

ANEXO 28

CARGABILIDAD DE COMPONENTES DE TRANSMISIÓN



de

INTERCAMBIO CERO



AÑO 2008

Caso 1: REGMHTCB8
Caso 2: REGMHTGDC8
Caso 3: REGMHTTLA8



de

AÑO 2008 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 14:13
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2008

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	110.7	186.0	59.5				
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	110.7	186.0	59.5				
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	88.1	193.0	45.6				
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	88.1	193.0	45.6				
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	70.0	225.0	31.1				
3	PANII230	230.00*	6	8	LSA230	230.00	6	2	70.0	225.0	31.1				
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	114.2	186.0	61.4				
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	141.1	186.0	75.9				
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	83.0	193.0	43.0				
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	82.7	193.0	42.9				
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	1	83.3	193.0	43.2				
8	LSA230	230.00	6	148	VELADERO230	230.00*	6	1	95.4	193.0	49.4				
8	LSA230	230.00	6	148	VELADERO230	230.00*	6	2	95.4	193.0	49.4				
8	LSA230	230.00	6	148	VELADERO230	230.00*	6	3	106.7	225.0	47.4				
8	LSA230	230.00	6	148	VELADERO230	230.00*	6	4	106.7	225.0	47.4				
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	82.6	193.0	42.8				
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	39.0	193.0	20.2				
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	87.4	193.0	45.3				
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	87.4	193.0	45.3				
11	M.N230	230.00*	6	148	VELADERO230	230.00	6	1	88.1	193.0	45.6				
11	M.N230	230.00*	6	148	VELADERO230	230.00	6	2	88.1	193.0	45.6				
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	25.0	193.0	13.0				
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	112.6	225.0	50.0				
96	FOR230	230.00*	6	190	CHANG230	230.00	6	1	27.4	193.0	14.2				
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	113.7	186.0	61.1				
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	105.2	186.0	56.6				
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	103.3	193.0	53.5				
147	GUASQ230	230.00*	6	148	VELADERO230	230.00	6	1	107.5	225.0	47.8				
147	GUASQ230	230.00*	6	148	VELADERO230	230.00	6	2	107.5	225.0	47.8				
148	VELADERO230	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	9.2	300.0	3.1				
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	24.0	200.0	12.0				

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 14:17
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2008

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	31.5	115.0	27.4				
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	47.7	115.0	41.5				
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	24.2	93.0	26.0				
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	12.4	93.0	13.3				
12	M.N115	115.00	6	87	CAL115	115.00*	6	1	45.5	93.0	48.9				
12	M.N115	115.00	6	87	CAL115	115.00*	6	2	45.5	93.0	48.9				
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5				
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	2.8	150.0	1.9				
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	2.8	150.0	1.9				
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	20.0	93.0	21.6				
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	1.2	150.0	0.8				
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	1.2	150.0	0.8				
54	LM1115	115.00*	6	522	TCATIVÁ 115	115.00	6	20	77.3	150.0	51.5				
55	LM2115	115.00*	6	154	CEMPAN15	115.00	6	4B	23.5	93.0	25.3				
55	LM2115	115.00	6	522	TCATIVÁ 115	115.00*	6	20	37.5	150.0	25.0				
87	CAL115	115.00	6	88	EST115	115.00*	6	1	43.7	93.0	47.0				
87	CAL115	115.00	6	92	L.V115	115.00*	6	1	47.4	93.0	51.0				
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	1.8	150.0	1.2				
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	1.8	150.0	1.2				



Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 14:41
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2008

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				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	97.0	105.0	92.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	97.0	105.0	92.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	194.0	210.0	92.4
2	PAN115	115.00*	6	112	TGP13.8	13.800	6	T1	0.0	44.0	0.0
3	PANII230	230.00*	6	4	PANII115	115.00	6	T1	86.2	105.0	82.1
3	PANII230	230.00*	6	4	PANII115	115.00	6	T2	86.2	105.0	82.1
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	38.0	30.0	126.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	38.0	30.0	126.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	37.3	30.0	124.4
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	37.3	30.0	124.4
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	54.4	42.0	129.5
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	54.4	42.0	129.5
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.1	42.0	0.3
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.1	42.0	0.3
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	15.1	42.0	36.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	15.1	42.0	36.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	15.1	42.0	36.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	18.0	42.0	42.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	18.0	42.0	42.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	18.0	42.0	42.8
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	6.2	30.0	20.6
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	6.2	30.0	20.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	6.3	30.0	21.1
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	6.3	30.0	21.1



Handwritten signature or initials.

PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2009

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	89.7	105.0	85.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	89.7	105.0	85.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	179.3	210.0	85.4
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00*	6	4	PANII115	115.00	6	T1	84.4	105.0	80.4
3	PANII230	230.00*	6	4	PANII115	115.00	6	T2	84.4	105.0	80.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	33.5	30.0	111.6
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	33.5	30.0	111.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	33.0	30.0	110.1
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	33.0	30.0	110.1
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	54.6	42.0	129.9
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	54.6	42.0	129.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.1	42.0	0.3
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.1	42.0	0.3
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	15.1	42.0	36.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	15.1	42.0	36.0
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	15.1	42.0	36.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	17.9	42.0	42.6
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	17.9	42.0	42.6
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	17.9	42.0	42.6
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	6.6	30.0	22.1
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	6.6	30.0	22.1
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	6.8	30.0	22.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	6.8	30.0	22.6



AÑO 2010

Caso 1: REGMHTCB8
Caso 2: REGMHTGDC8
Caso 3: REGMHTTLA8

AÑO 2010 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

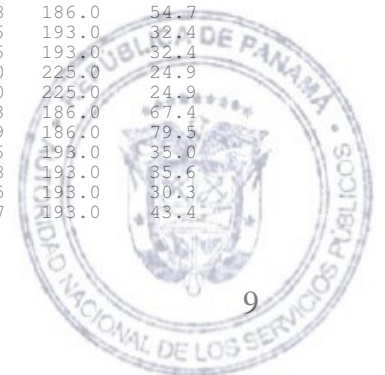
Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:03
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2010

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	101.8	186.0	54.7
1		PAN230		230.00*	6	3		PANII230		230.00	6	2	101.8	186.0	54.7
1		PAN230		230.00*	6	5		CHO230		230.00	6	1	62.6	193.0	32.4
1		PAN230		230.00*	6	5		CHO230		230.00	6	2	62.6	193.0	32.4
3		PANII230		230.00*	6	8		LSA230		230.00	6	1	56.0	225.0	24.9
3		PANII230		230.00*	6	8		LSA230		230.00	6	2	56.0	225.0	24.9
3		PANII230		230.00*	6	103		COPESA23		230.00	6	2B	125.3	186.0	67.4
3		PANII230		230.00*	6	115		PACORA23		230.00	6	1B	147.9	186.0	79.5
5		CHO230		230.00*	6	8		LSA230		230.00	6	2	67.6	193.0	35.0
5		CHO230		230.00*	6	105		PAN-AM23		230.00	6	11	68.8	193.0	35.6
5		CHO230		230.00*	6	511		LGUIAS230		230.00	6	1	58.5	193.0	30.3
8		LSA230		230.00	6	148		VELADERO		230.00*	6	1	83.7	193.0	43.4



8	LSA230	230.00	6	148	VELADERO	230230.00*	6	2	83.7	193.0	43.4
8	LSA230	230.00*	6	148	VELADERO	230230.00	6	3	93.9	225.0	41.7
8	LSA230	230.00*	6	148	VELADERO	230230.00	6	4	93.9	225.0	41.7
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	78.1	193.0	40.5
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	41.1	193.0	21.3
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	77.3	193.0	40.1
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	77.3	193.0	40.1
11	M.N230	230.00*	6	148	VELADERO	230230.00	6	1	78.3	193.0	40.6
11	M.N230	230.00*	6	148	VELADERO	230230.00	6	2	78.3	193.0	40.6
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	26.0	193.0	13.5
85	PTP230	230.00	6	96	FOR230	230.00*	6	2	50.9	193.0	26.4
85	PTP230	230.00*	6	190	CHANG230	230.00	6	2	22.1	193.0	11.5
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	94.9	225.0	42.2
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	124.9	186.0	67.2
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	118.4	186.0	63.7
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	99.3	193.0	51.4
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	1	96.2	225.0	42.7
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	2	96.2	225.0	42.7
148	VELADERO	230230.00*	6	5001	RCL-230	230.00	5	1	26.1	374.0	7.0
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	8.5	300.0	2.8
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	25.0	200.0	12.5

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:04
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2010

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	15.0	115.0	13.1
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	22.9	115.0	19.9
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	15.7	93.0	16.9
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	41.7	93.0	44.8
12	M.N115	115.00	6	87	CAL115	115.00*	6	1	49.6	93.0	53.4
12	M.N115	115.00	6	87	CAL115	115.00*	6	2	49.6	93.0	53.4
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	110	PTMD115A	115.00	6	1	46.6	150.0	31.1
18	CAC115	115.00*	6	111	PTMD115B	115.00	6	2	46.6	150.0	31.1
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	63.0	93.0	67.8
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	14.1	150.0	9.4
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	14.1	150.0	9.4
54	LM1115	115.00*	6	522	TCATIVÁ 115	115.00	6	20	60.8	150.0	40.5
55	LM2115	115.00*	6	154	CEMPAN15	115.00	6	4B	36.3	93.0	39.1
87	CAL115	115.00	6	88	EST115	115.00*	6	1	43.7	93.0	47.0
87	CAL115	115.00	6	92	L.V115	115.00*	6	1	47.4	93.0	51.0
109	STA RITA115	115.00	6	110	PTMD115A	115.00*	6	1	46.4	150.0	31.0
109	STA RITA115	115.00	6	111	PTMD115B	115.00*	6	2	46.4	150.0	31.0

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:08
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2010

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				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	80.2	105.0	76.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	80.2	105.0	76.4
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	160.5	210.0	76.4
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00*	6	4	PANII115	115.00	6	T1	88.9	105.0	84.7
3	PANII230	230.00*	6	4	PANII115	115.00	6	T2	88.9	105.0	84.7
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	35.8	30.0	119.3
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	35.8	30.0	119.3
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	35.2	30.0	117.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	35.2	30.0	117.5
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	58.2	42.0	138.6
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	58.2	42.0	138.6



Handwritten signature or initials.

9 LSA115	115.00*	6	10 L.S.34	34.500	6	T1	0.1	42.0	0.3
9 LSA115	115.00*	6	10 L.S.34	34.500	6	T2	0.1	42.0	0.3
11 M.N230	230.00*	6	12 M.N115	115.00	6	T1	16.1	42.0	38.4
11 M.N230	230.00*	6	12 M.N115	115.00	6	T2	16.1	42.0	38.4
11 M.N230	230.00*	6	12 M.N115	115.00	6	T3	16.1	42.0	38.4
12 M.N115	115.00*	6	13 MDNA34	34.500	6	T1	19.4	42.0	46.2
12 M.N115	115.00*	6	13 MDNA34	34.500	6	T2	19.4	42.0	46.2
12 M.N115	115.00*	6	13 MDNA34	34.500	6	T3	19.4	42.0	46.2
14 PRO230	230.00*	6	15 PRO115	115.00	6	T1	7.1	30.0	23.6
14 PRO230	230.00*	6	15 PRO115	115.00	6	T2	7.1	30.0	23.6
15 PRO115	115.00*	6	16 PRO34	34.500	6	T1	7.2	30.0	24.0
15 PRO115	115.00*	6	16 PRO34	34.500	6	T2	7.2	30.0	24.0



Handwritten signature or initials.

