

ANEXO III-11
ANÁLISIS DE FLUJOS DE POTENCIA DE LARGO PLAZO

INDICE GENERAL

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Demanda Máxima de Verano	3
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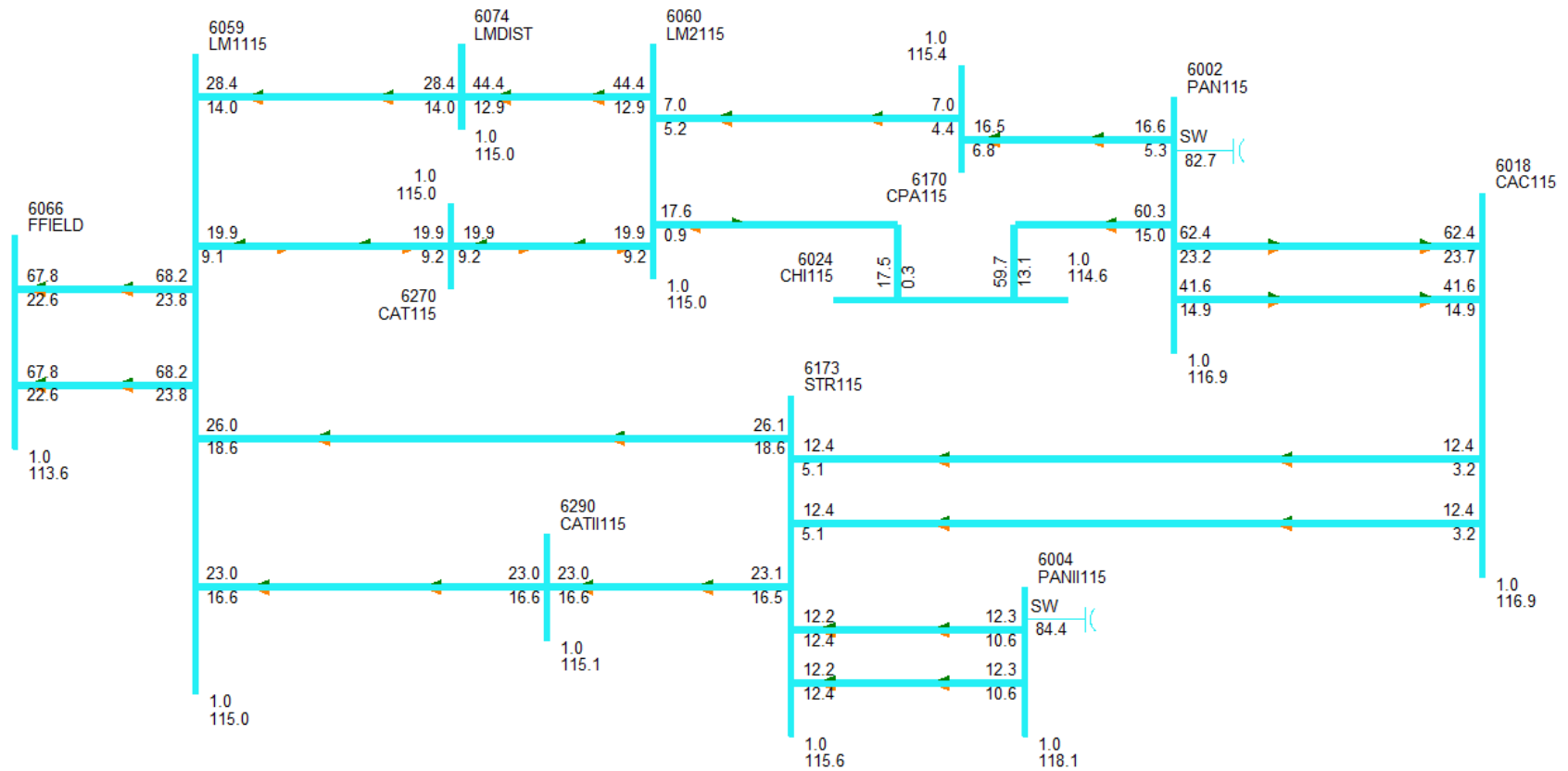
Año 2020

Demanda Máxima de Verano

Diagrama del Sistema Principal de Transmisión



Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

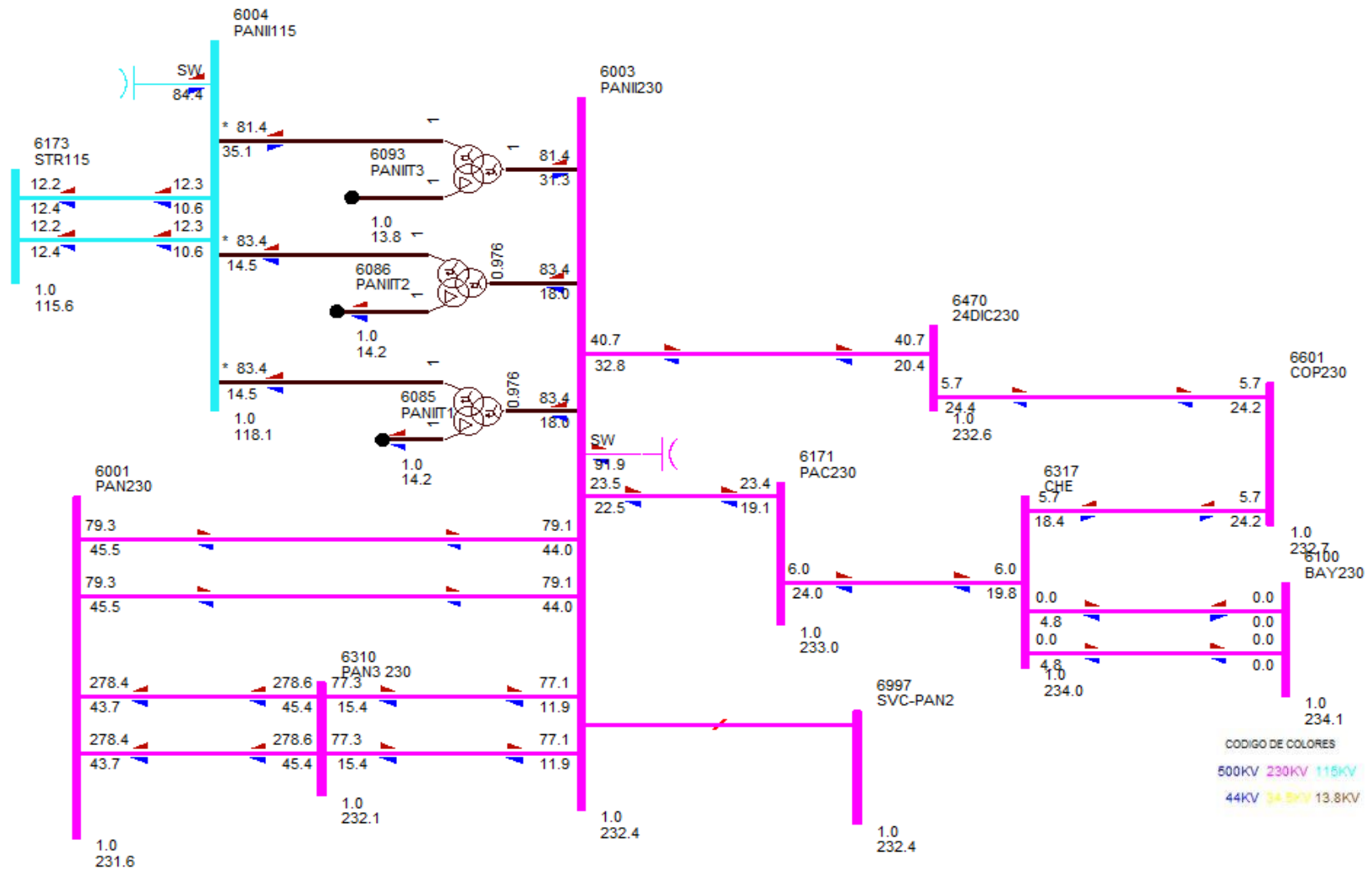
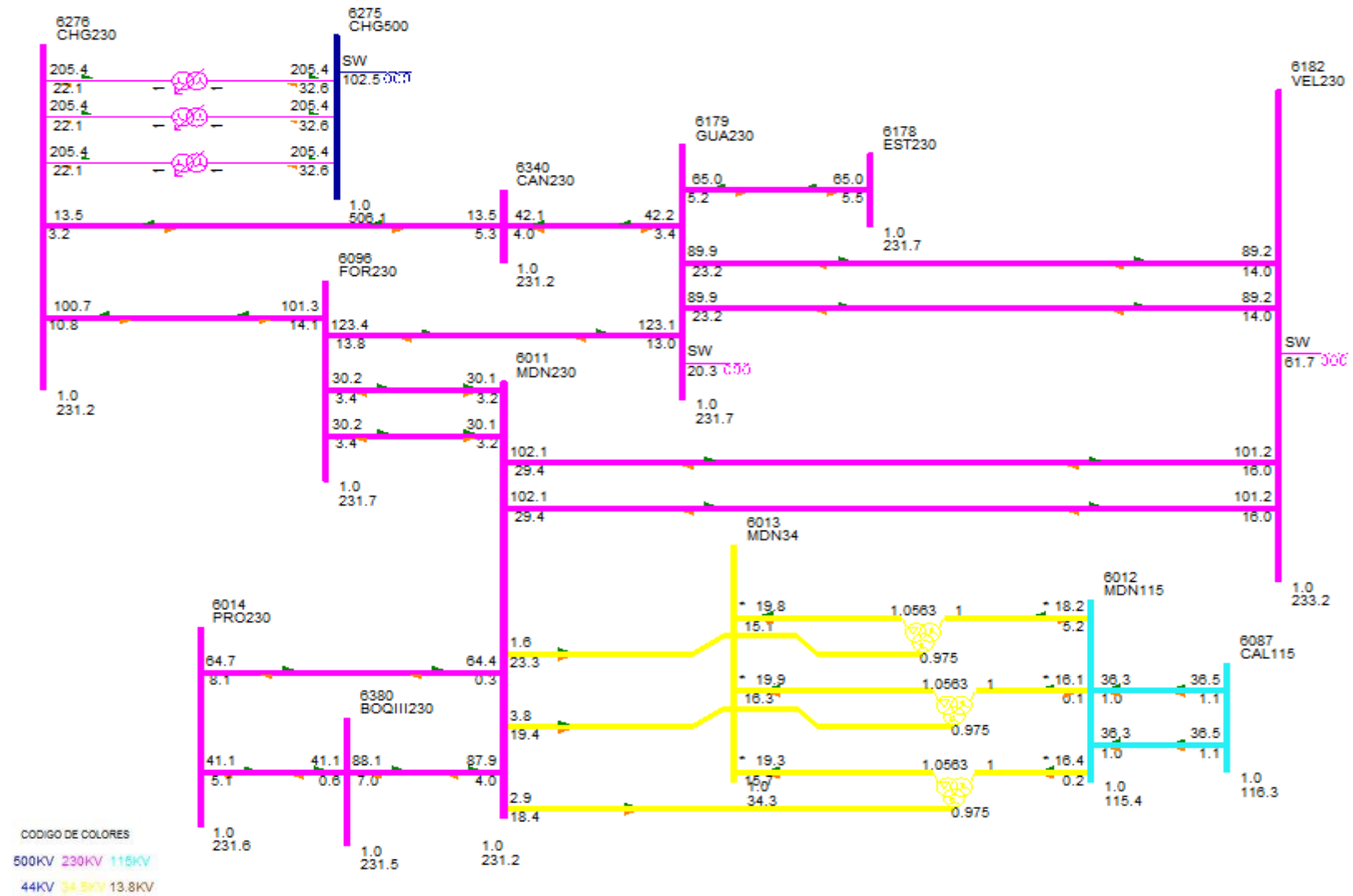


