO 2016
CASO MHTGBC7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:33
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	139.6	186.0	75.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	139.6	186.0	75.1
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	100.7	193.0	52.2
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	100.7	193.0	52.2
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	82.4	225.0	36.6
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	136.0	186.0	73.1
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	161.7	186.0	87.0
3	PANII230	230.00*	6	515	PANPOWER230	230.00	6	1	82.8	225.0	36.8
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	99.0	193.0	51.3
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	103.0	193.0	53.3
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	1	90.7	193.0	47.0
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	122.2	193.0	63.3
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	122.2	193.0	63.3
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	139.1	225.0	61.8
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	139.1	225.0	61.8
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	110.6	193.0	57.3
8	LSA230	230.00	6	515	PANPOWER230	230.00*	6	2	81.9	225.0	36.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	81.4	193.0	42.2
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	81.4	193.0	42.2
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	112.0	193.0	58.0
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	112.0	193.0	58.0
11	M.N230	230.00	6	310	CONCEPCION23	230.00*	6	1	33.9	193.0	17.6
14	PRO230	230.00	6	310	CONCEPCION23	230.00*	6	1	47.7	193.0	24.7
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	28.1	193.0	14.6
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	143.8	225.0	63.9
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	53.9	193.0	27.9
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	135.2	186.0	72.7
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	127.4	186.0	68.5
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	90.0	193.0	46.6
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	1	124.6	225.0	55.4
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	2	124.6	225.0	55.4
148	VELAD230	230.00*	6	5001	RCL-230	230.00	5	1	49.9	374.0	13.3
190	CHANG230	230.00*	6	306	CHANG75	230.00	6	1	27.5	193.0	14.3
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	22.2	300.0	7.4
309	CAISAN230	230.00*	6	310	CONCEPCION23	230.00	6	1	63.4	193.0	32.8
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	27.5	200.0	13.7

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:33
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	36.1	115.0	31.4
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	54.7	115.0	47.5
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	40.1	93.0	43.1
2	PAN115	115.00	6	154	CEMPAN15	115.00*	6	4A	56.1	93.0	60.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	42.2	93.0	45.4
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	42.2	93.0	45.4
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	9.8	93.0	10.5
18	CAC115	115.00	6	110	PTMD115A	115.00*	6	1	67.5	150.0	45.0
18	CAC115	115.00	6	111	PTMD115B	115.00*	6	2	67.5	150.0	45.0
23	CH115	115.00	6	55	LM2115	115.00*	6	3B	77.1	93.0	82.9
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	17.0	150.0	11.3
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	17.0	150.0	11.3
55	LM2115	115.00*	6	154	CEMPAN15	115.00	6	4B	61.7	93.0	66.3
87	CAL115	115.00*	6	88	EST115	115.00	6	1	37.1	93.0	39.9
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	39.1	93.0	42.1
109	STA RITA115	115.00*	6	110	PTMD115A	115.00	6	1	67.5	150.0	45.0
109	STA RITA115	115.00*	6	111	PTMD115B	115.00	6	2	67.5	150.0	45.0

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:34
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X						MVA	MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	111.0	175.0	63.4	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	111.0	175.0	63.4	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	221.9	350.0	63.4	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	100.6	175.0	57.5	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	100.6	175.0	57.5	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	43.7	50.0	87.4	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	43.7	50.0	87.4	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	42.8	50.0	85.6	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	42.8	50.0	85.6	
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	52.1	70.0	74.5	
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	52.1	70.0	74.5	
8	LSA230	230.00*	6	9	LSA115	115.00	6	T3	52.1	70.0	74.5	
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	8.4	70.0	11.9	
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	8.4	70.0	11.9	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	10.5	70.0	15.0	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	10.5	70.0	15.0	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	10.5	70.0	15.0	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	19.5	70.0	27.8	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	19.5	70.0	27.8	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	19.5	70.0	27.8	
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	10.7	50.0	21.3	
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	10.7	50.0	21.3	
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	5.8	50.0	11.6	
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	5.8	50.0	11.6	
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	11.8	50.0	23.6	
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	16.4	50.0	32.9	
310	CONCEPCION230	230.00*	6	320	CONCEP34.5	34.500	6	T1	20.1	83.3	24.2	