AÑO 2011

Caso 1: REGMHTCB8 Caso 2: REGMHTGDC8 Caso 3: REGMHTTLA8

AÑO 2011 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO Cargabilidad de Líneas y Transformadores Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:10
PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
Año 2011

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	121.0	186.0	65.0
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	121.0	186.0	65.0
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	124.9	193.0	64.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	124.9	193.0	64.7
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	108.7	225.0	48.3
3	PANII230	230.00	6	8	LSA230	230.00*	6	2	108.7	225.0	48.3
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	106.5	186.0	57.3
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	109.0	186.0	58.6
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	129.9	193.0	67.3
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	83.6	193.0	43.3
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	120.1	193.0	62.2
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	1	142.4	193.0	73.8	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	2	142.4	193.0	73.8	
8	LSA230	230.00*	6	148	VELADERO 230230.00	6	3	160.7	225.0	71.4	
8	LSA230	230.00*	6	148	VELADERO 230230.00	6	4	160.7	225.0	71.4	
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	142.6	193.0	73.9
11	M.N230	230.00*	6	14	PRO230	230.00	6	9	29.2	193.0	15.1
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	115.4	193.0	59.8
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	115.4	193.0	59.8
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	1	124.6	193.0	64.6	
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	2	124.6	193.0	64.6	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	13.6	193.0	7.0
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	49.0	193.0	25.4
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	85.1	193.0	44.1
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	135.8	225.0	60.3
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	96.4	193.0	49.9
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	105.8	186.0	56.9



100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	106.6	186.0	57.3
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	107.8	193.0	55.8
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	16.8	193.0	8.7
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	1	153.8	225.0	68.3
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	2	153.8	225.0	68.3
148	VELADERO	230230.00*	6	5001	RCL-230	230.00	5	1	53.1	374.0	14.2
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	109.9	193.0	56.9
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	39.4	300.0	13.1
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	13.0	200.0	6.5

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:12
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2011

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	37.9	115.0	33.0				
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	57.3	115.0	49.8				
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	17.9	93.0	19.3				
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	19.2	93.0	20.6				
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	56.6	93.0	60.9				
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	56.6	93.0	60.9				
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5				
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	13.8	150.0	9.2				
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	13.8	150.0	9.2				
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	35.2	93.0	37.8				
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	12.5	150.0	8.3				
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	12.5	150.0	8.3				

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:18
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2011

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	118.7	105.0	113.0				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	118.7	105.0	113.0				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	225.7	210.0	107.5				
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0				
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	96.6	105.0	92.0				
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	96.6	105.0	92.0				
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	37.4	30.0	124.8				
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	37.4	30.0	124.8				
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	36.8	30.0	122.8				
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	36.8	30.0	122.8				
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	60.9	42.0	145.1				
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	60.9	42.0	145.1				
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.1	42.0	0.3				
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.1	42.0	0.3				
11	M.N230	230.00	6	12	M.N115	115.00*	6	T1	16.8	42.0	39.9				
11	M.N230	230.00	6	12	M.N115	115.00*	6	T2	16.8	42.0	39.9				
11	M.N230	230.00	6	12	M.N115	115.00*	6	T3	16.8	42.0	39.9				
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	22.1	42.0	52.7				
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	22.1	42.0	52.7				
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	22.1	42.0	52.7				
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	7.4	30.0	24.6				
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	7.4	30.0	24.6				
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	7.5	30.0	25.1				
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	7.5	30.0	25.1				



Handwritten signature or mark.

AÑO 2012

**Caso 1: REGMHTCB8
Caso 2: REGMHTGDC8**



de

AÑO 2012 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:20
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2012

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	133.6	186.0	71.8					
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	133.6	186.0	71.8					
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	115.9	193.0	60.1					
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	115.9	193.0	60.1					
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	118.2	225.0	52.5					
3	PANII230	230.00	6	8	LSA230	230.00*	6	2	118.2	225.0	52.5					
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	78.2	186.0	42.1					
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	67.2	186.0	36.1					
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	39.6	225.0	17.6					
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	39.6	225.0	17.6					
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	144.7	193.0	75.0					
5	CHO230	230.00*	6	105	PAN-AM23	230.00	6	11	33.9	193.0	17.6					
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	1	134.4	193.0	69.7					
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	1	155.4	193.0	80.5						
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	2	155.4	193.0	80.5						
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	3	174.9	225.0	77.7						
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	4	174.9	225.0	77.7						
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	157.7	193.0	81.7					
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	107.5	193.0	55.7					
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	107.5	193.0	55.7					
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	1	132.8	193.0	68.8						
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	2	132.8	193.0	68.8						
11	M.N230	230.00*	6	310	CONCEPCION23230.00	6	1	8.5	193.0	4.4						
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	37.9	193.0	19.7						
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	23.0	193.0	11.9					
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	1	43.4	193.0	22.5					
85	PTP230	230.00	6	190	CHANG230	230.00*	6	1	81.1	193.0	42.0					
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	141.5	225.0	62.9					
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	89.4	193.0	46.3					
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	77.4	186.0	41.6					
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	82.8	186.0	44.5					
144	CANJ230	230.00	6	147	GUASQ230	230.00*	6	1	99.2	193.0	51.4					
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	1	22.8	193.0	11.8						
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	2	22.8	193.0	11.8						
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	36.4	193.0	18.9					
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	14.5	193.0	7.5					
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	1	158.0	225.0	70.2						
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	2	158.0	225.0	70.2						
148	VELADERO 230230.00*	6	6	155	TABASARAI	230.00	6	1	27.5	193.0	14.3					
148	VELADERO 230230.00	6	6	5001	RCL-230	230.00*	5	1	57.9	374.0	15.5					
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	107.6	193.0	55.8					



190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	34.0	300.0	11.3
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 MON, JUN 02 2008 15:21
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2012

OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

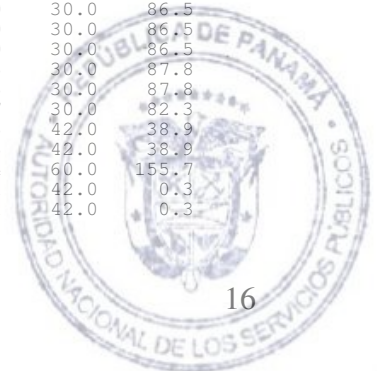
FROM BUS				X	TO BUS				CURRENT (MVA)						
BUS#	X--	NAME	--X	BASKV	AREA	BUS#	X--	NAME	--X	BASKV	AREA	CKT	LOADING	RATING	PERCENT
2		PAN115		115.00	6	18		CAC115		115.00*	6	1	35.0	115.0	30.5
2		PAN115		115.00	6	18		CAC115		115.00*	6	ST	53.0	115.0	46.1
2		PAN115		115.00	6	23		CH115		115.00*	6	3A	13.4	93.0	14.4
2		PAN115		115.00*	6	154		CEMPAN15		115.00	6	4A	15.2	93.0	16.4
12		M.N115		115.00*	6	87		CAL115		115.00	6	1	55.6	93.0	59.8
12		M.N115		115.00*	6	87		CAL115		115.00	6	2	55.6	93.0	59.8
15		PRO115		115.00*	6	20		CH.AZUL		115.00	6	1	1.4	93.0	1.5
18		CAC115		115.00*	6	109		STA RITA115		115.00	6	1	25.0	150.0	16.7
18		CAC115		115.00*	6	109		STA RITA115		115.00	6	2	25.0	150.0	16.7
23		CH115		115.00*	6	55		LM2115		115.00	6	3B	41.3	93.0	44.4
54		LM1115		115.00*	6	109		STA RITA115		115.00	6	1	37.0	150.0	24.7
54		LM1115		115.00*	6	109		STA RITA115		115.00	6	2	37.0	150.0	24.7
55		LM2115		115.00	6	154		CEMPAN15		115.00*	6	4B	23.6	93.0	25.4
55		LM2115		115.00	6	522		TCATIVÁ 115		115.00*	6	20	25.0	150.0	16.7
87		CAL115		115.00*	6	88		EST115		115.00	6	1	43.3	93.0	46.5
87		CAL115		115.00*	6	92		L.V115		115.00	6	1	45.5	93.0	48.9

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:23
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2012

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				X	TO BUS				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	77.4	105.0	73.8
1		PAN230		230.00*	6	2		PAN115		115.00	6	T2	77.4	105.0	73.8
1		PAN230		230.00*	6	2		PAN115		115.00	6	T3	154.9	210.0	73.8
1		PAN230		230.00*	6	2		PAN115		115.00	6	T4	154.9	210.0	73.8
2		PAN115		115.00	6	112		TGP13.8		13.800*	6	T1	0.0	44.0	0.0
3		PANII230		230.00	6	4		PANII115		115.00*	6	T1	70.6	105.0	67.2
3		PANII230		230.00	6	4		PANII115		115.00*	6	T2	70.6	105.0	67.2
3		PANII230		230.00	6	4		PANII115		115.00*	6	T3	66.0	105.0	62.9
5		CHO230		230.00*	6	6		CHO115		115.00	6	T1	26.0	30.0	86.5
5		CHO230		230.00*	6	6		CHO115		115.00	6	T2	26.0	30.0	86.5
5		CHO230		230.00*	6	6		CHO115		115.00	6	T3	26.0	30.0	86.5
6		CHO115		115.00*	6	7		CHO34		34.500	6	T1	26.3	30.0	87.8
6		CHO115		115.00*	6	7		CHO34		34.500	6	T2	26.3	30.0	87.8
6		CHO115		115.00*	6	7		CHO34		34.500	6	T3	24.7	30.0	82.3
8		LSA230		230.00*	6	9		LSA115		115.00	6	T1	16.3	42.0	38.9
8		LSA230		230.00*	6	9		LSA115		115.00	6	T2	16.3	42.0	38.9
8		LSA230		230.00*	6	9		LSA115		115.00	6	T3	93.4	60.0	155.7
9		LSA115		115.00*	6	10		L.S.34		34.500	6	T1	0.1	42.0	0.3
9		LSA115		115.00*	6	10		L.S.34		34.500	6	T2	0.1	42.0	0.3



11 M.N230	230.00*	6	12 M.N115	115.00	6	T1	16.6	42.0	39.5
11 M.N230	230.00*	6	12 M.N115	115.00	6	T2	16.6	42.0	39.5
11 M.N230	230.00*	6	12 M.N115	115.00	6	T3	16.6	42.0	39.5
12 M.N115	115.00*	6	13 MDNA34	34.500	6	T1	22.7	42.0	54.0
12 M.N115	115.00*	6	13 MDNA34	34.500	6	T2	22.7	42.0	54.0
12 M.N115	115.00*	6	13 MDNA34	34.500	6	T3	22.7	42.0	54.0
14 PRO230	230.00*	6	15 PRO115	115.00	6	T1	7.8	30.0	26.0
14 PRO230	230.00*	6	15 PRO115	115.00	6	T2	7.8	30.0	26.0
15 PRO115	115.00*	6	16 PRO34	34.500	6	T1	7.9	30.0	26.5
15 PRO115	115.00*	6	16 PRO34	34.500	6	T2	7.9	30.0	26.5

AÑO 2012

Caso 3: REGMHTTLA8



Handwritten signature or initials.

AÑO 2012 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:25
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2012 REGMHTLA8