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:54
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA SECA

AREA 6 [PANAMA] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6071		BLMG2		13.800	V2	25.0	0.6	15.0	0.0	1.0000	25.0	0.9997	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	0.6	15.0	0.0	1.0000	25.0	0.9997	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	0.5	15.0	0.0	1.0000	25.0	0.9998	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9890	40.7*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	12.0	6.5	12.0	-5.0	1.0100	13.5	0.8786	27.0			64	6	
6091		LESG2		13.800	E2	12.0	6.5	12.0	-5.0	1.0100	13.5	0.8786	27.0			64	6	
6094		LVAG1		13.800	L1	13.0	-0.2	12.0	-5.0	1.0100	12.9	0.9999	27.0			64	6	
6095		LVAG2		13.800	L2	13.0	-0.2	12.0	-5.0	1.0100	12.9	0.9999	27.0			64	6	
6097		FORG1		13.800	F1	95.0	-1.7	50.0	-50.0	1.0000	95.0	0.9998	111.0			64	6	
6098		FORG2		13.800	F2	95.0	-1.7	50.0	-50.0	1.0000	95.0	0.9998	111.0			64	6	
6099		FORG3		13.800	F3	95.0	-1.7	50.0	-50.0	1.0000	95.0	0.9998	111.0			64	6	
6158		MIRG9		13.800	G9	17.0	-15.2	22.1	-20.7	1.0000	22.8	0.7460	49.2			65	6	
6159		MIRG10		13.800	G0	37.4	-14.8	22.1	-20.7	1.0000	40.2	0.9299	49.2			65	6	
6176		ESTG1		13.800	E1	32.5	3.7	29.0	-29.0	1.0100	32.4	0.9937	69.0			64	6	
6177		ESTG2		13.800	E2	32.5	3.7	29.0	-29.0	1.0100	32.4	0.9937	69.0			64	6	
6264		CHANG1		13.800	G1	61.0	7.1	50.8	-50.8	1.0100	60.8	0.9934	116.5			64	6	SYST
6265		CHANG2		13.800	G2	60.0	7.2	50.8	-50.8	1.0100	59.8	0.9928	116.5			64	6	
6268		CHANG3		6.9000	G3	8.7	1.3	4.8	-3.8	1.0100	8.7	0.9890	10.9			65	6	
6305		ALG 13A		13.800	A1	1.0	-0.9	2.3	-2.3	1.0000	1.4	0.7325	5.7			64	6	
6305		ALG 13A		13.800	A2	1.0	-0.9	2.3	-2.3	1.0000	1.4	0.7325	5.7			64	6	
6306		MEN 13A		13.800	M1	2.0	4.2	4.2	-4.2	0.9850	4.7*	0.4334	10.4			64	6	
6306		MEN 13A		13.800	M2	2.0	4.2	4.2	-4.2	0.9850	4.7*	0.4334	10.4			64	6	
6307		COC 13A		34.500	G1	2.5	-3.8	6.5	-5.7	1.0075	4.5	0.5492	8.4			64	6	
6307		COC 13A		34.500	G2	2.5	-3.3	3.3	-3.3	1.0075	4.1*	0.6014	8.4			64	6	
6308		MENII 13A		13.800	G1	1.3	0.2	1.9	0.0	1.0000	1.3	0.9871	4.1			64	6	
6308		MENII 13A		13.800	G2	1.3	0.2	1.9	0.0	1.0000	1.3	0.9871	4.1			64	6	
6333		BAMG1		13.800	G1	15.0	-0.0	10.0	-10.0	1.0000	15.0	1.0000	30.0			64	6	
6334		BAMG2		13.800	G2	15.0	-0.0	10.0	-10.0	1.0000	15.0	1.0000	30.0			64	6	
6335		BAIG1		13.800	G1	26.0	-4.9	14.0	-14.0	1.0000	26.5	0.9828	49.0			64	6	
6336		BAIG2		13.800	G2	26.0	-4.9	14.0	-14.0	1.0000	26.5	0.9828	49.0			64	6	
6352		HCAL4.16		4.2000	G1	0.8	-1.1	1.5	-1.5	1.0080	1.4	0.5828	3.4			64	6	
6352		HCAL4.16		4.2000	G2	0.8	-1.1	1.5	-1.5	1.0080	1.4	0.5828	3.4			64	6	
6361		GLAG1		13.800	G1	4.0	-1.9	7.8	-7.0	1.0060	4.4	0.9019	14.1			64	6	
6362		GLAG2		13.800	G2	4.0	-1.9	7.8	-7.0	1.0060	4.4	0.9019	14.1			64	6	
6364		LORG1		13.800	G1	4.0	-1.9	7.8	-7.0	1.0075	4.4	0.9002	25.0			64	6	
6365		LORG2		13.800	G2	4.0	-1.9	7.8	-7.0	1.0075	4.4	0.9002	25.0			64	6	
6367		PRUG1		13.800	G1	9.0	-2.6	8.0	-8.0	1.0075	9.3	0.9615	33.0			64	6	
6368		PRUG2		13.800	G2	9.0	-2.6	8.0	-8.0	1.0075	9.3	0.9615	33.0			64	6	
6373		PRIG1		13.800	G1	141.3	11.6	92.2	-92.2	1.0000	141.8	0.9967	175.0			63	6	
6374		PRIG2		13.800	G2	141.3	11.6	92.2	-92.2	1.0000	141.8	0.9967	175.0			63	6	
6386		PEDI 13A		13.800	G1	2.0	0.4	6.2	-6.8	1.0000	2.0	0.9768	12.5			64	6	
6386		PEDI 13A		13.800	G2	2.0	0.4	6.2	-6.8	1.0000	2.0	0.9768	12.5			64	6	
6387		PEDII 13A		13.800	G1	4.0	-0.5	3.3	-3.3	1.0000	4.0	0.9929	7.1			64	6	
6387		PEDII 13A		13.800	G2	4.0	-0.5	3.3	-3.3	1.0000	4.0	0.9929	7.1			64	6	
6388		MACG1		0.6900	G1	0.6	-0.1	1.0	-0.8	1.0000	0.6	0.9863	2.1			64	6	