AÑO 2013
CASO MHTGDC7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:42
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGDC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	152.7	186.0	82.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	152.7	186.0	82.1
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	130.9	193.0	67.8
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	130.9	193.0	67.8
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	106.5	225.0	47.3
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	133.5	186.0	71.8
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	156.1	186.0	83.9
3	PANII230	230.00	6	515	PANPOWER230	230.00*	6	1	104.9	225.0	46.6
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	127.6	193.0	66.1
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	102.7	193.0	53.2
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	119.9	193.0	62.1
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	143.5	193.0	74.4
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	143.5	193.0	74.4
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	162.3	225.0	72.1
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	162.3	225.0	72.1
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	137.7	193.0	71.3
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	107.0	225.0	47.5
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	99.0	193.0	51.3
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	99.0	193.0	51.3
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	130.8	193.0	67.8
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	130.8	193.0	67.8
11	M.N230	230.00	6	310	CONCEPCION23230.00*	6	1	26.1	193.0	13.5	
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	31.7	193.0	16.4	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	14.4	193.0	7.4
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	186.4	225.0	82.8
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	130.8	193.0	67.8
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	132.8	186.0	71.4
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	126.3	186.0	67.9
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	85.6	193.0	44.4
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	1	143.9	225.0	64.0
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	2	143.9	225.0	64.0
148	VELAD230	230.00*	6	5001	RCL-230	230.00	5	1	63.5	374.0	17.0
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	40.1	193.0	20.8
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	50.5	300.0	16.8
309	CAISAN230	230.00*	6	310	CONCEPCION23230.00	6	1	38.5	193.0	20.0	
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	13.4	200.0	6.7

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:42
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGDC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	54.3	115.0	47.2
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	82.0	115.0	71.3
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	11.1	93.0	11.9
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	8.9	93.0	9.6
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	44.1	93.0	47.4
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	44.1	93.0	47.4
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	8.8	93.0	9.5
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	10.7	150.0	7.1
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	10.7	150.0	7.1
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	24.7	93.0	26.6
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	9.5	150.0	6.3
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	9.5	150.0	6.3
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	13.3	93.0	14.3
87	CAL115	115.00*	6	88	EST115	115.00	6	1	37.3	93.0	40.1
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	41.3	93.0	44.4
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	10.0	150.0	6.6
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	10.0	150.0	6.6

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:45
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGDC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X	X----- TO BUS -----X	MVA	MVA
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BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6			2	PAN115	115.00	6	T1	131.6	175.0	75.2		
1	PAN230	230.00*	6			2	PAN115	115.00	6	T2	131.6	175.0	75.2		
1	PAN230	230.00*	6			2	PAN115	115.00	6	T3	263.1	350.0	75.2		
3	PANII230	230.00	6			4	PANII115	115.00*	6	T1	101.0	175.0	57.7		
3	PANII230	230.00	6			4	PANII115	115.00*	6	T2	101.0	175.0	57.7		
5	CHO230	230.00*	6			6	CHO115	115.00	6	T1	38.1	50.0	76.3		
5	CHO230	230.00*	6			6	CHO115	115.00	6	T2	38.1	50.0	76.3		
6	CHO115	115.00*	6			7	CHO34	34.500	6	T1	37.5	50.0	75.0		
6	CHO115	115.00*	6			7	CHO34	34.500	6	T2	37.5	50.0	75.0		
8	LSA230	230.00*	6			9	LSA115	115.00	6	T1	45.7	70.0	65.3		
8	LSA230	230.00*	6			9	LSA115	115.00	6	T2	45.7	70.0	65.3		
8	LSA230	230.00*	6			9	LSA115	115.00	6	T3	45.7	70.0	65.3		
9	LSA115	115.00*	6			10	L.S.34	34.500	6	T1	7.3	70.0	10.5		
9	LSA115	115.00*	6			10	L.S.34	34.500	6	T2	7.3	70.0	10.5		
11	M.N230	230.00*	6			12	M.N115	115.00	6	T1	13.4	70.0	19.1		
11	M.N230	230.00*	6			12	M.N115	115.00	6	T2	13.4	70.0	19.1		
11	M.N230	230.00*	6			12	M.N115	115.00	6	T3	13.4	70.0	19.1		
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T1	17.0	70.0	24.3		
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T2	17.0	70.0	24.3		
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T3	17.0	70.0	24.3		
14	PRO230	230.00*	6			15	PRO115	115.00	6	T1	9.6	50.0	19.1		
14	PRO230	230.00*	6			15	PRO115	115.00	6	T2	9.6	50.0	19.1		
15	PRO115	115.00*	6			16	PRO34	34.500	6	T1	5.2	50.0	10.4		
15	PRO115	115.00*	6			16	PRO34	34.500	6	T2	5.2	50.0	10.4		
190	CHANG230	230.00*	6			191	CHANG115	115.00	6	T1	14.0	50.0	27.9		
191	CHANG115	115.00*	6			192	CHANG34	34.500	6	T1	14.6	50.0	29.2		
310	CONCEPCION23230.00*	6				320	CONCEP34.5	34.500	6	T1	21.1	83.3	25.4		