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	136.0	186.0	73.1
1		PAN230		230.00*	6	3		PANII230		230.00	6	2	136.0	186.0	73.1
1		PAN230		230.00	6	5		CHO230		230.00*	6	1	122.5	193.0	63.5
1		PAN230		230.00	6	5		CHO230		230.00*	6	2	122.5	193.0	63.5
3		PANII230		230.00	6	8		LSA230		230.00*	6	1	123.7	225.0	55.0
3		PANII230		230.00	6	8		LSA230		230.00*	6	2	123.7	225.0	55.0
3		PANII230		230.00*	6	103		COPESA23		230.00	6	2B	86.1	186.0	46.3
3		PANII230		230.00*	6	115		PACORA23		230.00	6	1B	75.1	186.0	40.4
3		PANII230		230.00*	6	325		STA RITA230		230.00	6	1	39.9	225.0	17.7
3		PANII230		230.00*	6	325		STA RITA230		230.00	6	2	39.9	225.0	17.7
5		CHO230		230.00	6	8		LSA230		230.00*	6	2	151.2	193.0	78.3
5		CHO230		230.00*	6	105		PAN-AM23		230.00	6	11	34.5	193.0	17.9
5		CHO230		230.00	6	511		LGUIAS230		230.00*	6	1	141.0	193.0	73.1
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	1	156.7	193.0	81.2
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	2	156.7	193.0	81.2
8		LSA230		230.00*	6	148		VELADERO 230230.00		230.00	6	3	176.8	225.0	78.6
8		LSA230		230.00*	6	148		VELADERO 230230.00		230.00	6	4	176.8	225.0	78.6
8		LSA230		230.00*	6	511		LGUIAS230		230.00	6	1	164.6	193.0	85.3
11		M.N230		230.00	6	96		FOR230		230.00*	6	1	107.0	193.0	55.4
11		M.N230		230.00	6	96		FOR230		230.00*	6	2	107.0	193.0	55.4
11		M.N230		230.00*	6	148		VELADERO 230230.00		230.00	6	1	133.5	193.0	69.2
11		M.N230		230.00*	6	148		VELADERO 230230.00		230.00	6	2	133.5	193.0	69.2
11		M.N230		230.00*	6	310		CONCEPCION23230.00		230.00	6	1	13.9	193.0	7.2
14		PRO230		230.00	6	310		CONCEPCION23230.00*		230.00*	6	1	38.0	193.0	19.7
14		PRO230		230.00*	6	6000		FRONTER		230.00	6	10	23.0	193.0	11.9
85		PTP230		230.00*	6	147		GUASQ230		230.00	6	2	42.5	193.0	22.0
85		PTP230		230.00	6	190		CHANG230		230.00*	6	2	80.4	193.0	41.7
96		FOR230		230.00	6	147		GUASQ230		230.00*	6	1	142.3	225.0	63.3
96		FOR230		230.00	6	306		CHAN1 230		230.00*	6	1	87.9	193.0	45.5
100		BAY230		230.00	6	103		COPESA23		230.00*	6	2A	85.2	186.0	45.8
100		BAY230		230.00	6	115		PACORA23		230.00*	6	1A	90.5	186.0	48.7
144		CANJ230		230.00	6	147		GUASQ230		230.00*	6	1	99.4	193.0	51.5
145		BJOMIN230		230.00*	6	310		CONCEPCION23230.00		230.00	6	1	21.8	193.0	11.3
145		BJOMIN230		230.00*	6	310		CONCEPCION23230.00		230.00	6	2	21.8	193.0	11.3
146		GUALACA230		230.00*	6	147		GUASQ230		230.00	6	1	35.8	193.0	18.6
146		GUALACA230		230.00	6	345		LORENA230		230.00*	6	1	14.5	193.0	7.5
147		GUASQ230		230.00*	6	148		VELADERO 230230.00		230.00	6	1	158.5	225.0	70.4
147		GUASQ230		230.00*	6	148		VELADERO 230230.00		230.00	6	2	158.5	225.0	70.4
148		VELADERO 230230.00*		230.00*	6	155		TABASARAI		230.00	6	1	28.0	193.0	14.5
148		VELADERO 230230.00*		230.00*	6	5001		RCL-230		230.00	5	1	58.3	374.0	15.6
190		CHANG230		230.00	6	306		CHAN1 230		230.00*	6	1	106.7	193.0	55.3
190		CHANG230		230.00	6	5180		CAU-230		230.00*	5	1	33.8	300.0	11.3
5001		RCL-230		230.00*	5	6000		FRONTER		230.00	6	10	22.9	200.0	11.5

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:26
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2012 REGMHTLA8

OUTPUT FOR AREA 6 [PANAMA]



Handwritten signature or initials.

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	34.2	115.0	29.8
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	51.7	115.0	45.0
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	14.3	93.0	15.3
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	15.6	93.0	16.8
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	56.6	93.0	60.8
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	56.6	93.0	60.8
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	25.1	150.0	16.7
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	25.1	150.0	16.7
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	41.4	93.0	44.5
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	37.6	150.0	25.1
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	37.6	150.0	25.1
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	23.5	93.0	25.3
87	CAL115	115.00*	6	88	EST115	115.00	6	1	43.1	93.0	46.4
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	47.1	93.0	50.7

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:28
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2012 REGMHTL8

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				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	78.3	105.0	74.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	78.3	105.0	74.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	156.7	210.0	74.6
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	156.7	210.0	74.6
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	66.3	105.0	63.2
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	66.3	105.0	63.2
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	66.3	105.0	63.2
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	26.0	30.0	86.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	26.0	30.0	86.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	26.0	30.0	86.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	25.7	30.0	85.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	25.7	30.0	85.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	25.7	30.0	85.6
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	27.0	42.0	64.3
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	27.0	42.0	64.3
8	LSA230	230.00*	6	9	LSA115	115.00	6	T3	54.0	60.0	90.0
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.1	42.0	0.3
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.1	42.0	0.3
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	17.5	42.0	41.8
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	17.5	42.0	41.8
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	17.5	42.0	41.8
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	22.7	42.0	54.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	22.7	42.0	54.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	22.7	42.0	54.0
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	7.8	30.0	26.0
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	7.8	30.0	26.0
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	7.9	30.0	26.5
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	7.9	30.0	26.5
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T1	63.6	105.0	60.6
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T2	63.6	105.0	60.6
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	9.9	30.0	33.0
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	14.1	30.0	47.1
191	CHANG115	115.00*	6	193	GEBONYIC	13.800	6	T1	21.2	30.0	70.5



AÑO 2016

Caso 1: REGMHTCB8

AÑO 2016 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO
Cargabilidad de Líneas y Transformadores



de

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:34
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2016

OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

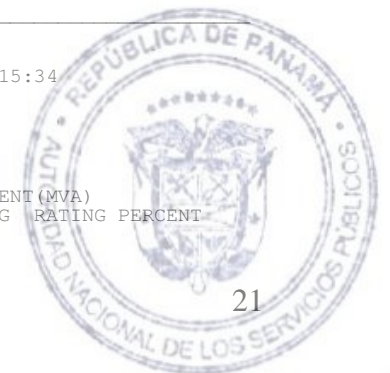
X----- FROM BUS -----X					X----- TO BUS -----X					CURRENT (MVA)		
BUS#	X-- NAME	--X BASKV	AREA		BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6		3	PANII230	230.00	6	1	69.5	186.0	37.3
1	PAN230	230.00*	6		3	PANII230	230.00	6	2	69.5	186.0	37.3
1	PAN230	230.00*	6		3	PANII230	230.00	6	3	76.0	225.0	33.8
1	PAN230	230.00	6		5	CHO230	230.00*	6	1	163.8	193.0	84.9
1	PAN230	230.00	6		5	CHO230	230.00*	6	2	163.8	193.0	84.9
1	PAN230	230.00	6		5	CHO230	230.00*	6	3	165.1	225.0	73.4
3	PANII230	230.00	6		8	LSA230	230.00*	6	1	136.4	225.0	60.6
3	PANII230	230.00*	6		103	COPESA23	230.00	6	2B	75.2	186.0	40.4
3	PANII230	230.00*	6		115	PACORA23	230.00	6	1B	61.4	186.0	33.0
3	PANII230	230.00*	6		325	STA RITA230	230.00	6	1	55.3	225.0	24.6
3	PANII230	230.00*	6		325	STA RITA230	230.00	6	2	55.3	225.0	24.6
5	CHO230	230.00	6		8	LSA230	230.00*	6	1	147.8	225.0	65.7
5	CHO230	230.00	6		8	LSA230	230.00*	6	2	147.8	225.0	65.7
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	144.3	193.0	74.8
5	CHO230	230.00	6		511	LGUIAS230	230.00*	6	2	144.3	193.0	74.8
8	LSA230	230.00	6		148	VELADERO 230230.00*	6	1	169.7	193.0	87.9	
8	LSA230	230.00	6		148	VELADERO 230230.00*	6	2	169.7	193.0	87.9	
8	LSA230	230.00	6		148	VELADERO 230230.00*	6	3	191.0	225.0	84.9	
8	LSA230	230.00	6		148	VELADERO 230230.00*	6	4	191.0	225.0	84.9	
8	LSA230	230.00	6		148	VELADERO 230230.00*	6	5	191.0	225.0	84.9	
8	LSA230	230.00*	6		511	LGUIAS230	230.00	6	1	158.9	193.0	82.4
8	LSA230	230.00*	6		511	LGUIAS230	230.00	6	2	158.9	193.0	82.4
11	M.N230	230.00	6		96	FOR230	230.00*	6	1	106.8	193.0	55.4
11	M.N230	230.00	6		96	FOR230	230.00*	6	2	106.8	193.0	55.4
11	M.N230	230.00*	6		148	VELADERO 230230.00	6	1	187.4	193.0	97.1	
11	M.N230	230.00*	6		148	VELADERO 230230.00	6	2	187.4	193.0	97.1	
11	M.N230	230.00*	6		310	CONCEPCION23230.00	6	1	118.2	193.0	61.2	
14	PRO230	230.00	6		310	CONCEPCION23230.00*	6	1	74.1	193.0	38.4	
14	PRO230	230.00*	6		6000	FRONTER	230.00	6	10	56.2	193.0	29.1
85	PTP230	230.00*	6		147	GUASQ230	230.00	6	2	44.1	193.0	22.8
85	PTP230	230.00*	6		190	CHANG230	230.00	6	2	89.6	193.0	46.4
96	FOR230	230.00	6		147	GUASQ230	230.00*	6	1	165.0	225.0	73.3
96	FOR230	230.00	6		306	CHAN1 230	230.00*	6	1	94.5	193.0	49.0
100	BAY230	230.00	6		103	COPESA23	230.00*	6	2A	74.2	186.0	39.9
100	BAY230	230.00	6		115	PACORA23	230.00*	6	1A	80.4	186.0	43.2
144	CANJ230	230.00*	6		147	GUASQ230	230.00	6	1	112.8	193.0	58.4
145	BJOMIN230	230.00*	6		310	CONCEPCION23230.00	6	1	96.1	193.0	49.8	
145	BJOMIN230	230.00*	6		310	CONCEPCION23230.00	6	2	96.1	193.0	49.8	
146	GUALACA230	230.00*	6		147	GUASQ230	230.00	6	1	105.4	193.0	54.6
146	GUALACA230	230.00	6		345	LORENA230	230.00*	6	1	82.0	193.0	42.5
147	GUASQ230	230.00*	6		148	VELADERO 230230.00	6	1	210.7	225.0	93.7	
147	GUASQ230	230.00*	6		148	VELADERO 230230.00	6	2	210.7	225.0	93.7	
148	VELADERO 230230.00*	6			155	TABASARAI	230.00	6	1	31.7	193.0	16.4
148	VELADERO 230230.00*	6			5001	RCL-230	230.00	5	1	89.1	374.0	23.8
190	CHANG230	230.00	6		306	CHAN1 230	230.00*	6	1	111.9	193.0	58.0
190	CHANG230	230.00*	6		5180	CAU-230	230.00	5	1	34.0	300.0	11.3
341	PRUDENCIA230230.00*	6			345	LORENA230	230.00	6	1	51.4	193.0	26.6
5001	RCL-230	230.00	5		6000	FRONTER	230.00*	6	10	56.0	200.0	28.0

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:34
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2016

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	49.5	115.0	43.0
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	74.7	115.0	65.0
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	17.0	93.0	18.3
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	18.4	93.0	19.8
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	63.7	93.0	68.5
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	63.7	93.0	68.5
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	29.5	150.0	19.7
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	29.5	150.0	19.7
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	48.6	93.0	52.3
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	46.4	150.0	31.0
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	46.4	150.0	31.0
54	LM1115	115.00*	6	522	TCATIVÁ 115	115.00	6	20	22.7	150.0	15.1
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	24.9	93.0	26.7
55	LM2115	115.00	6	522	TCATIVÁ 115	115.00*	6	20	19.1	150.0	12.7
87	CAL115	115.00*	6	88	EST115	115.00	6	1	46.0	93.0	49.5
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	49.3	93.0	53.1

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:35
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2016

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	97.3	105.0	92.7
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	97.3	105.0	92.7
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	194.6	210.0	92.7
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	194.6	210.0	92.7
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	78.8	105.0	75.1
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	78.8	105.0	75.1
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	78.8	105.0	75.1
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	31.2	30.0	103.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	31.2	30.0	103.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	31.2	30.0	103.9
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	30.8	30.0	102.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	30.8	30.0	102.6
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	30.8	30.0	102.6
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	39.2	42.0	93.4
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	39.2	42.0	93.4
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	78.5	60.0	130.8
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.2	42.0	0.4
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.2	42.0	0.4
11	M.N230	230.00	6	12	M.N115	115.00*	6	T1	16.1	42.0	38.4
11	M.N230	230.00	6	12	M.N115	115.00*	6	T2	16.1	42.0	38.4
11	M.N230	230.00	6	12	M.N115	115.00*	6	T3	16.1	42.0	38.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	27.3	42.0	65.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	27.3	42.0	65.0
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	27.3	42.0	65.0
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	9.4	30.0	31.2
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	9.4	30.0	31.2
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	9.5	30.0	31.7
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	9.5	30.0	31.7
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T1	59.9	105.0	57.1
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T2	59.9	105.0	57.1
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	13.1	30.0	43.7
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	16.9	30.0	56.4