6389	MACG2	0.6900	G2	0.6	-0.1	1.0	-0.8	1.0000	0.6	0.9863	2.1	64	6
6390	CON 4.16A	4.1600	G1	3.0	0.5	1.0	-0.8	1.0000	3.0	0.9872	6.3	64	6
6390	CON 4.16A	4.1600	G2	3.0	0.5	1.0	-0.8	1.0000	3.0	0.9872	6.3	64	6
6391	PAAG1	2.1400	G1	0.5	1.0	1.0	-0.8	0.9955	1.1*	0.4472	3.5	64	6
6392	PAAG2	2.1400	G2	0.5	1.0	1.0	-0.8	0.9955	1.1*	0.4472	3.5	64	6
6394	LPN 4.16A	4.1600	G1	2.6	0.0	1.0	-0.8	1.0000	2.6	0.9999	6.3	64	6
6394	LPN 4.16A	4.1600	G2	2.6	0.0	1.0	-0.8	1.0000	2.6	0.9999	6.3	64	6
6395	LPS 4.16A	4.1600	G1	2.6	0.0	1.0	-0.8	1.0000	2.6	0.9999	6.3	64	6
6395	LPS 4.16A	4.1600	G2	2.6	0.0	1.0	-0.8	1.0000	2.6	0.9999	6.3	64	6
6396	RP4G1	6.6000	G1	0.7	0.1	4.6	-2.3	1.0000	0.7	0.9968	7.3	64	6
6397	RP4G2	6.6000	G2	0.7	0.1	4.6	-2.3	1.0000	0.7	0.9968	7.3	64	6
6403	CDP4.16	4.2000	G1	1.1	-0.1	0.6	-0.8	1.0000	1.1	0.9982	2.5	64	6
6403	CDP4.16	4.2000	G2	1.1	-0.1	0.6	-0.8	1.0000	1.1	0.9982	2.5	64	6
6416	TVA G1	13.800	G1	190.0	0.3	123.9	-123.9	1.0000	190.0	1.0000	235.0	64	6
6417	TVA G2	13.800	G2	190.0	0.3	123.9	-123.9	1.0000	190.0	1.0000	235.0	64	6
6420	DOL 4.16A	4.1600	G1	0.3	0.8	0.8	-0.8	0.9964	0.8*	0.3590	1.3	64	6
6420	DOL 4.16A	4.1600	G2	0.3	0.8	0.8	-0.8	0.9964	0.8*	0.3590	1.3	64	6
6420	DOL 4.16A	4.1600	G3	0.3	0.8	0.8	-0.8	0.9964	0.8*	0.3590	1.3	64	6
6421	LP1 4.16A	4.1600	G1	0.8	0.8	0.8	-0.8	0.9964	1.1*	0.7218	1.8	64	6
6421	LP1 4.16A	4.1600	G2	0.8	0.8	0.8	-0.8	0.9964	1.1*	0.7218	1.8	64	6
6421	LP1 4.16A	4.1600	G3	0.8	0.8	0.8	-0.8	0.9964	1.1*	0.7218	1.8	64	6
6422	MMO 4.16A	4.1600	G1	0.6	0.8	0.8	-0.8	0.9959	1.0*	0.5849	1.5	64	6
6422	MMO 4.16A	4.1600	G2	0.6	0.8	0.8	-0.8	0.9959	1.0*	0.5849	1.5	64	6
6423	BU1G1	4.1600	G1	1.0	-0.1	1.0	-0.4	1.0000	1.0	0.9985	2.3	64	6
6424	BU1G2	4.1600	G2	1.0	-0.1	1.0	-0.4	1.0000	1.0	0.9985	2.3	64	6
6425	BU1G3	0.6900	G3	0.6	-0.0	0.6	-0.5	1.0000	0.6	0.9989	1.1	64	6
6427	BUGII 4.16	4.2000	G1	0.8	-0.0	1.5	-1.5	1.0000	0.8	0.9992	3.5	64	6
6427	BUGII 4.16	4.2000	G2	0.8	-0.0	1.5	-1.5	1.0000	0.8	0.9992	3.5	64	6
6427	BUGII 4.16	4.2000	G3	0.8	-0.0	0.8	-0.8	1.0000	0.8	0.9992	1.9	64	6
6429	AST4.16	4.2000	G1	2.0	0.3	1.8	-1.8	1.0000	2.0	0.9879	4.5	64	6
6432	YEG 4.16A	4.1600	G1	1.0	-2.1	2.2	-2.2	1.0015	2.4*	0.4245	3.8	64	6
6432	YEG 4.16A	4.1600	G2	1.0	-2.1	2.2	-2.2	1.0015	2.4*	0.4245	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.4	-0.8	0.8	-0.8	1.0015	0.8*	0.4706	1.2	64	6
6433	EFR 4.16A	4.1600	G1	1.5	-0.9	1.6	-1.6	1.0090	1.7	0.8679	3.2	64	6
6433	EFR 4.16A	4.1600	G2	1.5	-0.9	1.6	-1.6	1.0090	1.7	0.8679	3.2	64	6
6435	ODA13	13.800	G1	0.6	-0.6	1.6	-1.6	1.0000	0.8	0.7369	3.6	63	6
6435	ODA13	13.800	G2	0.6	-0.6	1.6	-1.6	1.0000	0.8	0.7369	3.6	63	6
6436	LHU13.8	13.800	G1	0.3	-0.6	1.2	-1.2	1.0000	0.6	0.4749	2.8	63	6
6436	LHU13.8	13.800	G2	0.3	-0.6	1.2	-1.2	1.0000	0.6	0.4749	2.8	63	6
6439	CHU13.8	13.800	G1	1.5	-0.2	1.2	-1.5	1.0000	1.5	0.9949	4.6	64	6
6439	CHU13.8	13.800	G2	1.6	-0.2	1.2	-1.5	1.0000	1.6	0.9949	4.6	64	6
6444	PDOG1	13.800	G1	2.7	-2.6	12.8	-8.3	1.0005	3.7	0.7239	18.5	64	6
6445	PDOG2	13.800	G2	2.7	-2.6	12.8	-8.3	1.0005	3.7	0.7239	18.5	64	6
6446	ALTG1	13.800	G1	8.0	-4.1	10.9	-7.6	1.0000	9.0	0.8895	24.9	64	6
6447	ALTG2	13.800	G2	8.0	-4.1	10.9	-7.6	1.0000	9.0	0.8895	24.9	64	6
6448	ALTG3	13.800	G3	8.0	-4.1	10.9	-7.6	1.0000	9.0	0.8895	24.9	64	6
6449	MLIG1	13.800	G1	3.5	-3.4	12.8	-8.3	1.0000	4.9	0.7125	18.5	64	6
6450	MLIG2	13.800	G2	3.5	-3.4	12.8	-8.3	1.0000	4.9	0.7125	18.5	64	6
6451	MLIG3	13.800	G3	3.5	-3.4	12.8	-8.3	1.0000	4.9	0.7125	18.5	64	6
6462	RDVG1	0.6900	E1	71.2	-3.8	23.4	-23.4	1.0000	71.4	0.9986	107.9	64	6
6463	PORG1	0.6900	E2	33.2	-1.3	10.9	-10.9	1.0000	33.3	0.9993	50.0	64	6
6464	MARG1	0.6900	E3	12.2	-0.9	4.0	-4.0	1.0000	12.3	0.9975	18.4	64	6
6465	NCHIG1	0.6900	E4	38.5	-3.9	12.7	-12.7	1.0000	38.7	0.9950	57.9	64	6

6473	NCHIIG1	0.6900	E5	80.5	-3.3	26.5	-26.5	1.0000	80.6	0.9991	121.1	64	6
6481	SLOR6	6.0000	G1	0.2	1.5	1.5	-1.7	0.9947	1.5*	0.1451	4.9	64	6
6481	SLOR6	6.0000	G2	0.2	1.5	1.5	-1.7	0.9947	1.5*	0.1451	4.9	64	6
6484	ANTG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0608	72.9*	0.9500	110.5	64	6
6488	TOAG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0608	72.9*	0.9500	110.5	63	6
6489	TOAG2	0.7000	G2	84.0	27.6	27.6	27.6	1.0629	83.2*	0.9500	126.3	64	6
6492	BONG1	13.800	G1	3.1	0.2	4.9	-2.0	1.0000	3.1	0.9971	11.5	64	6
6493	BONG2	13.800	G2	3.1	0.2	4.9	-2.0	1.0000	3.1	0.9971	11.5	64	6
6494	BONG3	13.800	G3	3.1	0.2	4.9	-2.0	1.0000	3.1	0.9971	11.5	64	6
6605	CEP13.8	13.800	G1	4.8	-0.6	2.3	-2.3	1.0000	4.8	0.9908	5.3	60	6
6605	CEP13.8	13.800	G2	4.8	-0.6	2.3	-2.3	1.0000	4.8	0.9908	5.3	60	6
6608	COLG1	2.1000	G1	1.7	-1.4	1.8	-1.4	1.0046	2.2*	0.7786	3.9	64	6
6609	COLG2	2.1000	G2	1.7	-1.4	1.8	-1.4	1.0046	2.2*	0.7786	3.9	64	6
6611	COTG1	4.1600	G1	1.0	-1.0	1.4	-1.0	1.0025	1.4*	0.7203	2.9	64	6
6612	COTG2	4.1600	G2	1.0	-1.0	1.4	-1.0	1.0025	1.4*	0.7203	2.9	64	6
6616	HERRG1	4.2000	G1	0.6	-0.9	1.2	-0.9	1.0000	1.1	0.5997	2.6	64	6
6617	HERRG2	4.2000	G2	0.6	-0.9	1.2	-0.9	1.0000	1.1	0.5997	2.6	64	6
6618	HERRG3	4.2000	G3	0.2	-0.4	0.5	-0.4	1.0003	0.5*	0.4276	1.2	64	6
6651	BDT4.16	4.2000	G1	1.5	0.3	2.5	-2.5	1.0000	1.5	0.9851	5.6	64	6
6682	LPO13.8	13.800	G1	4.7	-0.7	7.8	-5.9	1.0000	4.7	0.9875	15.5	64	6
6682	LPO13.8	13.800	G2	4.7	-0.7	7.8	-5.9	1.0000	4.7	0.9875	15.5	64	6
6682	LPO13.8	13.800	G3	1.9	-0.3	1.1	-0.9	1.0000	1.9	0.9875	2.3	64	6
6684	SAL13.8	13.800	G1	4.7	-0.8	7.8	-5.9	1.0000	4.7	0.9860	15.5	64	6
6684	SAL13.8	13.800	G2	4.7	-0.8	7.8	-5.9	1.0000	4.7	0.9860	15.5	64	6
6711	TIZ4.16	4.2000	G1	2.1	0.2	2.2	-2.2	1.0000	2.1	0.9972	5.0	64	6
6721	SIN4.16	4.2000	G1	3.0	-1.4	2.5	-2.5	1.0000	3.3	0.9117	5.6	64	6
6721	SIN4.16	4.2000	G2	3.0	-1.4	2.5	-2.5	1.0000	3.3	0.9117	5.6	64	6
6731	SAN13.8	13.800	G1	2.5	-0.2	2.7	-2.7	1.0000	2.5	0.9951	5.8	64	6
6731	SAN13.8	13.800	G2	2.5	-0.2	2.7	-2.7	1.0000	2.5	0.9951	5.8	64	6
6736	SANII13.8	13.800	G1	2.5	-0.3	1.6	-1.6	1.0000	2.5	0.9937	5.2	64	6
6736	SANII13.8	13.800	G2	2.5	-0.3	1.6	-1.6	1.0000	2.5	0.9937	5.2	64	6
6764	ESCHO13	13.800	G1	2.5	2.6	2.6	-2.6	0.9678	3.7*	0.6931	5.8	63	6
6764	ESCHO13	13.800	G2	2.5	2.6	2.6	-2.6	0.9678	3.7*	0.6931	5.8	63	6
6766	CRU13.8	13.800	G1	6.0	-4.9	4.9	-4.9	1.0257	7.6*	0.7745	12.5	63	6
6766	CRU13.8	13.800	G2	6.0	-4.9	4.9	-4.9	1.0257	7.6*	0.7745	12.5	63	6
6769	LAG13.8	13.800	G1	2.6	0.9	3.4	-3.4	1.0000	2.8	0.9427	7.7	63	6
6769	LAG13.8	13.800	G2	2.6	0.9	3.4	-3.4	1.0000	2.8	0.9427	7.7	63	6
6774	BAR13.8	13.800	G1	3.1	-0.8	4.8	-4.8	1.0000	3.2	0.9682	10.8	63	6
6774	BAR13.8	13.800	G2	3.1	-0.8	4.8	-4.8	1.0000	3.2	0.9682	10.8	63	6
6791	SMA82G1	13.800	G1	5.0	-4.8	6.9	-6.9	1.0100	6.8	0.7228	15.8	63	6
6792	SMA82G2	13.800	G2	5.0	-4.8	6.9	-6.9	1.0100	6.8	0.7228	15.8	63	6
6821	PLAII13.8	13.800	G1	1.1	0.7	1.8	-1.8	1.0000	1.3	0.8536	4.1	64	6
6841	BUR13.8	13.800	G1	11.5	-2.7	15.4	-15.4	1.0000	11.8	0.9744	35.0	64	6
6841	BUR13.8	13.800	G2	11.5	-2.7	15.4	-15.4	1.0000	11.8	0.9744	35.0	64	6
6851	POT4.16	4.2000	G1	2.0	-1.0	2.0	-2.0	1.0000	2.2	0.8895	4.6	64	6
6861	BBL13.8	13.800	G1	3.0	-2.1	6.4	-6.4	1.0000	3.7	0.8160	14.8	64	6
6861	BBL13.8	13.800	G2	3.0	-2.1	6.4	-6.4	1.0000	3.7	0.8160	14.8	64	6
6861	BBL13.8	13.800	G3	0.8	-0.6	0.8	-0.6	1.0000	1.0	0.8160	2.1	64	6
6935	LTR13.8	13.800	G1	0.6	-0.3	0.3	-0.3	1.0000	0.7	0.9108	1.0	63	6
6940	RPI13.8	13.800	G1	2.0	0.0	2.2	-2.2	1.0000	2.0	1.0000	5.0	62	6
6940	RPI13.8	13.800	G2	2.0	0.0	2.2	-2.2	1.0000	2.0	1.0000	5.0	62	6
6986	SVC-PAN3	13.200	C1	0.0	-12.6	150.0	-30.0	1.0000	12.6	0.0000	180.0	60	6
6996	SVC-LSA	13.200	C1	0.0	-30.0	120.0	-30.0	0.9945	30.2*	0.0000	150.0	63	6