AÑO 2016
CASO MHTGDC7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:33
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	139.6	186.0	75.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	139.6	186.0	75.1
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	100.7	193.0	52.2
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	100.7	193.0	52.2
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	82.4	225.0	36.6
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	136.0	186.0	73.1
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	161.7	186.0	87.0
3	PANII230	230.00*	6	515	PANPOWER230	230.00	6	1	82.8	225.0	36.8
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	99.0	193.0	51.3
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	103.0	193.0	53.3
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	1	90.7	193.0	47.0
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	122.2	193.0	63.3
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	122.2	193.0	63.3
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	139.1	225.0	61.8
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	139.1	225.0	61.8
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	110.6	193.0	57.3
8	LSA230	230.00	6	515	PANPOWER230	230.00*	6	2	81.9	225.0	36.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	81.4	193.0	42.2
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	81.4	193.0	42.2
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	112.0	193.0	58.0
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	112.0	193.0	58.0
11	M.N230	230.00	6	310	CONCEPCION23	230.00*	6	1	33.9	193.0	17.6
14	PRO230	230.00	6	310	CONCEPCION23	230.00*	6	1	47.7	193.0	24.7
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	28.1	193.0	14.6
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	143.8	225.0	63.9
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	53.9	193.0	27.9
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	135.2	186.0	72.7
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	127.4	186.0	68.5
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	90.0	193.0	46.6
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	1	124.6	225.0	55.4
147	GUASQ230	230.00	6	148	VELAD230	230.00*	6	2	124.6	225.0	55.4
148	VELAD230	230.00*	6	5001	RCL-230	230.00	5	1	49.9	374.0	13.3
190	CHANG230	230.00*	6	306	CHANG75	230.00	6	1	27.5	193.0	14.3
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	22.2	300.0	7.4
309	CAISAN230	230.00*	6	310	CONCEPCION23	230.00	6	1	63.4	193.0	32.8
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	27.5	200.0	13.7

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:33
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	36.1	115.0	31.4
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	54.7	115.0	47.5
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	40.1	93.0	43.1
2	PAN115	115.00	6	154	CEMPAN15	115.00*	6	4A	56.1	93.0	60.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	42.2	93.0	45.4
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	42.2	93.0	45.4
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	9.8	93.0	10.5
18	CAC115	115.00	6	110	PTMD115A	115.00*	6	1	67.5	150.0	45.0
18	CAC115	115.00	6	111	PTMD115B	115.00*	6	2	67.5	150.0	45.0
23	CH115	115.00	6	55	LM2115	115.00*	6	3B	77.1	93.0	82.9
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	17.0	150.0	11.3
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	17.0	150.0	11.3
55	LM2115	115.00*	6	154	CEMPAN15	115.00	6	4B	61.7	93.0	66.3
87	CAL115	115.00*	6	88	EST115	115.00	6	1	37.1	93.0	39.9
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	39.1	93.0	42.1
109	STA RITA115	115.00*	6	110	PTMD115A	115.00	6	1	67.5	150.0	45.0
109	STA RITA115	115.00*	6	111	PTMD115B	115.00	6	2	67.5	150.0	45.0