Handwritten signature or initials.



de

AÑO 2016

Caso 2: REGMHTGDC8

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

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:41
PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
AÑO 2016 REGMHTGDC8

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	69.2	186.0	37.2
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	69.2	186.0	37.2
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	75.7	225.0	33.6
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	155.8	193.0	80.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	155.8	193.0	80.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	157.0	225.0	69.8
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	130.3	225.0	57.9
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	67.8	186.0	36.5
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	53.7	186.0	28.9
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	61.9	225.0	27.5
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	61.9	225.0	27.5
5	CHO230	230.00	6	8	LSA230	230.00*	6	1	141.9	225.0	63.0
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	141.9	225.0	63.0
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	138.3	193.0	71.7



5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	2	138.3	193.0	71.7	
8	LSA230	230.00	6	148	VELADERO	230230.00*	6	1	164.3	193.0	85.1	
8	LSA230	230.00	6	148	VELADERO	230230.00*	6	2	164.3	193.0	85.1	
8	LSA230	230.00	6	148	VELADERO	230230.00*	6	3	184.8	225.0	82.1	
8	LSA230	230.00	6	148	VELADERO	230230.00*	6	4	184.8	225.0	82.1	
8	LSA230	230.00	6	148	VELADERO	230230.00*	6	5	184.8	225.0	82.1	
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	152.9	193.0	79.2	
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	2	152.9	193.0	79.2	
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	113.0	193.0	58.5	
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	113.0	193.0	58.5	
11	M.N230	230.00*	6	148	VELADERO	230230.00	6	1	175.6	193.0	91.0	
11	M.N230	230.00*	6	148	VELADERO	230230.00	6	2	175.6	193.0	91.0	
11	M.N230	230.00*	6	310	CONCEPCION23	230.00	6	1	84.5	193.0	43.8	
14	PRO230	230.00	6	310	CONCEPCION23	230.00*	6	1	64.3	193.0	33.3	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	46.4	193.0	24.0	
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	42.1	193.0	21.8	
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	87.8	193.0	45.5	
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	151.7	225.0	67.4	
96	FOR230	230.00	6	306	CHAN1	230	230.00*	6	1	94.0	193.0	48.7
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	67.0	186.0	36.0	
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	73.3	186.0	39.4	
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	112.7	193.0	58.4	
145	BJOMIN230	230.00	6	310	CONCEPCION23	230.00*	6	1	73.4	193.0	38.0	
145	BJOMIN230	230.00	6	310	CONCEPCION23	230.00*	6	2	73.4	193.0	38.0	
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	105.7	193.0	54.7	
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	82.1	193.0	42.5	
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	1	203.5	225.0	90.4	
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	2	203.5	225.0	90.4	
148	VELADERO	230230.00*	6	155	TABASARAI	230.00	6	1	31.3	193.0	16.2	
148	VELADERO	230230.00*	6	5001	RCL-230	230.00	5	1	81.4	374.0	21.8	
190	CHANG230	230.00	6	306	CHAN1	230	230.00*	6	1	112.3	193.0	58.2
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	36.1	300.0	12.0	
341	PRUDENCIA230	230.00*	6	345	LORENA230	230.00	6	1	51.5	193.0	26.7	
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	46.2	200.0	23.1	

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:41
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2016 REGMHTGDC8

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	48.4	115.0	42.0	
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	73.0	115.0	63.5	
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	11.8	93.0	12.7	
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	23.5	93.0	25.2	
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	62.5	93.0	67.2	
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	62.5	93.0	67.2	
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5	
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	33.7	150.0	22.5	
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	33.7	150.0	22.5	
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	54.1	93.0	58.2	
54	LMI115	115.00*	6	109	STA RITA115	115.00	6	1	34.2	150.0	22.8	
54	LMI115	115.00*	6	109	STA RITA115	115.00	6	2	34.2	150.0	22.8	
54	LMI115	115.00*	6	522	TCATIVÁ	115	115.00	6	20	13.3	150.0	8.9
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	30.0	93.0	32.3	
87	CAL115	115.00*	6	88	EST115	115.00	6	1	43.7	93.0	47.0	
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	47.7	93.0	51.3	

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:41
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2016 REGMHTGDC8



Handwritten signature or initials.

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	95.8	105.0	91.2
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	95.8	105.0	91.2
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	191.5	210.0	91.2
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	191.5	210.0	91.2
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	78.8	105.0	75.1
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	78.8	105.0	75.1
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	78.8	105.0	75.1
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	31.3	30.0	104.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	31.3	30.0	104.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	31.3	30.0	104.4
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	30.9	30.0	103.1
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	30.9	30.0	103.1
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	30.9	30.0	103.1
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	39.5	42.0	94.0
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	39.5	42.0	94.0
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	79.0	60.0	131.6
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.2	42.0	0.4
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.2	42.0	0.4
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	9.8	42.0	23.2
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	9.8	42.0	23.2
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	27.9	42.0	66.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	27.5	42.0	65.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	27.5	42.0	65.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	27.5	42.0	65.4
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	9.4	30.0	31.3
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	9.4	30.0	31.3
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	9.5	30.0	31.8
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	9.5	30.0	31.8
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T1	51.7	105.0	49.2
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T2	51.7	105.0	49.2
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	13.1	30.0	43.6
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	17.0	30.0	56.7



Handwritten signature or initials.

AÑO 2016

Caso 3: REGMHTTLA8



de

AÑO 2016 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:45
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2016 REGMHTL8

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	77.4	186.0	41.6
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	77.4	186.0	41.6
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	84.8	225.0	37.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	125.1	193.0	64.8
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	125.1	193.0	64.8
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	126.0	225.0	56.0
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	106.3	225.0	47.2
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	84.9	186.0	45.6
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	71.8	186.0	38.6
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	36.9	225.0	16.4
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	36.9	225.0	16.4
3	PANII230	230.00	6	540	HV-PETOABRE	230.00*	6	2	113.0	225.0	50.2
5	CHO230	230.00	6	8	LSA230	230.00*	6	1	118.9	225.0	52.8
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	118.9	225.0	52.8
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	114.8	193.0	59.5
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	2	114.8	193.0	59.5
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	1	155.7	193.0	80.7	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	2	155.7	193.0	80.7	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	3	174.9	225.0	77.7	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	4	174.9	225.0	77.7	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	5	174.9	225.0	77.7	
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	129.2	193.0	67.0
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	2	129.2	193.0	67.0
8	LSA230	230.00*	6	540	HV-PETOABRE	230.00	6	2	87.5	225.0	38.9
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	119.8	193.0	62.1
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	119.8	193.0	62.1
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	1	169.0	193.0	87.6	
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	2	169.0	193.0	87.6	
11	M.N230	230.00*	6	310	CONCEPCION23230.00	6	1	64.5	193.0	33.4	
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	58.6	193.0	30.4	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	40.9	193.0	21.2
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	42.3	193.0	21.9
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	87.7	193.0	45.4
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	143.2	225.0	63.7
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	95.6	193.0	49.5
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	84.5	186.0	45.4
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	91.2	186.0	49.0
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	113.5	193.0	58.8
145	BJOMIN230	230.00	6	310	CONCEPCION23230.00*	6	1	59.6	193.0	30.9	
145	BJOMIN230	230.00	6	310	CONCEPCION23230.00*	6	2	59.6	193.0	30.9	



Handwritten signature or initials.

146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	106.2	193.0	55.0
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	83.5	193.0	43.2
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	1	200.6	225.0	89.2
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	2	200.6	225.0	89.2
148	VELADERO 230230.00*	230.00*	6	155	TABASARAI	230.00	6	1	30.9	193.0	16.0
148	VELADERO 230230.00	230.00	6	5001	RCL-230	230.00*	5	1	77.0	374.0	20.6
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	115.4	193.0	59.8
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	40.1	300.0	13.4
341	PRUDENCIA230230.00*	230.00*	6	345	LORENA230	230.00	6	1	53.3	193.0	27.6
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	40.5	200.0	20.3

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:45
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2016 REGMHTL8

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	49.1	115.0	42.7
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	74.1	115.0	64.4
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	12.7	93.0	13.7
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	21.5	93.0	23.2
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	61.9	93.0	66.6
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	61.9	93.0	66.6
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	30.1	150.0	20.1
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	30.1	150.0	20.1
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	53.3	93.0	57.4
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	1	15.6	150.0	10.4
54	LM1115	115.00	6	109	STA RITA115	115.00*	6	2	15.6	150.0	10.4
54	LM1115	115.00*	6	522	TCATIVÁ 115	115.00	6	20	18.8	150.0	12.5
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	31.9	93.0	34.3
55	LM2115	115.00	6	522	TCATIVÁ 115	115.00*	6	20	18.8	150.0	12.5
87	CAL115	115.00*	6	88	EST115	115.00	6	1	44.0	93.0	47.3
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	46.3	93.0	49.8



Handwritten signature or initials.

AÑO 2021

Caso 1: REGMHTCB8



de

AÑO 2021 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:56
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2021

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	76.4	186.0	41.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	76.4	186.0	41.1
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	83.6	225.0	37.2
1	PAN230	230.00*	6	3	PANII230	230.00	6	4	83.6	225.0	37.2
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	144.9	193.0	75.1
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	144.9	193.0	75.1
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	146.0	225.0	64.9
1	PAN230	230.00	6	5	CHO230	230.00*	6	4	146.0	225.0	64.9
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	95.8	186.0	51.5
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	76.9	186.0	41.4
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	119.0	225.0	52.9
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	119.0	225.0	52.9
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	3	119.0	225.0	52.9
5	CHO230	230.00	6	8	LSA230	230.00*	6	1	141.8	225.0	63.0
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	141.8	225.0	63.0
5	CHO230	230.00	6	8	LSA230	230.00*	6	3	141.8	225.0	63.0
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	136.9	193.0	70.9
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	2	136.9	193.0	70.9
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	1	174.1	193.0	90.2	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	2	174.1	193.0	90.2	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	3	196.1	225.0	87.2	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	4	196.1	225.0	87.2	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	5	196.1	225.0	87.2	
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	155.2	193.0	80.4
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	2	155.2	193.0	80.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	68.6	193.0	35.5
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	68.6	193.0	35.5
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	1	154.3	193.0	80.0	
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	2	154.3	193.0	80.0	
11	M.N230	230.00*	6	310	CONCEPCION23230.00	6	1	167.9	193.0	87.0	
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	79.0	193.0	40.9	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	56.4	193.0	29.2
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	33.3	193.0	17.3
85	PTP230	230.00*	6	190	CHANG230	230.00	6	2	90.9	193.0	47.1
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	123.7	225.0	55.0
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	2	123.7	225.0	55.0
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	95.9	193.0	49.7
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	95.1	186.0	51.1
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	103.8	186.0	55.8
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	117.7	193.0	61.0
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	1	123.2	193.0	63.8	
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	2	123.2	193.0	63.8	
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	105.9	193.0	54.9
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	83.6	193.0	43.3
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	1	167.1	225.0	74.3	
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	2	167.1	225.0	74.3	
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	3	167.1	225.0	74.3	
148	VELADERO 230230.00*	6	155	TABASARAI	230.00	6	1	32.8	193.0	17.0	
148	VELADERO 230230.00*	6	5001	RCL-230	230.00	5	1	80.4	374.0	21.5	
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	110.0	193.0	57.0
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	25.0	300.0	8.3
341	PRUDENCIA230230.00*	6	345	LORENA230	230.00	6	1	52.3	193.0	27.1	
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	56.1	200.0	28.1



Handwritten signature or initials.