6998 SVC-PAN2	13.200 C1	0.0	-30.0	120.0	-30.0	0.9882	30.4*	0.0000	150.0		
SUBSYSTEM TOTALS		2196.6	-62.6	1909.7	-1306.3				4255.0		

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PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:54
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA SECA

AREA 7 [ACANAL] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6134		MADG1		6.9000	G1	4.0	3.7	6.0	-6.0	1.0000	5.5	0.7299	13.0			65	7	
6135		MADG2		6.9000	G2	4.0	3.0	6.0	-6.0	1.0000	5.0	0.8019	13.0			65	7	
6136		MADG3		6.9000	G3	4.0	4.8	6.0	-6.0	1.0100	6.2	0.6421	13.0			65	7	
6140		GAT6A		6.9000	G1	1.0	-0.4	2.0	-2.0	1.0100	1.1	0.9299	4.1			65	7	
6140		GAT6A		6.9000	G2	1.0	-0.4	2.0	-2.0	1.0100	1.1	0.9299	4.1			65	7	
6140		GAT6A		6.9000	G3	1.0	-0.4	2.0	-2.0	1.0100	1.1	0.9299	4.1			65	7	
6140		GAT6A		6.9000	G4	1.5	-0.6	3.0	-3.0	1.0100	1.6	0.9299	5.6			65	7	
6140		GAT6A		6.9000	G5	1.5	-0.6	3.0	-3.0	1.0100	1.6	0.9299	6.2			65	7	
6140		GAT6A		6.9000	G6	1.5	-0.6	3.0	-3.0	1.0100	1.6	0.9299	6.2			65	7	
SUBSYSTEM TOTALS						19.5	8.5	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:30
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA SECA
 BUSES WITH VOLTAGE GREATER THAN 1.0000:

BUS#	X-- NAME	--X BASKV	AREA	V (PU)	V (KV)	BUS#	X-- NAME	--X BASKV	AREA	V (PU)	V (KV)
6000	FRONTPRO	230.00	6	1.0072	231.66	6001	PAN230	230.00	6	1.0070	231.61
6002	PAN115	115.00	6	1.0169	116.95	6003	PANII230	230.00	6	1.0103	232.37
6004	PANII115	115.00	6	1.0271	118.11	6005	CHO230	230.00	6	1.0153	233.53
6008	LSA230	230.00	6	1.0164	233.77	6009	LSA115	115.00	6	1.0100	116.15
6011	MDN230	230.00	6	1.0054	231.23	6012	MDN115	115.00	6	1.0035	115.40
6014	PRO230	230.00	6	1.0068	231.56	6015	PRO115	115.00	6	1.0041	115.47
6018	CAC115	115.00	6	1.0163	116.87	6019	CVI115A	115.00	6	1.0132	116.52
6027	LOC115A	115.00	6	1.0080	115.92	6032	MAR115A	115.00	6	1.0081	115.93
6036	SMA115	115.00	6	1.0117	116.34	6040	SFR115	115.00	6	1.0039	115.45
6055	MOS115B	115.00	6	1.0053	115.61	6057	TOC115	115.00	6	1.0233	117.68
6059	LM115	115.00	6	1.0001	115.01	6060	LM2115	115.00	6	1.0002	115.03
6074	LMDIST	115.00	6	1.0002	115.02	6087	CAL115	115.00	6	1.0111	116.27
6088	LES115	115.00	6	1.0145	116.66	6092	LVA115	115.00	6	1.0114	116.31
6096	FOR230	230.00	6	1.0073	231.67	6100	BAY230	230.00	6	1.0178	234.10
6105	PAM230	230.00	6	1.0153	233.53	6115	LBO115	115.00	6	1.0128	116.47
6123	MIR115A	115.00	7	1.0108	116.24	6165	FLO115	115.00	6	1.0141	116.62
6170	CPA115	115.00	6	1.0038	115.44	6171	PAC230	230.00	6	1.0130	233.00
6173	STR115	115.00	6	1.0053	115.61	6178	EST230	230.00	6	1.0073	231.67
6179	GUA230	230.00	6	1.0072	231.66	6182	VEL230	230.00	6	1.0140	233.23
6210	TIN115	115.00	6	1.0124	116.42	6211	PM115-9	115.00	6	1.0099	116.14
6225	CDE115	115.00	6	1.0036	115.41	6230	CBA115	115.00	6	1.0059	115.67
6240	EHIG230	230.00	6	1.0163	233.75	6245	BNGA230	230.00	6	1.0103	232.36
6250	BVI230	230.00	6	1.0071	231.62	6251	BVI115	115.00	6	1.0092	116.05
6260	CHA230	230.00	6	1.0039	230.90	6263	ESP230	230.00	6	1.0095	232.18
6270	CAT115	115.00	6	1.0002	115.02	6275	CHG500	500.00	6	1.0122	506.11
6276	CHG230	230.00	6	1.0054	231.25	6280	GIR115	115.00	6	1.0038	115.44
6290	CATII115	115.00	6	1.0007	115.08	6309	PAN3 500	500.00	6	1.0144	507.19
6310	PAN3 230	230.00	6	1.0092	232.11	6311	PAN3 115	115.00	6	1.0138	116.59
6314	SAB500	500.00	6	1.0172	508.60	6315	MET230	230.00	6	1.0339	237.79
6317	CHE	230.00	6	1.0173	233.97	6318	SAB230	230.00	6	1.0187	234.31
6330	BAI230	230.00	6	1.0072	231.66	6331	BAI115	115.00	6	1.0014	115.16
6332	BAM115	115.00	6	1.0044	115.51	6340	CAN230	230.00	6	1.0052	231.20
6350	PM115-8	115.00	6	1.0102	116.18	6360	GLA230	230.00	6	1.0087	232.00
6363	ZAM230	230.00	6	1.0102	232.35	6366	EVA230	230.00	6	1.0112	232.57
6370	PET230	230.00	6	1.0085	231.97	6372	PRI230	230.00	6	1.0216	234.98
6380	BOQIII230	230.00	6	1.0064	231.47	6400	FRONTCHA	230.00	6	1.0053	231.21
6401	PM230-29	230.00	6	1.0068	231.57	6415	TVA230	230.00	6	1.0054	231.24
6430	GENLLS	115.00	6	1.0100	116.15	6434	ODA115	115.00	6	1.0100	116.15
6440	DOM230	230.00	6	1.0047	231.09	6441	PRIM230	230.00	6	1.0041	230.94
6442	ALT230	230.00	6	1.0035	230.79	6443	PARE230	230.00	6	1.0041	230.95
6460	ECO230	230.00	6	1.0169	233.89	6470	24DIC230	230.00	6	1.0114	232.61
6485	ANT230	230.00	6	1.0290	236.67	6500	FRONTDOM	230.00	6	1.0060	231.39
6601	COP230	230.00	6	1.0117	232.68	6680	BFR230	230.00	6	1.0072	231.66
6681	LPO230	230.00	6	1.0072	231.66	6683	SAL230	230.00	6	1.0072	231.66
6730	SAN115	115.00	6	1.0044	115.51	6760	SBA230	230.00	6	1.0192	234.41
6761	SBA115	115.00	6	1.0060	115.69	6790	SMA82	230.00	6	1.0167	233.83
6840	BUR230	230.00	6	1.0067	231.55	6860	BBL230	230.00	6	1.0147	233.37
6985	SVC-PAN3	230.00	6	1.0092	232.11	6990	REACTOR1	500.00	6	1.0122	506.11
6991	REACTOR2	500.00	6	1.0144	507.19	6992	REACTOR3	500.00	6	1.0122	506.11
6993	REACTOR4	500.00	6	1.0144	507.19	6995	SVC-LSA	230.00	6	1.0164	233.77
6997	SVC-PAN2	230.00	6	1.0103	232.37	6999	BAR115	115.00	6	1.0001	115.02
56050	RCL230A	230.00	5	1.0070	231.61	56052	RCL230B	230.00	5	1.0070	231.61
58350	CAH230	230.00	5	1.0070	231.60						

BUSES WITH VOLTAGE LESS THAN 1.0000:

BUS#	X-- NAME	--X BASKV	AREA	V (PU)	V (KV)	BUS#	X-- NAME	--X BASKV	AREA	V (PU)	V (KV)
6024	CHI115	115.00	6	0.9968	114.63	6047	CLA115	115.00	6	0.9880	113.62
6064	MES115	115.00	6	0.9866	113.45	6066	FFIELD	115.00	6	0.9875	113.56
6261	CHA115	115.00	6	0.9986	114.83	6490	BON115	115.00	6	0.9986	114.83
6915	SCR115	115.00	6	0.9996	114.95	6980	BKO115	115.00	6	0.9876	113.57