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:34
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTGBC7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X						MVA	MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	111.0	175.0	63.4	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	111.0	175.0	63.4	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	221.9	350.0	63.4	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	100.6	175.0	57.5	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	100.6	175.0	57.5	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	43.7	50.0	87.4	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	43.7	50.0	87.4	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	42.8	50.0	85.6	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	42.8	50.0	85.6	
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	52.1	70.0	74.5	
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	52.1	70.0	74.5	
8	LSA230	230.00*	6	9	LSA115	115.00	6	T3	52.1	70.0	74.5	
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	8.4	70.0	11.9	
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	8.4	70.0	11.9	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	10.5	70.0	15.0	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	10.5	70.0	15.0	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	10.5	70.0	15.0	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	19.5	70.0	27.8	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	19.5	70.0	27.8	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	19.5	70.0	27.8	
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	10.7	50.0	21.3	
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	10.7	50.0	21.3	
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	5.8	50.0	11.6	
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	5.8	50.0	11.6	
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	11.8	50.0	23.6	
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	16.4	50.0	32.9	
310	CONCEPCION230	230.00*	6	320	CONCEP34.5	34.500	6	T1	20.1	83.3	24.2	

AÑO 2013
CASO MHTTLA7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:49
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTTLA7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	168.6	186.0	90.7
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	168.6	186.0	90.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	141.5	193.0	73.3
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	141.5	193.0	73.3
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	112.9	225.0	50.2
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	129.0	186.0	69.4
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	155.3	186.0	83.5
3	PANII230	230.00*	6	515	PANPOWER230	230.00	6	1	138.8	225.0	61.7
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	136.9	193.0	70.9
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	99.3	193.0	51.4
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	129.7	193.0	67.2
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	133.0	193.0	68.9
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	133.0	193.0	68.9
8	LSA230	230.00	6	148	VELAD230	230.00*	6	3	149.4	225.0	66.4
8	LSA230	230.00	6	148	VELAD230	230.00*	6	4	149.4	225.0	66.4
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	146.9	193.0	76.1
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	108.0	225.0	48.0
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	94.7	193.0	49.0
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	94.7	193.0	49.0
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	122.7	193.0	63.6
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	122.7	193.0	63.6
11	M.N230	230.00	6	310	CONCEPCION23230.00*	230.00	6	1	26.9	193.0	13.9
14	PRO230	230.00	6	310	CONCEPCION23230.00*	230.00	6	1	33.3	193.0	17.2
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	15.5	193.0	8.0
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	174.7	225.0	77.7
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	110.9	193.0	57.5
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	128.6	186.0	69.1
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	120.7	186.0	64.9
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	81.3	193.0	42.1
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	135.3	225.0	60.1
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	135.3	225.0	60.1
148	VELAD230	230.00	6	5001	RCL-230	230.00*	5	1	59.4	374.0	15.9
190	CHANG230	230.00*	6	306	CHANG75	230.00	6	1	32.1	193.0	16.6
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	42.3	300.0	14.1
309	CATSAN230	230.00*	6	310	CONCEPCION23230.00	230.00	6	1	41.1	193.0	21.3
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	14.9	200.0	7.4

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:49
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTTLA7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	69.0	115.0	60.0
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	104.1	115.0	90.5
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	34.9	93.0	37.6
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	15.5	93.0	16.7
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	41.9	93.0	45.0
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	41.9	93.0	45.0
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	8.7	93.0	9.4
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	13.0	150.0	8.7
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	13.0	150.0	8.7
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	5.2	93.0	5.6
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	12.9	150.0	8.6
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	12.9	150.0	8.6
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	9.9	93.0	10.6
87	CAL115	115.00*	6	88	EST115	115.00	6	1	37.2	93.0	40.0
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	38.4	93.0	41.3
109	STA RITA115	115.00*	6	110	PTMD115A	115.00	6	1	12.9	150.0	8.6
109	STA RITA115	115.00*	6	111	PTMD115B	115.00	6	2	12.9	150.0	8.6