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:56
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021

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	67.9	115.0	59.1				
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	102.5	115.0	89.1				
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	29.7	93.0	32.0				
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	58.5	93.0	62.9				
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	58.5	93.0	62.9				
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5				
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	49.6	150.0	33.0				
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	49.6	150.0	33.0				
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	69.4	93.0	74.6				
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	88.5	150.0	59.0				
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	88.5	150.0	59.0				
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	39.4	93.0	42.3				
87	CAL115	115.00*	6	88	EST115	115.00	6	1	43.8	93.0	47.1				
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	49.7	93.0	53.4				

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 15:57
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021

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	126.3	105.0	120.3				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	126.3	105.0	120.3				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	252.6	210.0	120.3				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	252.6	210.0	120.3				
2	PAN115	115.00*	6	112	TGP13.8	13.800	6	T1	0.0	44.0	0.0				
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	97.6	105.0	92.9				
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	97.6	105.0	92.9				
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	97.6	105.0	92.9				
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	29.9	30.0	99.7				
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	29.9	30.0	99.7				
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	29.9	30.0	99.7				
5	CHO230	230.00*	6	6	CHO115	115.00	6	T4	29.9	30.0	99.7				
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	29.5	30.0	98.4				
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	29.5	30.0	98.4				
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	29.5	30.0	98.4				
6	CHO115	115.00*	6	7	CHO34	34.500	6	T4	29.5	30.0	98.4				
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	50.7	42.0	120.8				
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	50.7	42.0	120.8				
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	101.4	60.0	169.1				
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.2	42.0	0.5				
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.2	42.0	0.5				
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	3.7	42.0	8.9				
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	3.7	42.0	8.9				
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	3.7	42.0	8.9				
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	38.5	42.0	91.6				
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	38.5	42.0	91.6				
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	38.5	42.0	91.6				
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	12.1	30.0	40.2				
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	12.1	30.0	40.2				
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	12.2	30.0	40.6				
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	12.2	30.0	40.6				
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T1	89.8	105.0	85.6				
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T2	89.8	105.0	85.6				
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T3	89.8	105.0	85.6				
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	7.3	30.0	24.4				
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	21.7	30.0	72.4				





de

AÑO 2021

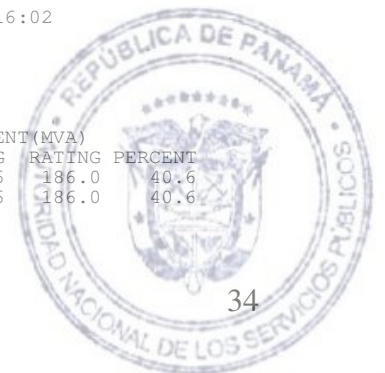
Caso 2: REGMHTGDC8

AÑO 2021 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO Cargabilidad de Líneas y Transformadores *Líneas de 230 kV*

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:02
PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
AÑO 2021 REGMHTGDC8

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	75.6	186.0	40.6
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	75.6	186.0	40.6



1	PAN230	230.00*	6	3	PANII230	230.00	6	3	82.7	225.0	36.7
1	PAN230	230.00*	6	3	PANII230	230.00	6	4	82.7	225.0	36.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	151.6	193.0	78.5
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	151.6	193.0	78.5
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	152.8	225.0	67.9
1	PAN230	230.00	6	5	CHO230	230.00*	6	4	152.8	225.0	67.9
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	96.8	186.0	52.1
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	77.6	186.0	41.7
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	120.9	225.0	53.7
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	120.9	225.0	53.7
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	3	120.9	225.0	53.7
5	CHO230	230.00	6	8	LSA230	230.00*	6	1	147.3	225.0	65.4
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	147.3	225.0	65.4
5	CHO230	230.00	6	8	LSA230	230.00*	6	3	147.3	225.0	65.4
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	142.5	193.0	73.8
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	2	142.5	193.0	73.8
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	1	179.0	193.0	92.7
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	2	179.0	193.0	92.7
8	LSA230	230.00*	6	148	VELADERO 230230.00	230.00	6	3	201.7	225.0	89.7
8	LSA230	230.00*	6	148	VELADERO 230230.00	230.00	6	4	201.7	225.0	89.7
8	LSA230	230.00*	6	148	VELADERO 230230.00	230.00	6	5	201.7	225.0	89.7
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	161.0	193.0	83.4
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	2	161.0	193.0	83.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	63.9	193.0	33.1
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	63.9	193.0	33.1
11	M.N230	230.00*	6	148	VELADERO 230230.00	230.00	6	1	159.7	193.0	82.8
11	M.N230	230.00*	6	148	VELADERO 230230.00	230.00	6	2	159.7	193.0	82.8
11	M.N230	230.00*	6	310	CONCEPCION23230.00	230.00	6	1	175.5	193.0	90.9
14	PRO230	230.00	6	310	CONCEPCION23230.00*	230.00	6	1	81.3	193.0	42.1
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	58.6	193.0	30.4
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	36.2	193.0	18.7
85	PTP230	230.00*	6	190	CHANG230	230.00	6	2	94.3	193.0	48.9
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	128.2	225.0	57.0
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	2	128.2	225.0	57.0
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	100.1	193.0	51.8
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	95.9	186.0	51.6
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	104.7	186.0	56.3
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	113.2	193.0	58.6
145	BJOMIN230	230.00	6	310	CONCEPCION23230.00*	230.00	6	1	128.0	193.0	66.3
145	BJOMIN230	230.00	6	310	CONCEPCION23230.00*	230.00	6	2	128.0	193.0	66.3
146	GUALACA230	230.00	6	147	GUASQ230	230.00*	6	1	106.2	193.0	55.0
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	83.5	193.0	43.3
147	GUASQ230	230.00	6	148	VELADERO 230230.00*	230.00	6	1	170.4	225.0	75.7
147	GUASQ230	230.00	6	148	VELADERO 230230.00*	230.00	6	2	170.4	225.0	75.7
147	GUASQ230	230.00	6	148	VELADERO 230230.00*	230.00	6	3	170.4	225.0	75.7
148	VELADERO 230230.00*	230.00	6	155	TABASARAI	230.00	6	1	33.4	193.0	17.3
148	VELADERO 230230.00*	230.00	6	5001	RCL-230	230.00	5	1	84.1	374.0	22.5
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	113.8	193.0	58.9
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	26.0	300.0	8.7
341	PRUDENCIA230230.00*	230.00	6	345	LORENA230	230.00	6	1	52.2	193.0	27.0
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	58.4	200.0	29.2

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:02
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021 REGMHGDC8

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	67.6	115.0	58.8
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	102.1	115.0	88.7
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	18.7	93.0	20.1
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	26.3	93.0	28.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	62.5	93.0	67.2
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	62.5	93.0	67.2
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	48.1	150.0	32.1
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	48.1	150.0	32.1
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	67.0	93.0	72.1
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	92.2	160.0	61.4
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	92.2	150.0	61.4
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	39.8	93.0	42.8
87	CAL115	115.00*	6	88	EST115	115.00	6	1	43.8	93.0	47.1
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	49.7	93.0	53.5



Handwritten signature or initials.

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:02
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2021 REGMHTGDC8

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	126.4	105.0	120.3	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	126.4	105.0	120.3	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	252.7	210.0	120.3	
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	252.7	210.0	120.3	
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	98.0	105.0	93.4	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	98.0	105.0	93.4	
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	98.0	105.0	93.4	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	29.9	30.0	99.5	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	29.9	30.0	99.5	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	29.9	30.0	99.5	
5	CHO230	230.00*	6	6	CHO115	115.00	6	T4	29.9	30.0	99.5	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	29.5	30.0	98.2	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	29.5	30.0	98.2	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	29.5	30.0	98.2	
6	CHO115	115.00*	6	7	CHO34	34.500	6	T4	29.5	30.0	98.2	
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	50.2	42.0	119.6	
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	50.2	42.0	119.6	
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	100.5	60.0	167.4	
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.2	42.0	0.5	
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.2	42.0	0.5	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	6.3	42.0	15.0	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	6.3	42.0	15.0	
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	6.3	42.0	15.0	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	36.6	42.0	87.2	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	36.6	42.0	87.2	
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	36.6	42.0	87.2	
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	12.0	30.0	40.1	
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	12.0	30.0	40.1	
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	12.2	30.0	40.5	
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	12.2	30.0	40.5	
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T1	97.7	105.0	93.1	
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T2	97.7	105.0	93.1	
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T3	97.7	105.0	93.1	
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	7.0	30.0	23.3	
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	21.7	30.0	72.2	



Handwritten signature or initials.

AÑO 2021



de

Caso 3: REGMHTTLA8

AÑO 2021 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO Cargabilidad de Líneas y Transformadores Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:05
PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
AÑO 2021 REGMHTTLA8

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	75.3	186.0	40.5		
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	75.3	186.0	40.5		
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	82.4	225.0	36.6		
1	PAN230	230.00*	6	3	PANII230	230.00	6	4	82.4	225.0	36.6		
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	122.2	193.0	63.3		
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	122.2	193.0	63.3		
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	123.1	225.0	54.7		
1	PAN230	230.00	6	5	CHO230	230.00*	6	4	123.1	225.0	54.7		
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	97.4	186.0	52.4		
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	78.9	186.0	42.4		
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	128.0	225.0	56.9		
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	128.0	225.0	56.9		
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	3	128.0	225.0	56.9		
5	CHO230	230.00*	6	8	LSA230	230.00	6	1	111.3	225.0	49.4		
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	111.3	225.0	49.4		
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	105.5	193.0	54.7		
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	2	105.5	193.0	54.7		
5	CHO230	230.00*	6	540	HV-PETOABRE	230.00	6	3	172.8	225.0	76.8		
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	1	146.7	193.0	76.0		
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	2	146.7	193.0	76.0		
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	3	164.9	225.0	73.3		
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	4	164.9	225.0	73.3		
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	5	164.9	225.0	73.3		
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	123.6	193.0	64.0		
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	2	123.6	193.0	64.0		



Handwritten signature or initials.

8	LSA230	230.00	6	540	HV-PETOABRE	230.00*	6	2	144.1	225.0	64.1
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	86.1	193.0	44.6
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	86.1	193.0	44.6
11	M.N230	230.00*	6	148	VELADERO	230230.00	6	1	127.2	193.0	65.9
11	M.N230	230.00*	6	148	VELADERO	230230.00	6	2	127.2	193.0	65.9
11	M.N230	230.00*	6	310	CONCEPCION23	230.00	6	1	73.7	193.0	38.2
14	PRO230	230.00	6	310	CONCEPCION23	230.00*	6	1	52.9	193.0	27.4
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	30.4	193.0	15.7
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	33.1	193.0	17.1
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	89.3	193.0	46.3
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	1	103.3	225.0	45.9
96	FOR230	230.00	6	147	GUASQ230	230.00*	6	2	103.3	225.0	45.9
96	FOR230	230.00	6	306	CHAN1	230	6	1	98.9	193.0	51.2
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	96.6	186.0	51.9
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	105.2	186.0	56.5
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	110.0	193.0	57.0
145	BJOMIN230	230.00	6	310	CONCEPCION23	230.00*	6	1	62.2	193.0	32.2
145	BJOMIN230	230.00	6	310	CONCEPCION23	230.00*	6	2	62.2	193.0	32.2
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	109.2	193.0	56.6
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	87.1	193.0	45.1
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	1	149.9	225.0	66.6
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	2	149.9	225.0	66.6
147	GUASQ230	230.00*	6	148	VELADERO	230230.00	6	3	149.9	225.0	66.6
148	VELADERO	230230.00*	6	155	TABASARAI	230.00	6	1	30.9	193.0	16.0
148	VELADERO	230230.00*	6	5001	RCL-230	230.00	5	1	61.1	374.0	16.3
190	CHANG230	230.00	6	306	CHAN1	230	6	1	115.1	193.0	59.6
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	30.9	300.0	10.3
341	PRUDENCIA230	230.00*	6	345	LORENA230	230.00	6	1	54.4	193.0	28.2
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	30.1	200.0	15.1

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:05
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021 REGMHTTLA8

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	65.3	115.0	56.8				
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	98.6	115.0	85.7				
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	11.8	93.0	12.6				
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	35.9	93.0	38.7				
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	60.1	93.0	64.6				
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	60.1	93.0	64.6				
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5				
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	54.1	150.0	36.1				
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	54.1	150.0	36.1				
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	77.0	93.0	82.8				
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	59.9	150.0	39.9				
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	59.9	150.0	39.9				
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	49.4	93.0	53.1				
87	CAL115	115.00*	6	88	EST115	115.00	6	1	43.0	93.0	46.2				
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	45.5	93.0	48.9				

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:05
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021 REGMHTTLA8

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

X----- FROM BUS -----X				X----- TO BUS -----X				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	122.6	105.0	116.8				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	122.6	105.0	116.8				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	245.2	210.0	116.8				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	245.2	210.0	116.8				
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0				
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	97.3	105.0	92.7				



Handwritten signature or initials.