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

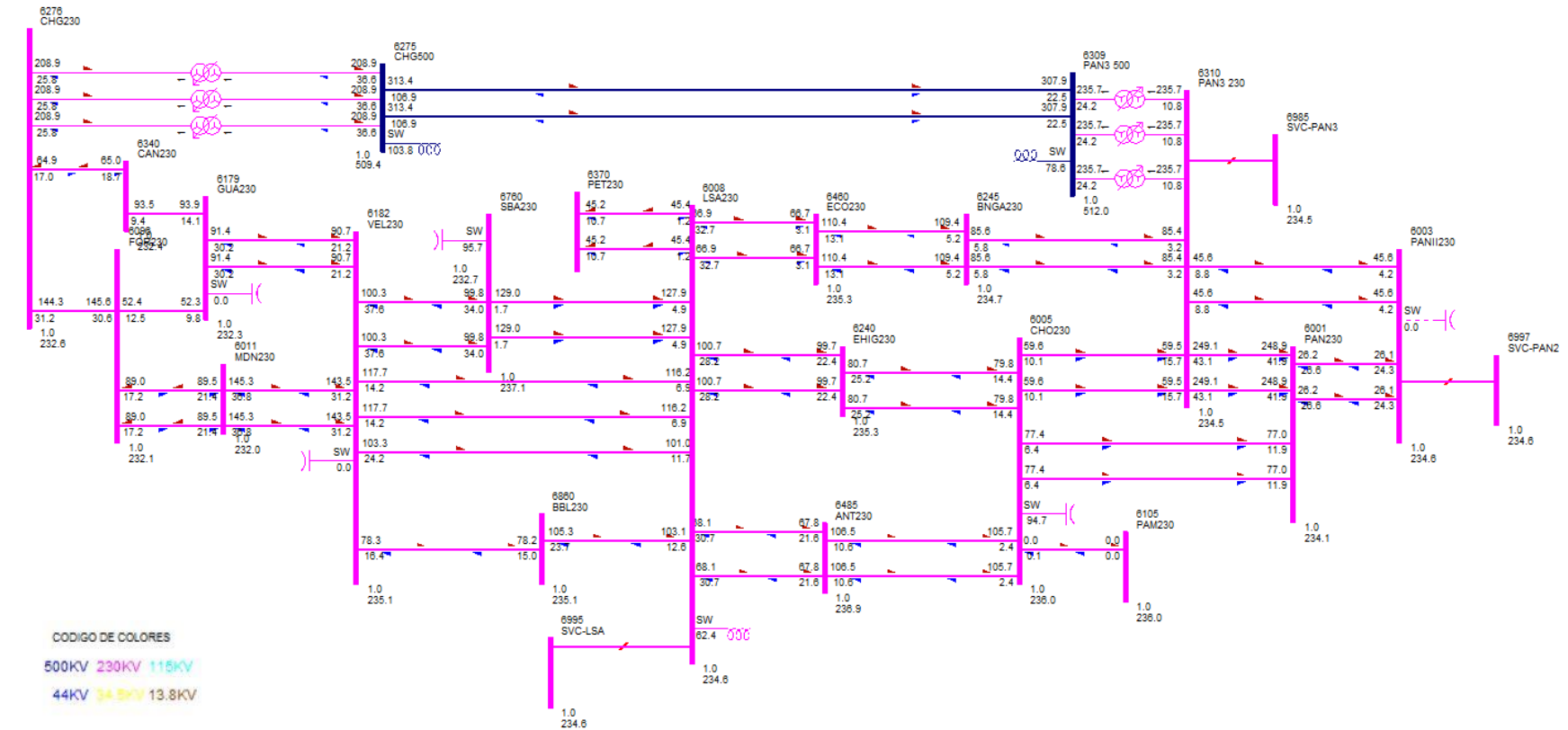


Diagrama de Panamá Atlántico

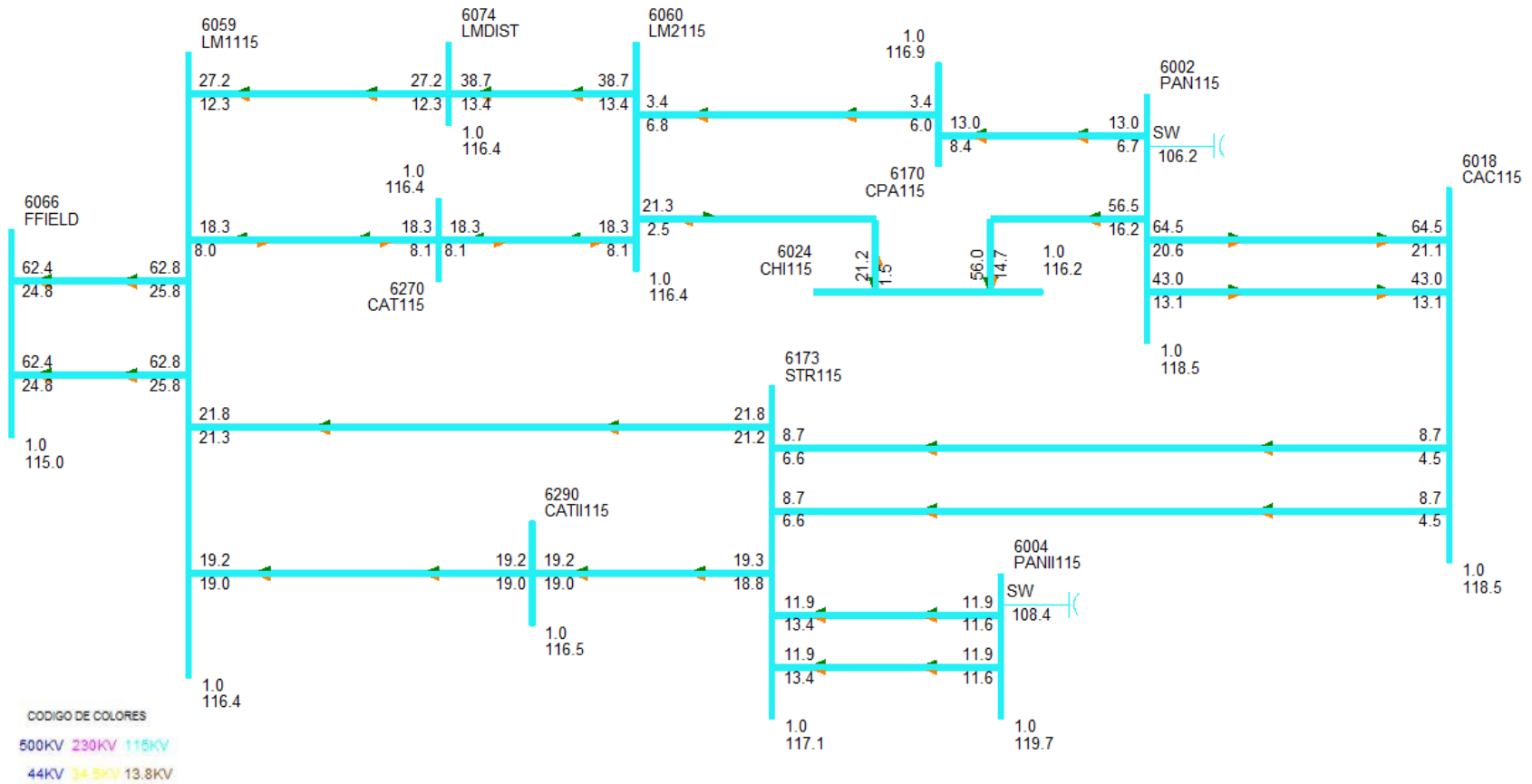


Diagrama de Panamá Este

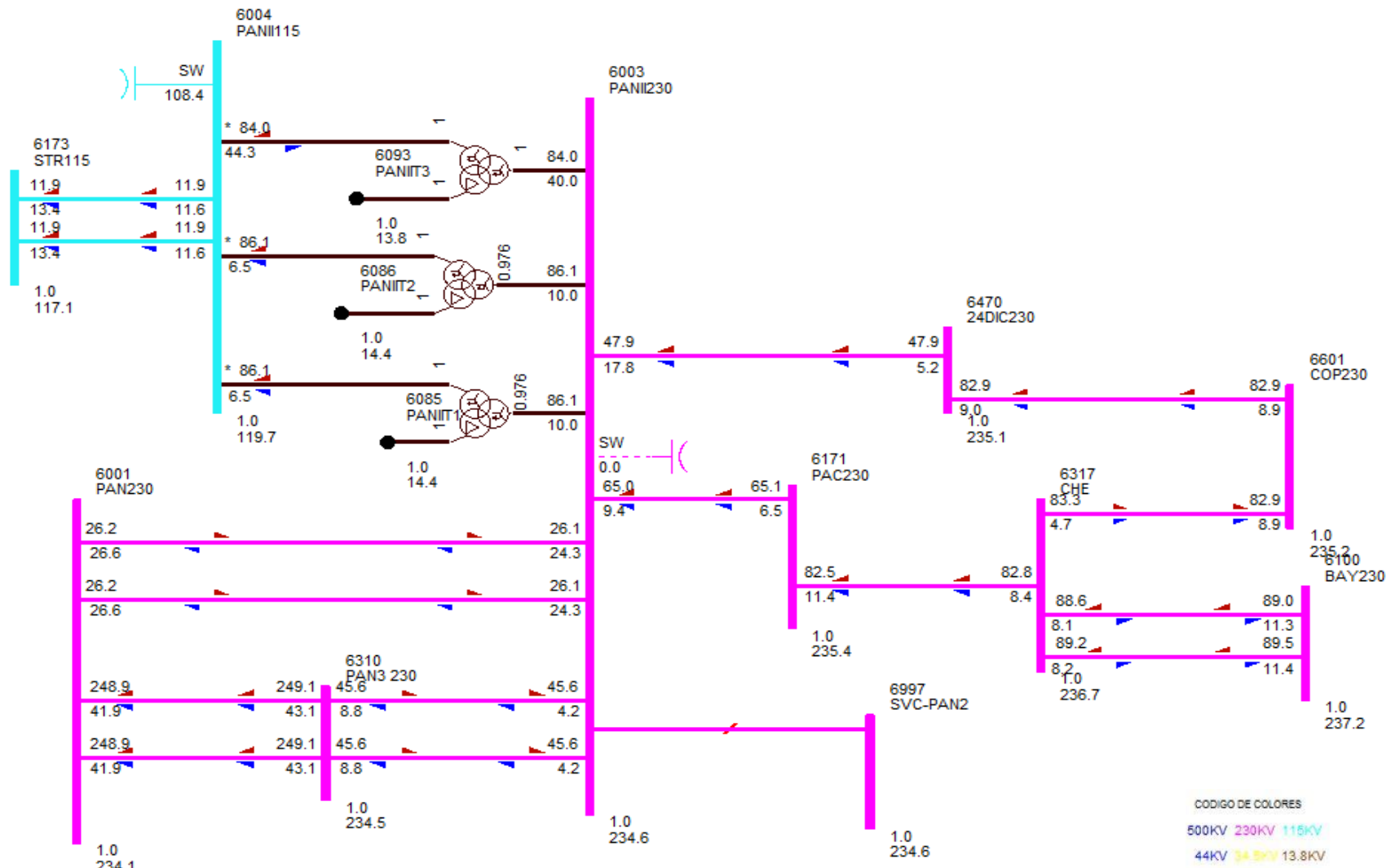
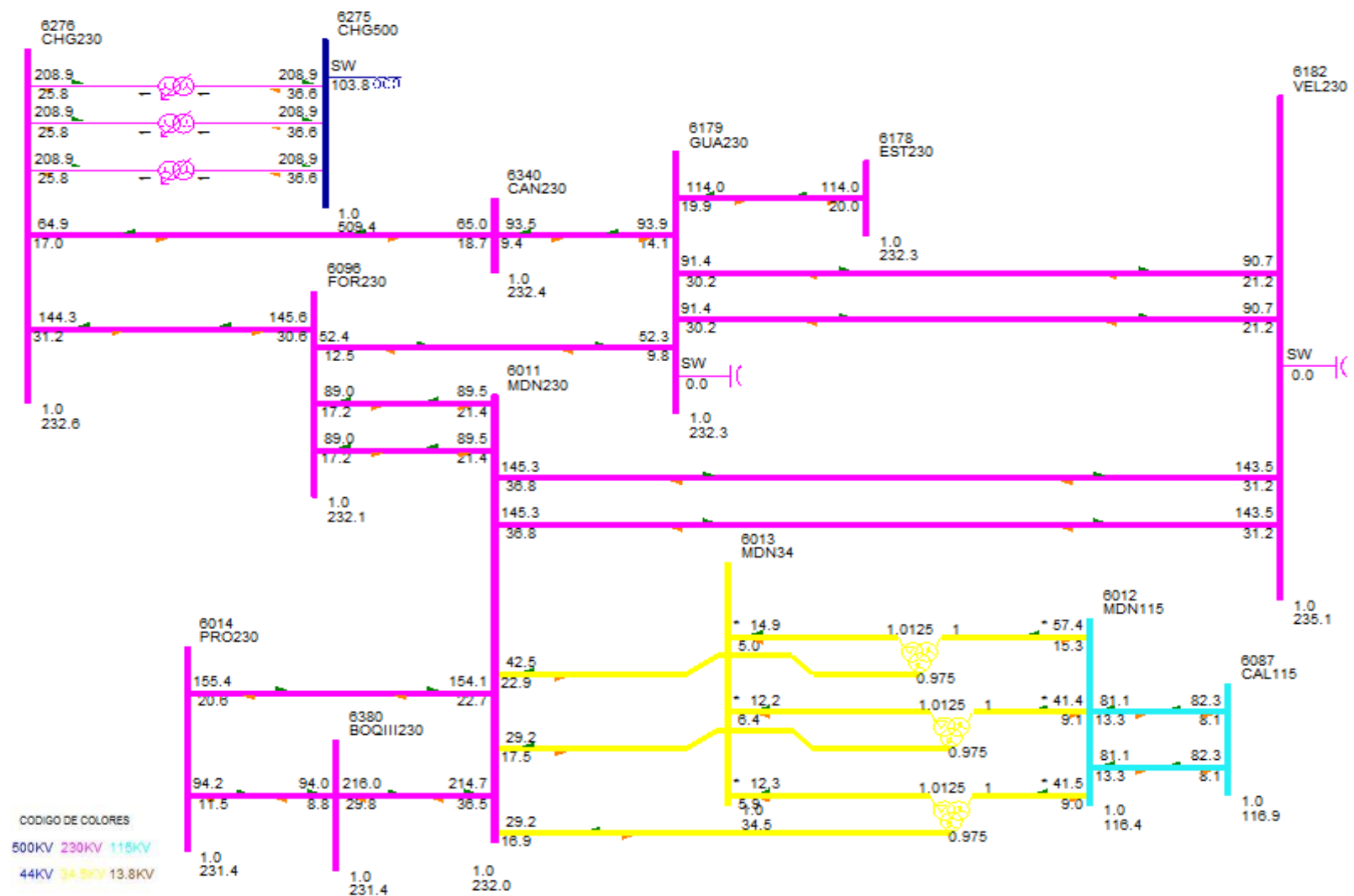