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:50
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2013 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTTLA7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X	X----- TO BUS -----X	MVA	MVA
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BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6			2	PAN115	115.00	6	T1	149.6	175.0	85.5		
1	PAN230	230.00*	6			2	PAN115	115.00	6	T2	149.6	175.0	85.5		
1	PAN230	230.00*	6			2	PAN115	115.00	6	T3	299.2	350.0	85.5		
3	PANII230	230.00	6			4	PANII115	115.00*	6	T1	110.3	175.0	63.0		
3	PANII230	230.00	6			4	PANII115	115.00*	6	T2	110.3	175.0	63.0		
5	CHO230	230.00*	6			6	CHO115	115.00	6	T1	38.1	50.0	76.2		
5	CHO230	230.00*	6			6	CHO115	115.00	6	T2	38.1	50.0	76.2		
6	CHO115	115.00*	6			7	CHO34	34.500	6	T1	37.5	50.0	74.9		
6	CHO115	115.00*	6			7	CHO34	34.500	6	T2	37.5	50.0	74.9		
8	LSA230	230.00*	6			9	LSA115	115.00	6	T1	18.5	70.0	26.4		
8	LSA230	230.00*	6			9	LSA115	115.00	6	T2	18.5	70.0	26.4		
8	LSA230	230.00*	6			9	LSA115	115.00	6	T3	18.5	70.0	26.4		
9	LSA115	115.00*	6			10	L.S.34	34.500	6	T1	7.3	70.0	10.5		
9	LSA115	115.00*	6			10	L.S.34	34.500	6	T2	7.3	70.0	10.5		
9	LSA115	115.00	6			518	PGREENP13A	13.800*	6	T1	81.5	100.0	81.5		
11	M.N230	230.00*	6			12	M.N115	115.00	6	T1	12.1	70.0	17.3		
11	M.N230	230.00*	6			12	M.N115	115.00	6	T2	12.1	70.0	17.3		
11	M.N230	230.00*	6			12	M.N115	115.00	6	T3	12.1	70.0	17.3		
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T1	17.0	70.0	24.3		
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T2	17.0	70.0	24.3		
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T3	17.0	70.0	24.3		
14	PRO230	230.00*	6			15	PRO115	115.00	6	T1	9.6	50.0	19.1		
14	PRO230	230.00*	6			15	PRO115	115.00	6	T2	9.6	50.0	19.1		
15	PRO115	115.00*	6			16	PRO34	34.500	6	T1	5.2	50.0	10.4		
15	PRO115	115.00*	6			16	PRO34	34.500	6	T2	5.2	50.0	10.4		
190	CHANG230	230.00*	6			191	CHANG115	115.00	6	T1	14.6	50.0	29.2		
191	CHANG115	115.00*	6			192	CHANG34	34.500	6	T1	14.6	50.0	29.2		
310	CONCEPCION23	230.00*	6			320	CONCEP34.5	34.500	6	T1	21.1	83.3	25.3		