3 PANII230	230.00	6	4 PANIII115	115.00*	6 T2	97.3	105.0	92.7
3 PANII230	230.00	6	4 PANIII115	115.00*	6 T3	97.3	105.0	92.7
5 CHO230	230.00*	6	6 CHO115	115.00	6 T1	29.9	30.0	99.6
5 CHO230	230.00*	6	6 CHO115	115.00	6 T2	29.9	30.0	99.6
5 CHO230	230.00*	6	6 CHO115	115.00	6 T3	29.9	30.0	99.6
5 CHO230	230.00*	6	6 CHO115	115.00	6 T4	29.9	30.0	99.6
6 CHO115	115.00*	6	7 CHO34	34.500	6 T1	29.5	30.0	98.4
6 CHO115	115.00*	6	7 CHO34	34.500	6 T2	29.5	30.0	98.4
6 CHO115	115.00*	6	7 CHO34	34.500	6 T3	29.5	30.0	98.4
6 CHO115	115.00*	6	7 CHO34	34.500	6 T4	29.5	30.0	98.4
8 LSA230	230.00	6	9 LSA115	115.00*	6 T1	43.7	42.0	104.0
8 LSA230	230.00	6	9 LSA115	115.00*	6 T2	43.7	42.0	104.0
8 LSA230	230.00	6	9 LSA115	115.00*	6 T3	87.3	60.0	145.6
9 LSA115	115.00*	6	10 L.S.34	34.500	6 T1	0.2	42.0	0.5
9 LSA115	115.00*	6	10 L.S.34	34.500	6 T2	0.2	42.0	0.5
11 M.N230	230.00*	6	12 M.N115	115.00	6 T1	7.3	42.0	17.3
11 M.N230	230.00*	6	12 M.N115	115.00	6 T2	7.3	42.0	17.3
11 M.N230	230.00*	6	12 M.N115	115.00	6 T3	7.3	42.0	17.3
12 M.N115	115.00*	6	13 MDNA34	34.500	6 T1	36.7	42.0	87.5
12 M.N115	115.00*	6	13 MDNA34	34.500	6 T2	36.7	42.0	87.5
12 M.N115	115.00*	6	13 MDNA34	34.500	6 T3	36.7	42.0	87.5
14 PRO230	230.00*	6	15 PRO115	115.00	6 T1	12.0	30.0	40.2
14 PRO230	230.00*	6	15 PRO115	115.00	6 T2	12.0	30.0	40.2
15 PRO115	115.00*	6	16 PRO34	34.500	6 T1	12.2	30.0	40.6
15 PRO115	115.00*	6	16 PRO34	34.500	6 T2	12.2	30.0	40.6
87 CAL115	115.00*	6	321 CALDERA34.5	34.500	6 T1	25.9	37.5	69.0
109 STA RITA115	115.00	6	325 STA RITA230	230.00*	6 T1	79.2	105.0	75.4
109 STA RITA115	115.00	6	325 STA RITA230	230.00*	6 T2	79.2	105.0	75.4
109 STA RITA115	115.00	6	325 STA RITA230	230.00*	6 T3	79.2	105.0	75.4
190 CHANG230	230.00*	6	191 CHANG115	115.00	6 T1	8.0	30.0	26.5
191 CHANG115	115.00*	6	192 CHANG34	34.500	6 T1	21.7	30.0	72.4



Handwritten signature or initials.

CON INTERCAMBIO



de

AÑO 2012

Caso 1: REGMHTCB8
Caso 2: REGMHTGDC8



de

AÑO 2012 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:14
 PLAN. EXP-SIN JUN-2008 ESC MOD DEM MAX INV EXPORTA A C.A.
 Año 2012

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	142.7	186.0	76.7
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	142.7	186.0	76.7
1	PAN230	230.00	6	5	CHO230	230.00*	6	1	63.7	193.0	33.0
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	63.7	193.0	33.0
3	PANII230	230.00*	6	8	LSA230	230.00	6	1	67.6	225.0	30.0
3	PANII230	230.00*	6	8	LSA230	230.00	6	2	67.6	225.0	30.0
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	104.2	186.0	56.0
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	93.9	186.0	50.5
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	70.6	225.0	31.4
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	70.6	225.0	31.4
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	89.7	193.0	46.5
5	CHO230	230.00	6	105	PAN-AM23	230.00*	6	11	30.1	193.0	15.6
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	1	80.1	193.0	41.5
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	1	105.4	193.0	54.6	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	2	105.4	193.0	54.6	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	3	118.0	225.0	52.4	
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	4	118.0	225.0	52.4	
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	102.8	193.0	53.3
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	112.3	193.0	58.2
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	112.3	193.0	58.2
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	1	97.8	193.0	50.7	
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	2	97.8	193.0	50.7	
11	M.N230	230.00*	6	310	CONCEPCION23230.00	6	1	76.5	193.0	39.6	
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	121.6	193.0	63.0	
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	106.9	193.0	55.4
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	1	8.2	193.0	4.3
85	PTP230	230.00	6	190	CHANG230	230.00*	6	1	39.6	193.0	20.5
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	108.2	225.0	48.1
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	50.2	193.0	26.0
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	103.8	186.0	55.8
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	109.7	186.0	59.0
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	98.5	193.0	51.1
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	1	24.1	193.0	12.5	
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	2	24.1	193.0	12.5	
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	54.9	193.0	28.4
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	32.6	193.0	16.9
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	1	129.4	225.0	57.5	
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	2	129.4	225.0	57.5	
148	VELADERO 230230.00*	6	155	TABASARAI	230.00	6	1	13.7	193.0	7.1	
148	VELADERO 230230.00	6	5001	RCL-230	230.00*	5	1	19.1	374.0	5.1	
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	154.8	193.0	80.2
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	129.6	300.0	43.2
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	106.6	200.0	53.3

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:14



Handwritten signature or initials in the bottom right corner.

PLAN. EXP-SIN JUN-2008 ESC MOD DEM MAX INV EXPORTA A C.A.
 Año 2012

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	20.9	115.0	18.2
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	31.7	115.0	27.6
2	PAN115	115.00*	6	23	CH115	115.00	6	3A	2.0	93.0	2.1
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	29.3	93.0	31.5
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	56.0	93.0	60.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	56.0	93.0	60.3
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	41.6	150.0	27.7
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	41.6	150.0	27.7
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	56.3	93.0	60.5
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	43.6	150.0	29.1
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	43.6	150.0	29.1
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	37.7	93.0	40.6
87	CAL115	115.00*	6	88	EST115	115.00	6	1	42.7	93.0	45.9
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	46.7	93.0	50.2

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:14
 PLAN. EXP-SIN JUN-2008 ESC MOD DEM MAX INV EXPORTA A C.A.
 Año 2012

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				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	67.7	105.0	64.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	67.7	105.0	64.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	135.5	210.0	64.5
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	135.5	210.0	64.5
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	65.3	105.0	62.2
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T2	65.3	105.0	62.2
3	PANII230	230.00*	6	4	PANIII115	115.00	6	T3	65.3	105.0	62.2
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	25.8	30.0	85.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	25.8	30.0	85.9
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	25.8	30.0	85.9
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	25.5	30.0	85.1
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	25.5	30.0	85.1
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	25.5	30.0	85.1
8	LSA230	230.00*	6	9	LSA115	115.00	6	T1	31.5	42.0	74.9
8	LSA230	230.00*	6	9	LSA115	115.00	6	T2	31.5	42.0	74.9
8	LSA230	230.00*	6	9	LSA115	115.00	6	T3	62.9	60.0	104.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.1	42.0	0.3
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.1	42.0	0.3
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	17.7	42.0	42.1
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	17.7	42.0	42.1
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	17.7	42.0	42.1
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	22.5	42.0	53.5
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	22.5	42.0	53.5
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	22.5	42.0	53.5
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	7.7	30.0	25.8
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	7.7	30.0	25.8
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	7.9	30.0	26.3
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	7.9	30.0	26.3
109	STA RITA115	115.00*	6	325	STA RITA230	230.00	6	T1	32.1	105.0	30.6
109	STA RITA115	115.00*	6	325	STA RITA230	230.00	6	T2	32.1	105.0	30.6
109	STA RITA115	115.00	6	516	PANAPOW13A	13.800*	6	T1	0.0	57.0	0.0
109	STA RITA115	115.00	6	517	PANAPOW13B	13.800*	6	T2	0.0	57.0	0.0
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	15.2	30.0	50.6
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	14.1	30.0	46.8





AÑO 2016

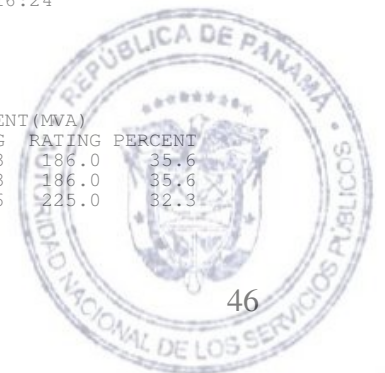
Caso 1: REGMHTCB8

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

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:24
PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
AÑO 2016

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	66.3	186.0	35.6
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	66.3	186.0	35.6
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	72.6	225.0	32.3



1	PAN230	230.00	6	5	CHO230	230.00*	6	1	117.0	193.0	60.6
1	PAN230	230.00	6	5	CHO230	230.00*	6	2	117.0	193.0	60.6
1	PAN230	230.00	6	5	CHO230	230.00*	6	3	117.8	225.0	52.4
3	PANII230	230.00	6	8	LSA230	230.00*	6	1	99.4	225.0	44.2
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	86.2	186.0	46.3
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	73.6	186.0	39.6
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	69.7	225.0	31.0
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	69.7	225.0	31.0
5	CHO230	230.00	6	8	LSA230	230.00*	6	1	111.8	225.0	49.7
5	CHO230	230.00	6	8	LSA230	230.00*	6	2	111.8	225.0	49.7
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	108.0	193.0	56.0
5	CHO230	230.00	6	511	LGUIAS230	230.00*	6	2	108.0	193.0	56.0
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	1	136.5	193.0	70.7
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	2	136.5	193.0	70.7
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	3	153.0	225.0	68.0
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	4	153.0	225.0	68.0
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00*	6	5	153.0	225.0	68.0
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	1	122.1	193.0	63.2
8	LSA230	230.00*	6	511	LGUIAS230	230.00	6	2	122.1	193.0	63.2
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	103.0	193.0	53.4
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	103.0	193.0	53.4
11	M.N230	230.00*	6	148	VELADERO 230230.00	230.00	6	1	156.3	193.0	81.0
11	M.N230	230.00*	6	148	VELADERO 230230.00	230.00	6	2	156.3	193.0	81.0
11	M.N230	230.00	6	310	CONCEPCION23230.00*	230.00*	6	1	63.0	193.0	32.7
14	PRO230	230.00	6	310	CONCEPCION23230.00*	230.00*	6	1	130.4	193.0	67.6
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	112.8	193.0	58.5
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	16.4	193.0	8.5
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	58.0	193.0	30.1
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	137.2	225.0	61.0
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	64.7	193.0	33.5
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	86.0	186.0	46.2
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	92.5	186.0	49.8
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	110.9	193.0	57.5
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	230.00	6	1	97.5	193.0	50.5
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	230.00	6	2	97.5	193.0	50.5
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	106.6	193.0	55.2
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	82.3	193.0	42.7
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	1	181.4	225.0	80.6
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	2	181.4	225.0	80.6
148	VELADERO 230230.00	230.00	6	155	TABASARAI	230.00*	6	1	30.0	193.0	15.5
148	VELADERO 230230.00	230.00	6	5001	RCL-230	230.00*	5	1	46.2	374.0	12.4
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	143.0	193.0	74.1
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	96.4	300.0	32.1
341	PRUDENCIA230230.00*	230.00*	6	345	LORENA230	230.00	6	1	53.2	193.0	27.6
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	112.5	200.0	56.3

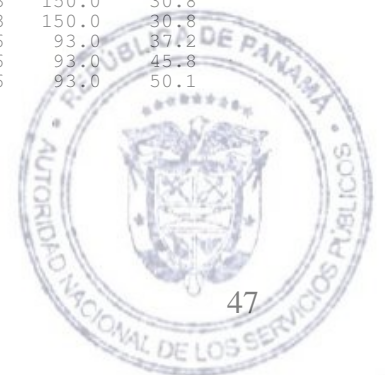
Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:24
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2016