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:56
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA LLUVIOSA

AREA 6 [PANAMA] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6071		BLMG2		13.800	V2	25.0	0.0	15.0	0.0	1.0111	24.7	1.0000	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	0.0	15.0	0.0	1.0111	24.7	1.0000	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	0.0	15.0	0.0	1.0113	24.7	1.0000	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	9.4	10.0	0.0	1.0000	40.1	0.9724	71.0			62	6	
6090		LESG1		13.800	E1	22.4	5.5	12.0	-5.0	1.0100	22.8	0.9715	27.0			64	6	
6091		LESG2		13.800	E2	22.4	5.5	12.0	-5.0	1.0100	22.8	0.9715	27.0			64	6	
6094		LVAG1		13.800	L1	26.0	-1.0	12.0	-5.0	1.0100	25.8	0.9992	27.0			64	6	
6095		LVAG2		13.800	L2	26.0	-1.0	12.0	-5.0	1.0100	25.8	0.9992	27.0			64	6	
6097		FORG1		13.800	F1	20.0	-8.2	50.0	-50.0	1.0000	21.6	0.9251	111.0			64	6	
6101		BAYG1		13.800	B1	59.5	-2.4	30.0	-25.0	1.0000	59.5	0.9992	94.0			61	6	
6102		BAYG2		13.800	B2	59.5	-2.4	30.0	-25.0	1.0000	59.5	0.9992	94.0			61	6	
6110		BAYG3		13.800	B3	59.5	-4.9	35.0	-25.0	1.0100	59.1	0.9966	100.0			61	6	
6176		ESTG1		13.800	E1	57.0	10.0	29.0	-29.0	1.0100	57.3	0.9848	69.0			64	6	
6177		ESTG2		13.800	E2	57.0	10.0	29.0	-29.0	1.0100	57.3	0.9848	69.0			64	6	
6264		CHANG1		13.800	G1	95.3	3.3	50.8	-50.8	1.0100	94.4	0.9994	116.5			64	6	SYST
6265		CHANG2		13.800	G2	99.6	3.7	50.8	-50.8	1.0100	98.7	0.9993	116.5			64	6	
6268		CHANG3		6.9000	G3	8.7	1.3	4.8	-3.8	1.0100	8.7	0.9890	10.9			65	6	
6305		ALG 13A		13.800	A1	4.8	-0.9	2.3	-2.3	1.0000	4.9	0.9841	5.7			64	6	
6305		ALG 13A		13.800	A2	4.8	-0.9	2.3	-2.3	1.0000	4.9	0.9841	5.7			64	6	
6306		MEN 13A		13.800	M1	8.9	4.1	4.2	-4.2	0.9850	10.0*	0.9069	10.4			64	6	
6306		MEN 13A		13.800	M2	8.9	4.1	4.2	-4.2	0.9850	10.0*	0.9069	10.4			64	6	
6307		COC 13A		34.500	G1	7.1	-3.1	6.5	-5.7	1.0075	7.7*	0.9150	8.4			64	6	
6307		COC 13A		34.500	G2	7.1	-3.1	3.3	-3.3	1.0075	7.7*	0.9150	8.4			64	6	
6308		MENII 13A		13.800	G1	3.7	0.9	1.9	0.0	1.0000	3.8	0.9736	4.1			64	6	
6308		MENII 13A		13.800	G2	3.7	0.9	1.9	0.0	1.0000	3.8	0.9736	4.1			64	6	
6333		BAMG1		13.800	G1	26.6	2.2	10.0	-10.0	1.0000	26.7	0.9965	30.0			64	6	
6334		BAMG2		13.800	G2	26.6	2.2	10.0	-10.0	1.0000	26.7	0.9965	30.0			64	6	
6335		BAIG1		13.800	G1	41.9	-4.1	14.0	-14.0	1.0000	42.1	0.9953	49.0			64	6	
6336		BAIG2		13.800	G2	41.9	-4.1	14.0	-14.0	1.0000	42.1	0.9953	49.0			64	6	
6352		HCAL4.16		4.2000	G1	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9552	3.4			64	6	
6352		HCAL4.16		4.2000	G2	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9552	3.4			64	6	
6361		GLAG1		13.800	G1	12.1	-6.1	7.8	-7.0	1.0060	13.4*	0.8929	14.1			64	6	
6362		GLAG2		13.800	G2	12.1	-6.1	7.8	-7.0	1.0060	13.4*	0.8929	14.1			64	6	
6364		LORG1		13.800	G1	16.1	-7.0	7.8	-7.0	1.0096	17.3	0.9167	25.0			64	6	
6365		LORG2		13.800	G2	16.1	-7.0	7.8	-7.0	1.0096	17.3	0.9167	25.0			64	6	
6367		PRUG1		13.800	G1	27.9	-8.0	8.0	-8.0	1.0105	28.7	0.9612	33.0			64	6	
6368		PRUG2		13.800	G2	27.9	-8.0	8.0	-8.0	1.0105	28.7	0.9612	33.0			64	6	
6373		PRIG1		13.800	G1	102.2	4.1	92.2	-92.2	1.0000	102.2	0.9992	175.0			63	6	
6374		PRIG2		13.800	G2	102.2	4.1	92.2	-92.2	1.0000	102.2	0.9992	175.0			63	6	
6376		CHANIIG1		13.800	G1	101.7	-11.3	35.2	-35.2	1.0000	102.3	0.9939	112.6			64	6	
6377		CHANIIG2		13.800	G2	101.7	-11.3	35.2	-35.2	1.0000	102.3	0.9939	112.6			64	6	
6386		PEDI 13A		13.800	G1	11.9	0.8	6.2	-6.8	1.0000	11.9	0.9977	12.5			64	6	
6386		PEDI 13A		13.800	G2	11.9	0.8	6.2	-6.8	1.0000	11.9	0.9977	12.5			64	6	
6387		PEDII 13A		13.800	G1	6.1	-0.3	3.3	-3.3	1.0000	6.1	0.9989	7.1			64	6	
6387		PEDII 13A		13.800	G2	6.1	-0.3	3.3	-3.3	1.0000	6.1	0.9989	7.1			64	6	