AÑO 2016
CASO MHTTLA7

Líneas

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:54
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTTLA7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	177.7	186.0	95.5
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	177.7	186.0	95.5
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	132.1	193.0	68.4
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	132.1	193.0	68.4
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	107.6	225.0	47.8
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	139.3	186.0	74.9
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	165.2	186.0	88.8
3	PANII230	230.00*	6	515	PANPOWER230	230.00	6	1	162.1	225.0	72.0
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	131.0	193.0	67.9
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	102.7	193.0	53.2
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	123.2	193.0	63.8
8	LSA230	230.00	6	148	VELAD230	230.00*	6	1	130.4	193.0	67.5
8	LSA230	230.00	6	148	VELAD230	230.00*	6	2	130.4	193.0	67.5
8	LSA230	230.00*	6	148	VELAD230	230.00	6	3	147.4	225.0	65.5
8	LSA230	230.00*	6	148	VELAD230	230.00	6	4	147.4	225.0	65.5
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	143.0	193.0	74.1
8	LSA230	230.00*	6	515	PANPOWER230	230.00	6	2	96.5	225.0	42.9
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	84.9	193.0	44.0
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	84.9	193.0	44.0
11	M.N230	230.00*	6	148	VELAD230	230.00	6	1	120.7	193.0	62.5
11	M.N230	230.00*	6	148	VELAD230	230.00	6	2	120.7	193.0	62.5
11	M.N230	230.00	6	310	CONCEPCION23	230.00*	6	1	41.0	193.0	21.3
14	PRO230	230.00	6	310	CONCEPCION23	230.00*	6	1	38.3	193.0	19.8
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	18.7	193.0	9.7
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	171.9	225.0	76.4
96	FOR230	230.00	6	306	CHANG75	230.00*	6	1	111.6	193.0	57.8
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	138.6	186.0	74.5
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	130.8	186.0	70.3
144	CANJ230	230.00	6	147	GUASQ230	230.00*	6	1	72.1	193.0	37.3
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	1	129.6	225.0	57.6
147	GUASQ230	230.00*	6	148	VELAD230	230.00	6	2	129.6	225.0	57.6
148	VELAD230	230.00	6	5001	RCL-230	230.00*	5	1	58.6	374.0	15.7
190	CHANG230	230.00	6	306	CHANG75	230.00*	6	1	40.6	193.0	21.0
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	40.6	300.0	13.5
309	CAISAN230	230.00*	6	310	CONCEPCION23	230.00	6	1	62.1	193.0	32.2
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	18.1	200.0	9.0

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:54
 PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTTLA7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
2	PAN115	115.00	6	18	CAC115	115.00*	6	1	57.5	115.0	50.0
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	86.8	115.0	75.5
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	5.9	93.0	6.3
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	16.8	93.0	18.0
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	45.6	93.0	49.0
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	45.6	93.0	49.0
15	PRO115	115.00	6	20	CH.AZUL	115.00*	6	1	9.8	93.0	10.5
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	24.3	150.0	16.2
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	24.3	150.0	16.2
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	36.3	93.0	39.1
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	21.3	150.0	14.2
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	21.3	150.0	14.2
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	22.4	93.0	24.1
87	CAL115	115.00*	6	88	EST115	115.00	6	1	37.3	93.0	40.2
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	41.4	93.0	44.5
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	24.1	150.0	16.1
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	24.1	150.0	16.1

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E THU, MAY 17 2007 16:54

PLAN DE EXPANSION DEL SIN CON CENTROAMERICA JUNIO DEL 2007
 AÑO 2016 ESCENARIO MODERADO DEMANDA MAXIMA INVIERNO MHTTLA7
 OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET C:

X----- FROM BUS -----X				X----- TO BUS -----X				MVA		MVA	
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	144.4	175.0	82.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	144.4	175.0	82.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	288.8	350.0	82.5
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T1	113.1	175.0	64.6
3	PANII230	230.00	6	4	PANIII115	115.00*	6	T2	113.1	175.0	64.6
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	43.7	50.0	87.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	43.7	50.0	87.4
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	42.8	50.0	85.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	42.8	50.0	85.6
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	25.7	70.0	36.7
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	25.7	70.0	36.7
8	LSA230	230.00*	6	9	LSA115	115.00	6	T3	25.7	70.0	36.7
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	8.4	70.0	11.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	8.4	70.0	11.9
9	LSA115	115.00	6	518	PGREENP13A	13.800*	6	T1	78.8	100.0	78.8
11	M.N230	230.00	6	12	M.N115	115.00*	6	T1	11.9	70.0	17.0
11	M.N230	230.00	6	12	M.N115	115.00*	6	T2	11.9	70.0	17.0
11	M.N230	230.00	6	12	M.N115	115.00*	6	T3	11.9	70.0	17.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	19.5	70.0	27.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	19.5	70.0	27.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	19.5	70.0	27.8
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	10.7	50.0	21.3
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	10.7	50.0	21.3
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	5.8	50.0	11.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	5.8	50.0	11.6
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	10.2	50.0	20.5
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	16.4	50.0	32.9
310	CONCEPCION23	230.00*	6	320	CONCEP34.5	34.500	6	T1	19.1	83.3	23.0