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	42.7	115.0	37.1
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	64.5	115.0	56.1
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	9.8	93.0	10.5
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	27.9	93.0	29.9
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	61.4	93.0	66.1
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	61.4	93.0	66.1
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	40.3	150.0	26.8
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	40.3	150.0	26.8
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	58.6	93.0	63.0
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	46.3	150.0	30.8
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	46.3	150.0	30.8
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	34.6	93.0	37.2
87	CAL115	115.00*	6	88	EST115	115.00	6	1	42.6	93.0	45.8
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	46.6	93.0	50.1

Transformadores



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			90.4	105.0	86.1
1	PAN230	230.00*	6			2	PAN115	115.00	6	T2			90.4	105.0	86.1
1	PAN230	230.00*	6			2	PAN115	115.00	6	T3			180.9	210.0	86.1
1	PAN230	230.00*	6			2	PAN115	115.00	6	T4			180.9	210.0	86.1
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			78.6	105.0	74.8
3	PANII230	230.00	6			4	PANIII115	115.00*	6	T2			78.6	105.0	74.8
3	PANII230	230.00	6			4	PANIII115	115.00*	6	T3			78.5	105.0	74.8
5	CHO230	230.00*	6			6	CHO115	115.00	6	T1			31.2	30.0	103.9
5	CHO230	230.00*	6			6	CHO115	115.00	6	T2			31.2	30.0	103.9
5	CHO230	230.00*	6			6	CHO115	115.00	6	T3			31.2	30.0	103.9
6	CHO115	115.00*	6			7	CHO34	34.500	6	T1			30.8	30.0	102.6
6	CHO115	115.00*	6			7	CHO34	34.500	6	T2			30.8	30.0	102.6
6	CHO115	115.00*	6			7	CHO34	34.500	6	T3			30.8	30.0	102.6
8	LSA230	230.00	6			9	LSA115	115.00*	6	T1			40.3	42.0	96.0
8	LSA230	230.00	6			9	LSA115	115.00*	6	T2			40.3	42.0	96.0
8	LSA230	230.00	6			9	LSA115	115.00*	6	T3			80.6	60.0	134.4
9	LSA115	115.00*	6			10	L.S.34	34.500	6	T1			0.2	42.0	0.4
9	LSA115	115.00*	6			10	L.S.34	34.500	6	T2			0.2	42.0	0.4
11	M.N230	230.00*	6			12	M.N115	115.00	6	T1			16.6	42.0	39.6
11	M.N230	230.00*	6			12	M.N115	115.00	6	T2			16.6	42.0	39.6
11	M.N230	230.00*	6			12	M.N115	115.00	6	T3			16.6	42.0	39.6
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T1			27.3	42.0	65.0
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T2			27.3	42.0	65.0
12	M.N115	115.00*	6			13	MDNA34	34.500	6	T3			27.3	42.0	65.0
14	PRO230	230.00*	6			15	PRO115	115.00	6	T1			9.4	30.0	31.2
14	PRO230	230.00*	6			15	PRO115	115.00	6	T2			9.4	30.0	31.2
15	PRO115	115.00*	6			16	PRO34	34.500	6	T1			9.5	30.0	31.7
15	PRO115	115.00*	6			16	PRO34	34.500	6	T2			9.5	30.0	31.7
109	STA RITA115	115.00*	6			325	STA RITA230	230.00	6	T1			35.4	105.0	33.7
109	STA RITA115	115.00*	6			325	STA RITA230	230.00	6	T2			35.4	105.0	33.7
190	CHANG230	230.00*	6			191	CHANG115	115.00	6	T1			13.9	30.0	46.4
191	CHANG115	115.00*	6			192	CHANG34	34.500	6	T1			16.9	30.0	56.5



Handwritten signature or initials.

AÑO 2016

Caso 2: REGMHTGDC8



de

AÑO 2016 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:27
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2016 REGMHTGDC8 CON INTERCAMBIOS 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	69.4	186.0	37.3
1		PAN230		230.00*	6	3		PANII230		230.00	6	2	69.4	186.0	37.3
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	111.4	193.0	57.7
1		PAN230		230.00	6	5		CHO230		230.00*	6	2	111.4	193.0	57.7
1		PAN230		230.00	6	5		CHO230		230.00*	6	3	112.2	225.0	49.9
3		PANII230		230.00	6	8		LSA230		230.00*	6	1	95.1	225.0	42.3
3		PANII230		230.00*	6	103		COPESA23		230.00	6	2B	88.5	186.0	47.6
3		PANII230		230.00*	6	115		PACORA23		230.00	6	1B	75.6	186.0	40.7
3		PANII230		230.00*	6	325		STA RITA230		230.00	6	1	75.6	225.0	33.6
3		PANII230		230.00*	6	325		STA RITA230		230.00	6	2	75.6	225.0	33.6
5		CHO230		230.00	6	8		LSA230		230.00*	6	1	107.7	225.0	47.9
5		CHO230		230.00	6	8		LSA230		230.00*	6	2	107.7	225.0	47.9
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	103.9	193.0	53.8
5		CHO230		230.00	6	511		LGUIAS230		230.00*	6	2	103.9	193.0	53.8
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	1	131.8	193.0	68.3
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	2	131.8	193.0	68.3
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	3	147.8	225.0	65.7
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	4	147.8	225.0	65.7
8		LSA230		230.00	6	148		VELADERO 230230.00*		230.00*	6	5	147.8	225.0	65.7
8		LSA230		230.00*	6	511		LGUIAS230		230.00	6	1	118.0	193.0	61.1
8		LSA230		230.00*	6	511		LGUIAS230		230.00	6	2	118.0	193.0	61.1
11		M.N230		230.00	6	96		FOR230		230.00*	6	1	109.7	193.0	56.8
11		M.N230		230.00	6	96		FOR230		230.00*	6	2	109.7	193.0	56.8
11		M.N230		230.00*	6	148		VELADERO 230230.00		230.00	6	1	145.0	193.0	75.1
11		M.N230		230.00*	6	148		VELADERO 230230.00		230.00	6	2	145.0	193.0	75.1
11		M.N230		230.00*	6	310		CONCEPCION23230.00		230.00	6	1	29.8	193.0	15.4
14		PRO230		230.00	6	310		CONCEPCION23230.00*		230.00*	6	1	120.8	193.0	62.6
14		PRO230		230.00*	6	6000		FRONTER		230.00	6	10	103.2	193.0	53.5
85		PTP230		230.00*	6	147		GUASQ230		230.00	6	2	15.4	193.0	8.0
85		PTP230		230.00	6	190		CHANG230		230.00*	6	2	56.7	193.0	29.4
96		FOR230		230.00	6	147		GUASQ230		230.00*	6	1	124.6	225.0	55.4



Handwritten signature or initials.

96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	65.2	193.0	33.8
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	88.2	186.0	47.4
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	94.8	186.0	51.0
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	110.9	193.0	57.4
145	BJOMIN230	230.00*	6	310	CONCEPCION23	230.00	6	1	75.1	193.0	38.9
145	BJOMIN230	230.00*	6	310	CONCEPCION23	230.00	6	2	75.1	193.0	38.9
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	107.8	193.0	55.9
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	83.6	193.0	43.3
147	GUASQ230	230.00*	6	148	VELADERO 230	230.00	6	1	174.9	225.0	77.7
147	GUASQ230	230.00*	6	148	VELADERO 230	230.00	6	2	174.9	225.0	77.7
148	VELADERO 230	230.00	6	155	TABASARAI	230.00*	6	1	30.0	193.0	15.6
148	VELADERO 230	230.00	6	5001	RCL-230	230.00*	5	1	38.9	374.0	10.4
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	144.1	193.0	74.7
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	98.7	300.0	32.9
341	PRUDENCIA230	230.00*	6	345	LORENA230	230.00	6	1	54.4	193.0	28.2
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	102.9	200.0	51.4

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:28
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2016 REGMHTGDC8 CON INTERCAMBIOS MOD DEM MAX INV
 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	41.1	115.0	35.8
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	62.1	115.0	54.0
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	7.3	93.0	7.8
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	33.6	93.0	36.2
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	61.2	93.0	65.8
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	61.2	93.0	65.8
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	43.4	150.0	28.9
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	43.4	150.0	28.9
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	62.9	93.0	67.6
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	38.7	150.0	25.8
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	38.7	150.0	25.8
55	LM2115	115.00	6	154	CEMPAN15	115.00*	6	4B	33.3	93.0	35.8
87	CAL115	115.00*	6	88	EST115	115.00	6	1	42.4	93.0	45.6
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	46.3	93.0	49.8

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:28
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 AÑO 2016 REGMHTGDC8 CON INTERCAMBIOS MOD DEM MAX INV
 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	CKT	LOADING	RATING	PERCENT				
1	PAN230	230.00*	6	2	PAN115	115.00	6	T1	89.2	105.0	84.9
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	89.2	105.0	84.9
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	178.3	210.0	84.9
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	178.3	210.0	84.9
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	77.0	105.0	73.4
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	77.0	105.0	73.4
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	77.0	105.0	73.4
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	31.3	30.0	104.3
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	31.3	30.0	104.3
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	31.3	30.0	104.3
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	30.9	30.0	103.1
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	30.9	30.0	103.1



6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	30.9	30.0	103.1
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	38.6	42.0	91.9
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	38.6	42.0	91.9
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	77.2	60.0	128.6
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.2	42.0	0.4
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.2	42.0	0.4
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	10.3	42.0	24.5
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	10.3	42.0	24.5
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	29.5	42.0	70.2
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	27.5	42.0	65.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	27.5	42.0	65.4
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	27.5	42.0	65.4
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	9.4	30.0	31.3
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	9.4	30.0	31.3
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	9.5	30.0	31.8
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	9.5	30.0	31.8
109	STA RITA115	115.00*	6	325	STA RITA230	230.00	6	T1	30.5	105.0	29.0
109	STA RITA115	115.00*	6	325	STA RITA230	230.00	6	T2	30.5	105.0	29.0
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	13.9	30.0	46.4
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	17.0	30.0	56.7



Handwritten signature or initials.

AÑO 2021

Caso 1: REGMHTCB8



de

AÑO 2021 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO

Cargabilidad de Líneas y Transformadores

Líneas de 230 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:30
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021

OUTPUT FOR AREA 6 [PANAMA]
 TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				X	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	92.3	186.0	49.6		
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	92.3	186.0	49.6		
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	101.1	225.0	45.0		
1	PAN230	230.00*	6	3	PANII230	230.00	6	4	101.1	225.0	45.0		
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	79.7	193.0	41.3		
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	79.7	193.0	41.3		
1	PAN230	230.00*	6	5	CHO230	230.00	6	3	80.7	225.0	35.9		
1	PAN230	230.00*	6	5	CHO230	230.00	6	4	80.7	225.0	35.9		
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	102.1	186.0	54.9		
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	83.9	186.0	45.1		
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	162.7	225.0	72.3		
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	162.7	225.0	72.3		
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	3	162.7	225.0	72.3		
5	CHO230	230.00*	6	8	LSA230	230.00	6	1	90.0	225.0	40.0		
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	90.0	225.0	40.0		
5	CHO230	230.00*	6	8	LSA230	230.00	6	3	90.0	225.0	40.0		
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	82.5	193.0	42.8		
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	2	82.5	193.0	42.8		
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	1	121.4	193.0	62.9			
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	2	121.4	193.0	62.9			
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	3	136.1	225.0	60.5			
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	4	136.1	225.0	60.5			
8	LSA230	230.00	6	148	VELADERO 230230.00*	6	5	136.1	225.0	60.5			
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	99.2	193.0	51.4		
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	2	99.2	193.0	51.4		
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	71.3	193.0	36.9		
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	71.3	193.0	36.9		
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	1	113.1	193.0	58.6			
11	M.N230	230.00*	6	148	VELADERO 230230.00	6	2	113.1	193.0	58.6			
11	M.N230	230.00	6	310	CONCEPCION23230.00*	6	1	67.1	193.0	34.8			
14	PRO230	230.00	6	310	CONCEPCION23230.00*	6	1	180.3	193.0	93.4			
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	157.7	193.0	81.7		
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	25.6	193.0	13.3		
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	37.5	193.0	19.4		
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	94.3	225.0	41.9		
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	2	94.3	225.0	41.9		
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	44.6	193.0	23.1		
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	101.5	186.0	54.6		
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	110.3	186.0	59.3		
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	117.0	193.0	60.6		
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	1	124.3	193.0	64.4			
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	6	2	124.3	193.0	64.4			
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	113.1	193.0	58.6		
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	88.7	193.0	45.9		
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	1	130.5	225.0	58.0			
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	2	130.5	225.0	58.0			
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	6	3	130.5	225.0	58.0			
148	VELADERO 230230.00	6	6	155	TABASARAI	230.00*	6	1	30.3	193.0	15.7		
148	VELADERO 230230.00	6	6	5001	RCL-230	230.00*	5	1	19.6	374.0	5.2		
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	165.4	193.0	85.7		
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	133.1	300.0	44.4		
341	PRUDENCIA230230.00*	6	6	345	LORENA230	230.00	6	1	56.1	193.0	29.0		
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	157.5	200.0	78.7		



Handwritten signature or initials.