6388	MACG1	0.6900	G1	1.7	-0.3	1.0	-0.8	1.0000	1.7	0.9861	2.1	64	6
6389	MACG2	0.6900	G2	1.7	-0.3	1.0	-0.8	1.0000	1.7	0.9861	2.1	64	6
6390	CON 4.16A	4.1600	G1	4.8	0.1	1.0	-0.8	1.0000	4.8	0.9996	6.3	64	6
6390	CON 4.16A	4.1600	G2	4.8	0.1	1.0	-0.8	1.0000	4.8	0.9996	6.3	64	6
6391	PAAG1	2.1400	G1	2.8	0.0	1.0	-0.8	1.0000	2.8	1.0000	3.5	64	6
6392	PAAG2	2.1400	G2	2.8	0.0	1.0	-0.8	1.0000	2.8	1.0000	3.5	64	6
6394	LPN 4.16A	4.1600	G1	4.8	0.7	1.0	-0.8	1.0000	4.8	0.9893	6.3	64	6
6394	LPN 4.16A	4.1600	G2	4.8	0.7	1.0	-0.8	1.0000	4.8	0.9893	6.3	64	6
6395	LPS 4.16A	4.1600	G1	4.8	0.7	1.0	-0.8	1.0000	4.8	0.9893	6.3	64	6
6395	LPS 4.16A	4.1600	G2	4.8	0.7	1.0	-0.8	1.0000	4.8	0.9893	6.3	64	6
6396	RP4G1	6.6000	G1	6.2	0.6	4.6	-2.3	1.0000	6.3	0.9952	7.3	64	6
6397	RP4G2	6.6000	G2	6.2	0.6	4.6	-2.3	1.0000	6.3	0.9952	7.3	64	6
6403	CDP4.16	4.2000	G1	2.1	0.2	0.6	-0.8	1.0000	2.1	0.9971	2.5	64	6
6403	CDP4.16	4.2000	G2	2.1	0.2	0.6	-0.8	1.0000	2.1	0.9971	2.5	64	6
6420	DOL 4.16A	4.1600	G1	1.0	0.0	0.8	-0.8	1.0000	1.0	1.0000	1.3	64	6
6420	DOL 4.16A	4.1600	G2	1.0	0.0	0.8	-0.8	1.0000	1.0	1.0000	1.3	64	6
6420	DOL 4.16A	4.1600	G3	1.0	0.0	0.8	-0.8	1.0000	1.0	1.0000	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.5	0.0	0.8	-0.8	1.0000	1.5	1.0000	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.5	0.0	0.8	-0.8	1.0000	1.5	1.0000	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.5	0.0	0.8	-0.8	1.0000	1.5	1.0000	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.2	0.0	0.8	-0.8	1.0000	1.2	1.0000	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.2	0.0	0.8	-0.8	1.0000	1.2	1.0000	1.5	64	6
6423	BU1G1	4.1600	G1	2.0	-0.2	1.0	-0.4	1.0000	2.0	0.9960	2.3	64	6
6424	BU1G2	4.1600	G2	2.0	-0.2	1.0	-0.4	1.0000	2.0	0.9960	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.1	0.6	-0.5	1.0000	0.9	0.9952	1.1	64	6
6427	BUGII 4.16	4.2000	G1	3.0	0.0	1.5	-1.5	1.0000	3.0	1.0000	3.5	64	6
6427	BUGII 4.16	4.2000	G2	3.0	0.0	1.5	-1.5	1.0000	3.0	1.0000	3.5	64	6
6427	BUGII 4.16	4.2000	G3	1.7	0.0	0.8	-0.8	1.0000	1.7	1.0000	1.9	64	6
6429	AST4.16	4.2000	G1	3.9	1.8	1.8	-1.8	0.9999	4.3*	0.9074	4.5	64	6
6432	YEG 4.16A	4.1600	G1	2.9	-2.2	2.2	-2.2	1.0082	3.6*	0.7849	3.8	64	6
6432	YEG 4.16A	4.1600	G2	2.9	-2.2	2.2	-2.2	1.0082	3.6*	0.7849	3.8	64	6
6432	YEG 4.16A	4.1600	G3	1.0	-0.8	0.8	-0.8	1.0082	1.2*	0.7849	1.2	64	6
6433	EFR 4.16A	4.1600	G1	2.5	-1.6	1.6	-1.6	1.0152	3.0*	0.8383	3.2	64	6
6433	EFR 4.16A	4.1600	G2	2.5	-1.6	1.6	-1.6	1.0152	3.0*	0.8383	3.2	64	6
6435	ODA13	13.800	G1	3.1	-0.9	1.6	-1.6	1.0000	3.2	0.9622	3.6	63	6
6435	ODA13	13.800	G2	3.1	-0.9	1.6	-1.6	1.0000	3.2	0.9622	3.6	63	6
6436	LHU13.8	13.800	G1	2.4	-0.9	1.2	-1.2	1.0000	2.5*	0.9337	2.8	63	6
6436	LHU13.8	13.800	G2	2.4	-0.9	1.2	-1.2	1.0000	2.5*	0.9337	2.8	63	6
6439	CHU13.8	13.800	G1	4.2	-0.0	1.2	-1.5	1.0000	4.2	1.0000	4.6	64	6
6439	CHU13.8	13.800	G2	4.2	-0.0	1.2	-1.5	1.0000	4.2	1.0000	4.6	64	6
6444	PDOG1	13.800	G1	15.8	-3.3	12.8	-8.3	1.0005	16.1	0.9790	18.5	64	6
6445	PDOG2	13.800	G2	15.8	-3.3	12.8	-8.3	1.0005	16.1	0.9790	18.5	64	6
6446	ALTG1	13.800	G1	21.3	-4.8	10.9	-7.6	1.0000	21.8	0.9758	24.9	64	6
6447	ALTG2	13.800	G2	21.3	-4.8	10.9	-7.6	1.0000	21.8	0.9758	24.9	64	6
6448	ALTG3	13.800	G3	21.3	-4.8	10.9	-7.6	1.0000	21.8	0.9758	24.9	64	6
6449	MLIG1	13.800	G1	15.8	-4.6	12.8	-8.3	1.0000	16.5	0.9608	18.5	64	6
6450	MLIG2	13.800	G2	15.8	-4.6	12.8	-8.3	1.0000	16.5	0.9608	18.5	64	6
6451	MLIG3	13.800	G3	15.8	-4.6	12.8	-8.3	1.0000	16.5	0.9608	18.5	64	6
6462	RDVG1	0.6900	E1	25.6	-8.4	8.4	-8.4	1.0059	26.8	0.9500	107.9	64	6
6463	PORG1	0.6900	E2	11.9	-3.9	3.9	-3.9	1.0049	12.4	0.9500	50.0	64	6
6464	MARG1	0.6900	E3	4.4	-1.4	1.4	-1.4	1.0069	4.6	0.9500	18.4	64	6
6465	NCHIG1	0.6900	E4	13.8	-4.5	4.5	-4.5	1.0080	14.4	0.9500	57.9	64	6
6473	NCHIIG1	0.6900	E5	28.8	-9.4	9.4	-9.4	1.0052	30.1	0.9500	121.1	64	6

6481	SLOR6	6.0000	G1	4.2	1.5	1.5	-1.7	1.0000	4.4*	0.9412	4.9	64	6			
6481	SLOR6	6.0000	G2	4.2	1.5	1.5	-1.7	1.0000	4.4*	0.9412	4.9	64	6			
6484	ANTG1	0.7000	G1	26.3	8.6	8.6	8.6	1.0426	26.5*	0.9500	110.5	64	6			
6488	TOAG1	0.7000	G1	25.0	8.2	8.2	8.2	1.0423	25.2*	0.9500	110.5	63	6			
6489	TOAG2	0.7000	G2	26.3	8.6	8.6	8.6	1.0426	26.5*	0.9500	126.3	64	6			
6492	BONG1	13.800	G1	9.9	-0.7	4.9	-2.0	1.0000	9.9	0.9973	11.5	64	6			
6493	BONG2	13.800	G2	9.9	-0.7	4.9	-2.0	1.0000	9.9	0.9973	11.5	64	6			
6494	BONG3	13.800	G3	9.9	-0.7	4.9	-2.0	1.0000	9.9	0.9973	11.5	64	6			
6605	CEP13.8	13.800	G1	4.8	-1.6	2.3	-2.3	1.0000	5.0	0.9469	5.3	60	6			
6605	CEP13.8	13.800	G2	4.8	-1.6	2.3	-2.3	1.0000	5.0	0.9469	5.3	60	6			
6608	COLG1	2.1000	G1	3.2	-0.7	2.0	-1.3	0.9476	3.5	0.9768	3.9	0.0000	0.2200	1.0000	64	6
6609	COLG2	2.1000	G2	3.2	-1.4	1.8	-1.4	1.0068	3.5*	0.9194	3.9	64	6			
6611	COTG1	4.1600	G1	2.4	-1.0	1.4	-1.0	1.0050	2.6*	0.9267	2.9	64	6			
6612	COTG2	4.1600	G2	2.4	-1.0	1.4	-1.0	1.0050	2.6*	0.9267	2.9	64	6			
6616	HERRG1	4.2000	G1	2.1	-0.9	1.2	-0.9	1.0061	2.3*	0.9187	2.6	64	6			
6617	HERRG2	4.2000	G2	2.1	-0.9	1.2	-0.9	1.0061	2.3*	0.9187	2.6	64	6			
6618	HERRG3	4.2000	G3	0.9	-0.4	0.5	-0.4	1.0064	1.0*	0.9100	1.2	64	6			
6651	BDT4.16	4.2000	G1	4.8	1.5	2.5	-2.5	1.0000	5.0	0.9560	5.6	64	6			
6682	LPO13.8	13.800	G1	13.3	-0.3	7.8	-5.9	1.0000	13.3	0.9998	15.5	64	6			
6682	LPO13.8	13.800	G2	13.3	-0.3	7.8	-5.9	1.0000	13.3	0.9998	15.5	64	6			
6682	LPO13.8	13.800	G3	2.0	-0.0	1.1	-0.9	1.0000	2.0	0.9998	2.3	64	6			
6684	SAL13.8	13.800	G1	13.3	-0.1	7.8	-5.9	1.0000	13.3	0.9999	15.5	64	6			
6684	SAL13.8	13.800	G2	13.3	-0.1	7.8	-5.9	1.0000	13.3	0.9999	15.5	64	6			
6711	TIZ4.16	4.2000	G1	4.3	0.9	2.2	-2.2	1.0000	4.4	0.9799	5.0	64	6			
6721	SIN4.16	4.2000	G1	4.8	-1.1	2.5	-2.5	1.0000	4.9	0.9743	5.6	64	6			
6721	SIN4.16	4.2000	G2	4.8	-1.1	2.5	-2.5	1.0000	4.9	0.9743	5.6	64	6			
6731	SAN13.8	13.800	G1	4.9	0.2	2.7	-2.7	1.0000	4.9	0.9992	5.8	64	6			
6731	SAN13.8	13.800	G2	4.9	0.2	2.7	-2.7	1.0000	4.9	0.9992	5.8	64	6			
6736	SANII13.8	13.800	G1	4.7	0.0	1.6	-1.6	1.0000	4.7	1.0000	5.2	64	6			
6736	SANII13.8	13.800	G2	4.7	0.0	1.6	-1.6	1.0000	4.7	1.0000	5.2	64	6			
6764	ESCHO13	13.800	G1	4.8	2.6	2.6	-2.6	0.9216	5.9*	0.8772	5.8	63	6			
6764	ESCHO13	13.800	G2	4.8	2.6	2.6	-2.6	0.9216	5.9*	0.8772	5.8	63	6			
6766	CRU13.8	13.800	G1	9.8	-4.9	4.9	-4.9	1.0216	10.8*	0.8950	12.5	63	6			
6766	CRU13.8	13.800	G2	9.8	-4.9	4.9	-4.9	1.0216	10.8*	0.8950	12.5	63	6			
6769	LAG13.8	13.800	G1	6.6	1.0	3.4	-3.4	1.0000	6.6	0.9888	7.7	63	6			
6769	LAG13.8	13.800	G2	6.5	1.0	3.4	-3.4	1.0000	6.6	0.9888	7.7	63	6			
6774	BAR13.8	13.800	G1	9.2	1.8	4.8	-4.8	1.0000	9.4	0.9809	10.8	63	6			
6774	BAR13.8	13.800	G2	9.2	1.8	4.8	-4.8	1.0000	9.4	0.9809	10.8	63	6			
6791	SMA82G1	13.800	G1	13.5	-6.9	6.9	-6.9	1.0112	15.0*	0.8892	15.8	63	6			
6792	SMA82G2	13.800	G2	13.5	-6.9	6.9	-6.9	1.0112	15.0*	0.8892	15.8	63	6			
6821	PLAII13.8	13.800	G1	3.5	-0.1	1.8	-1.8	1.0000	3.5	0.9995	4.1	64	6			
6841	BUR13.8	13.800	G1	29.9	-1.7	15.4	-15.4	1.0000	30.0	0.9984	35.0	64	6			
6841	BUR13.8	13.800	G2	29.9	-1.7	15.4	-15.4	1.0000	30.0	0.9984	35.0	64	6			
6851	POT4.16	4.2000	G1	3.9	-0.8	2.0	-2.0	1.0000	4.0	0.9809	4.6	64	6			
6861	BBL13.8	13.800	G1	12.7	-3.0	6.4	-6.4	1.0000	13.0	0.9739	14.8	64	6			
6861	BBL13.8	13.800	G2	12.7	-3.0	6.4	-6.4	1.0000	13.0	0.9739	14.8	64	6			
6861	BBL13.8	13.800	G3	1.8	-0.4	0.8	-0.6	1.0000	1.8	0.9739	2.1	64	6			
6935	LTR13.8	13.800	G1	0.9	-0.3	0.3	-0.3	1.0055	1.0*	0.9451	1.0	63	6			
6940	RPI13.8	13.800	G1	4.3	-0.9	2.2	-2.2	1.0000	4.4	0.9768	5.0	62	6			
6940	RPI13.8	13.800	G2	4.3	-0.9	2.2	-2.2	1.0000	4.4	0.9768	5.0	62	6			
6986	SVC-PAN3	13.200	C1	0.0	-27.1	150.0	-30.0	1.0000	27.1	0.0000	180.0	60	6			
6996	SVC-LSA	13.200	C1	0.0	-13.0	120.0	-30.0	1.0106	12.9	0.0000	150.0	63	6			
6998	SVC-PAN2	13.200	C1	0.0	9.8	120.0	-30.0	1.0270	9.6	0.0000	150.0	61	6			