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:30
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021

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	58.0	115.0	50.4
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	87.6	115.0	76.1
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	17.3	93.0	18.6
2	PAN115	115.00	6	154	CEMPAN15	115.00*	6	4A	45.2	93.0	48.6
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	60.9	93.0	65.5
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	60.9	93.0	65.5
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	66.0	150.0	44.0
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	66.0	150.0	44.0
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	84.8	93.0	91.2
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	1	85.6	150.0	57.1
54	LM1115	115.00*	6	109	STA RITA115	115.00	6	2	85.6	150.0	57.1
55	LM2115	115.00*	6	154	CEMPAN15	115.00	6	4B	54.9	93.0	59.0
87	CAL115	115.00*	6	88	EST115	115.00	6	1	41.9	93.0	45.0
87	CAL115	115.00*	6	92	L.V115	115.00	6	1	47.7	93.0	51.3

Transformadores

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:31
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021

OUTPUT FOR AREA 6 [PANAMA]
 TRANSFORMER LOADINGS ABOVE 0.0 % OF RATING SET A:

FROM BUS				TO BUS				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	115.5	105.0	110.0
1	PAN230	230.00*	6	2	PAN115	115.00	6	T2	115.5	105.0	110.0
1	PAN230	230.00*	6	2	PAN115	115.00	6	T3	231.1	210.0	110.0
1	PAN230	230.00*	6	2	PAN115	115.00	6	T4	231.1	210.0	110.0
2	PAN115	115.00	6	112	TGP13.8	13.800*	6	T1	0.0	44.0	0.0
3	PANII230	230.00	6	4	PANII115	115.00*	6	T1	98.2	105.0	93.5
3	PANII230	230.00	6	4	PANII115	115.00*	6	T2	98.2	105.0	93.5
3	PANII230	230.00	6	4	PANII115	115.00*	6	T3	98.2	105.0	93.5
5	CHO230	230.00*	6	6	CHO115	115.00	6	T1	29.9	30.0	99.7
5	CHO230	230.00*	6	6	CHO115	115.00	6	T2	29.9	30.0	99.7
5	CHO230	230.00*	6	6	CHO115	115.00	6	T3	29.9	30.0	99.7
5	CHO230	230.00*	6	6	CHO115	115.00	6	T4	29.9	30.0	99.7
6	CHO115	115.00*	6	7	CHO34	34.500	6	T1	29.5	30.0	98.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T2	29.5	30.0	98.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T3	29.5	30.0	98.5
6	CHO115	115.00*	6	7	CHO34	34.500	6	T4	29.5	30.0	98.4
8	LSA230	230.00	6	9	LSA115	115.00*	6	T1	34.9	42.0	83.0
8	LSA230	230.00	6	9	LSA115	115.00*	6	T2	34.9	42.0	83.0
8	LSA230	230.00	6	9	LSA115	115.00*	6	T3	136.7	60.0	227.9
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T1	0.2	42.0	0.5
9	LSA115	115.00*	6	10	L.S.34	34.500	6	T2	0.2	42.0	0.5
11	M.N230	230.00*	6	12	M.N115	115.00	6	T1	8.5	42.0	20.3
11	M.N230	230.00*	6	12	M.N115	115.00	6	T2	8.5	42.0	20.3
11	M.N230	230.00*	6	12	M.N115	115.00	6	T3	8.5	42.0	20.3
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T1	36.7	42.0	87.5
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T2	36.7	42.0	87.5
12	M.N115	115.00*	6	13	MDNA34	34.500	6	T3	36.7	42.0	87.5
14	PRO230	230.00*	6	15	PRO115	115.00	6	T1	12.1	30.0	40.2
14	PRO230	230.00*	6	15	PRO115	115.00	6	T2	12.1	30.0	40.2
15	PRO115	115.00*	6	16	PRO34	34.500	6	T1	12.2	30.0	40.6
15	PRO115	115.00*	6	16	PRO34	34.500	6	T2	12.2	30.0	40.6
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T1	67.8	105.0	64.5
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T2	67.8	105.0	64.5
109	STA RITA115	115.00	6	325	STA RITA230	230.00*	6	T3	67.8	105.0	64.5
190	CHANG230	230.00*	6	191	CHANG115	115.00	6	T1	8.4	30.0	27.9
191	CHANG115	115.00*	6	192	CHANG34	34.500	6	T1	21.7	30.0	72.5



Handwritten signature or initials.



de

AÑO 2021

Caso 2: REGMHTGDC8

AÑO 2021 ESCENARIO MODERADO DEMANDA MÁXIMA DE INVIERNO Cargabilidad de Líneas y Transformadores *Líneas de 230 kV*

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:40
PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
AÑO 2021 REGMHTGDC8 CON INTERCAMBIOS MOD DEM MAX INV
OUTPUT FOR AREA 6 [PANAMA]
TRANSMISSION LINE LOADINGS ABOVE 0.0 % OF RATING SET A:

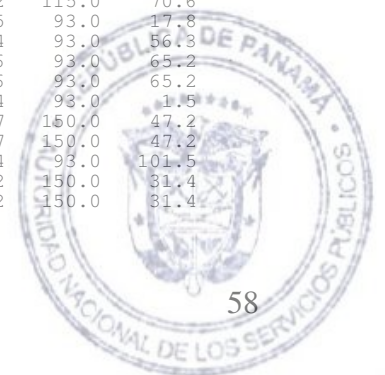


X----- FROM BUS -----X				X----- TO BUS -----X				CURRENT (MVA)			
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT
1	PAN230	230.00*	6	3	PANII230	230.00	6	1	85.2	186.0	45.8
1	PAN230	230.00*	6	3	PANII230	230.00	6	2	85.2	186.0	45.8
1	PAN230	230.00*	6	3	PANII230	230.00	6	3	93.3	225.0	41.5
1	PAN230	230.00*	6	3	PANII230	230.00	6	4	93.3	225.0	41.5
1	PAN230	230.00*	6	5	CHO230	230.00	6	1	81.3	193.0	42.1
1	PAN230	230.00*	6	5	CHO230	230.00	6	2	81.3	193.0	42.1
1	PAN230	230.00*	6	5	CHO230	230.00	6	3	82.3	225.0	36.6
1	PAN230	230.00*	6	5	CHO230	230.00	6	4	82.3	225.0	36.6
3	PANII230	230.00*	6	103	COPESA23	230.00	6	2B	88.6	186.0	47.6
3	PANII230	230.00*	6	115	PACORA23	230.00	6	1B	70.2	186.0	37.7
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	1	159.5	225.0	70.9
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	2	159.5	225.0	70.9
3	PANII230	230.00*	6	325	STA RITA230	230.00	6	3	159.5	225.0	70.9
5	CHO230	230.00*	6	8	LSA230	230.00	6	1	91.1	225.0	40.5
5	CHO230	230.00*	6	8	LSA230	230.00	6	2	91.1	225.0	40.5
5	CHO230	230.00*	6	8	LSA230	230.00	6	3	91.1	225.0	40.5
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	83.8	193.0	43.4
5	CHO230	230.00*	6	511	LGUIAS230	230.00	6	2	83.8	193.0	43.4
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	1	122.1	193.0	63.3
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	2	122.1	193.0	63.3
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	3	136.9	225.0	60.9
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	4	136.9	225.0	60.9
8	LSA230	230.00	6	148	VELADERO 230230.00*	230.00	6	5	136.9	225.0	60.9
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	1	100.6	193.0	52.1
8	LSA230	230.00	6	511	LGUIAS230	230.00*	6	2	100.6	193.0	52.1
11	M.N230	230.00	6	96	FOR230	230.00*	6	1	68.6	193.0	35.6
11	M.N230	230.00	6	96	FOR230	230.00*	6	2	68.6	193.0	35.6
11	M.N230	230.00*	6	148	VELADERO 230230.00	230.00	6	1	114.0	193.0	59.1
11	M.N230	230.00*	6	148	VELADERO 230230.00	230.00	6	2	114.0	193.0	59.1
11	M.N230	230.00	6	310	CONCEPCION23230.00*	230.00	6	1	74.6	193.0	38.6
14	PRO230	230.00	6	310	CONCEPCION23230.00*	230.00	6	1	180.6	193.0	93.6
14	PRO230	230.00*	6	6000	FRONTER	230.00	6	10	158.2	193.0	82.0
85	PTP230	230.00*	6	147	GUASQ230	230.00	6	2	22.0	193.0	11.4
85	PTP230	230.00	6	190	CHANG230	230.00*	6	2	41.2	193.0	21.4
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	1	95.2	225.0	42.3
96	FOR230	230.00*	6	147	GUASQ230	230.00	6	2	95.2	225.0	42.3
96	FOR230	230.00	6	306	CHAN1 230	230.00*	6	1	49.4	193.0	25.6
100	BAY230	230.00	6	103	COPESA23	230.00*	6	2A	88.0	186.0	47.3
100	BAY230	230.00	6	115	PACORA23	230.00*	6	1A	96.5	186.0	51.9
144	CANJ230	230.00*	6	147	GUASQ230	230.00	6	1	111.1	193.0	57.6
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	230.00	6	1	128.1	193.0	66.4
145	BJOMIN230	230.00*	6	310	CONCEPCION23230.00	230.00	6	2	128.1	193.0	66.4
146	GUALACA230	230.00*	6	147	GUASQ230	230.00	6	1	112.3	193.0	58.2
146	GUALACA230	230.00	6	345	LORENA230	230.00*	6	1	88.1	193.0	45.6
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	1	130.1	225.0	57.8
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	2	130.1	225.0	57.8
147	GUASQ230	230.00*	6	148	VELADERO 230230.00	230.00	6	3	130.1	225.0	57.8
148	VELADERO 230230.00	230.00	6	155	TABASARAI	230.00*	6	1	30.2	193.0	15.6
148	VELADERO 230230.00	230.00	6	5001	RCL-230	230.00*	5	1	18.9	374.0	5.0
190	CHANG230	230.00	6	306	CHAN1 230	230.00*	6	1	166.2	193.0	86.1
190	CHANG230	230.00*	6	5180	CAU-230	230.00	5	1	131.8	300.0	43.9
341	PRUDENCIA230230.00*	230.00*	6	345	LORENA230	230.00	6	1	55.7	193.0	28.9
5001	RCL-230	230.00	5	6000	FRONTER	230.00*	6	10	157.9	200.0	79.0

Líneas de 115 kV

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS/E MON, JUN 02 2008 16:40
 PLAN. EXP-SIN CON C.A. JUNIO 2008 ESC MOD DEM MAX INV
 Año 2021 REGMHTGDC8 CON INTERCAMBIOS MOD DEM MAX INV
 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	53.8	115.0	46.8
2	PAN115	115.00	6	18	CAC115	115.00*	6	ST	81.2	115.0	70.6
2	PAN115	115.00	6	23	CH115	115.00*	6	3A	16.5	93.0	17.8
2	PAN115	115.00*	6	154	CEMPAN15	115.00	6	4A	52.4	93.0	56.3
12	M.N115	115.00*	6	87	CAL115	115.00	6	1	60.6	93.0	65.2
12	M.N115	115.00*	6	87	CAL115	115.00	6	2	60.6	93.0	65.2
15	PRO115	115.00*	6	20	CH.AZUL	115.00	6	1	1.4	93.0	1.5
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	1	70.7	150.0	47.2
18	CAC115	115.00*	6	109	STA RITA115	115.00	6	2	70.7	150.0	47.2
23	CH115	115.00*	6	55	LM2115	115.00	6	3B	94.4	93.0	101.5
54	LMI115	115.00*	6	109	STA RITA115	115.00	6	1	47.2	150.0	31.4
54	LMI115	115.00*	6	109	STA RITA115	115.00	6	2	47.2	150.0	31.4



Handwritten signature