SUBSYSTEM TOTALS 2238.8 -138.6 1582.9 -1063.0 3977.8

 PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:56
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA LLUVIOSA

AREA 7 [ACANAL] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6134		MADG1		6.9000	G1	11.3	1.6	6.0	-6.0	1.0000	11.4	0.9905	13.0			65	7	
6135		MADG2		6.9000	G2	11.3	1.4	6.0	-6.0	1.0000	11.4	0.9926	13.0			65	7	
6136		MADG3		6.9000	G3	11.3	3.1	6.0	-6.0	1.0100	11.6	0.9633	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-1.1	2.0	-2.0	1.0100	3.0	0.9359	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-1.1	2.0	-2.0	1.0100	3.0	0.9359	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-1.1	2.0	-2.0	1.0100	3.0	0.9359	4.1			65	7	
6140		GAT6A		6.9000	G4	4.2	-1.6	3.0	-3.0	1.0100	4.5	0.9359	5.6			65	7	
6140		GAT6A		6.9000	G5	4.2	-1.6	3.0	-3.0	1.0100	4.5	0.9359	6.2			65	7	
6140		GAT6A		6.9000	G6	4.2	-1.6	3.0	-3.0	1.0100	4.5	0.9359	6.2			65	7	
SUBSYSTEM TOTALS						55.0	-1.9	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:30
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA LLUVIOSA

BUSES WITH VOLTAGE GREATER THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6000		FRONTPRO		230.00	6	1.0067	231.54	6001		PAN230		230.00	6	1.0177	234.07
6002		PAN115		115.00	6	1.0307	118.53	6003		PANII230		230.00	6	1.0200	234.60
6004		PANII115		115.00	6	1.0410	119.72	6005		CHO230		230.00	6	1.0260	235.98
6008		LSA230		230.00	6	1.0200	234.60	6009		LSA115		115.00	6	1.0172	116.97
6011		MDN230		230.00	6	1.0086	231.97	6012		MDN115		115.00	6	1.0119	116.36
6014		PRO230		230.00	6	1.0062	231.43	6015		PRO115		115.00	6	1.0035	115.40
6018		CAC115		115.00	6	1.0301	118.46	6019		CVI115A		115.00	6	1.0275	118.16
6024		CHI115		115.00	6	1.0103	116.18	6027		LOC115A		115.00	6	1.0218	117.51
6032		MAR115A		115.00	6	1.0217	117.50	6036		SMA115		115.00	6	1.0255	117.93
6040		SFR115		115.00	6	1.0180	117.07	6047		CLA115		115.00	6	1.0017	115.19
6055		MOS115B		115.00	6	1.0193	117.22	6057		TOC115		115.00	6	1.0374	119.30
6059		LM1115		115.00	6	1.0125	116.44	6060		LM2115		115.00	6	1.0126	116.45
6074		LMDIST		115.00	6	1.0126	116.44	6087		CAL115		115.00	6	1.0165	116.90
6088		LES115		115.00	6	1.0199	117.28	6092		LVA115		115.00	6	1.0168	116.94
6096		FOR230		230.00	6	1.0093	232.13	6100		BAY230		230.00	6	1.0311	237.16
6105		PAM230		230.00	6	1.0260	235.98	6115		LBO115		115.00	6	1.0271	118.11
6123		MIR115A		115.00	7	1.0273	118.14	6165		FLO115		115.00	6	1.0268	118.08
6170		CPA115		115.00	6	1.0167	116.92	6171		PAC230		230.00	6	1.0237	235.44
6173		STR115		115.00	6	1.0180	117.07	6178		EST230		230.00	6	1.0099	232.28
6179		GUA230		230.00	6	1.0100	232.30	6182		VEL230		230.00	6	1.0222	235.10
6210		TIN115		115.00	6	1.0262	118.02	6211		PM115-9		115.00	6	1.0239	117.74
6225		CDE115		115.00	6	1.0177	117.03	6230		CBA115		115.00	6	1.0198	117.28
6240		EHIG230		230.00	6	1.0230	235.29	6245		BNGA230		230.00	6	1.0206	234.73
6250		BVI230		230.00	6	1.0181	234.17	6251		BVI115		115.00	6	1.0227	117.61
6260		CHA230		230.00	6	1.0190	234.37	6261		CHA115		115.00	6	1.0077	115.89
6263		ESP230		230.00	6	1.0198	234.54	6270		CAT115		115.00	6	1.0126	116.44
6275		CHG500		500.00	6	1.0189	509.44	6276		CHG230		230.00	6	1.0112	232.57
6280		GIR115		115.00	6	1.0167	116.92	6290		CATII115		115.00	6	1.0131	116.51
6309		PAN3 500		500.00	6	1.0240	511.99	6310		PAN3 230		230.00	6	1.0197	234.53
6311		PAN3 115		115.00	6	1.0265	118.04	6314		SAB500		500.00	6	1.0265	513.25
6315		MET230		230.00	6	1.0462	240.62	6317		CHE		230.00	6	1.0292	236.71
6318		SAB230		230.00	6	1.0269	236.19	6330		BAI230		230.00	6	1.0071	231.63
6340		CAN230		230.00	6	1.0105	232.41	6350		PM115-8		115.00	6	1.0238	117.74
6360		GLA230		230.00	6	1.0146	233.36	6363		ZAM230		230.00	6	1.0195	234.49
6366		EVA230		230.00	6	1.0223	235.14	6370		PET230		230.00	6	1.0116	232.68
6372		PRI230		230.00	6	1.0242	235.58	6375		CHANII230		230.00	6	1.0113	232.61
6380		BOQIII230		230.00	6	1.0062	231.42	6400		FRONTCHA		230.00	6	1.0204	234.69
6401		PM230-29		230.00	6	1.0104	232.39	6415		TVA230		230.00	6	1.0114	232.63
6430		GENLLS		115.00	6	1.0172	116.97	6434		ODA115		115.00	6	1.0171	116.97
6440		DOM230		230.00	6	1.0055	231.26	6441		PRIM230		230.00	6	1.0054	231.23
6442		ALT230		230.00	6	1.0047	231.08	6443		PARE230		230.00	6	1.0050	231.15
6460		ECO230		230.00	6	1.0231	235.31	6470		24DIC230		230.00	6	1.0222	235.10
6485		ANT230		230.00	6	1.0299	236.87	6490		BON115		115.00	6	1.0077	115.89
6500		FRONTDOM		230.00	6	1.0065	231.50	6601		COP230		230.00	6	1.0225	235.17
6680		BFR230		230.00	6	1.0072	231.64	6681		LPO230		230.00	6	1.0072	231.65
6683		SAL230		230.00	6	1.0072	231.65	6760		SBA230		230.00	6	1.0310	237.14
6761		SBA115		115.00	6	1.0025	115.29	6790		SMA82		230.00	6	1.0210	234.83
6840		BUR230		230.00	6	1.0067	231.54	6860		BBL230		230.00	6	1.0222	235.11
6915		SCR115		115.00	6	1.0080	115.92	6985		SVC-PAN3		230.00	6	1.0197	234.53
6990		REACTOR1		500.00	6	1.0189	509.44	6991		REACTOR2		500.00	6	1.0240	511.99
6992		REACTOR3		500.00	6	1.0189	509.44	6993		REACTOR4		500.00	6	1.0240	511.99
6995		SVC-LSA		230.00	6	1.0200	234.60	6997		SVC-PAN2		230.00	6	1.0200	234.60
6999		BAR115		115.00	6	1.0125	116.44	56050		RCL230A		230.00	5	1.0072	231.65
56052		RCL230B		230.00	5	1.0072	231.65	58350		CAH230		230.00	5	1.0221	235.09

BUSES WITH VOLTAGE LESS THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6064		MES115		115.00	6	0.9988	114.86	6066		FFIELD		115.00	6	0.9998	114.98
6331		BAI115		115.00	6	0.9937	114.28	6332		BAM115		115.00	6	0.9996	114.95
6730		SAN115		115.00	6	0.9997	114.97	6980		BKO115		115.00	6	0.9998	114.98

Año 2025

Demanda Máxima de Verano

Diagrama del Sistema Principal de Transmisión

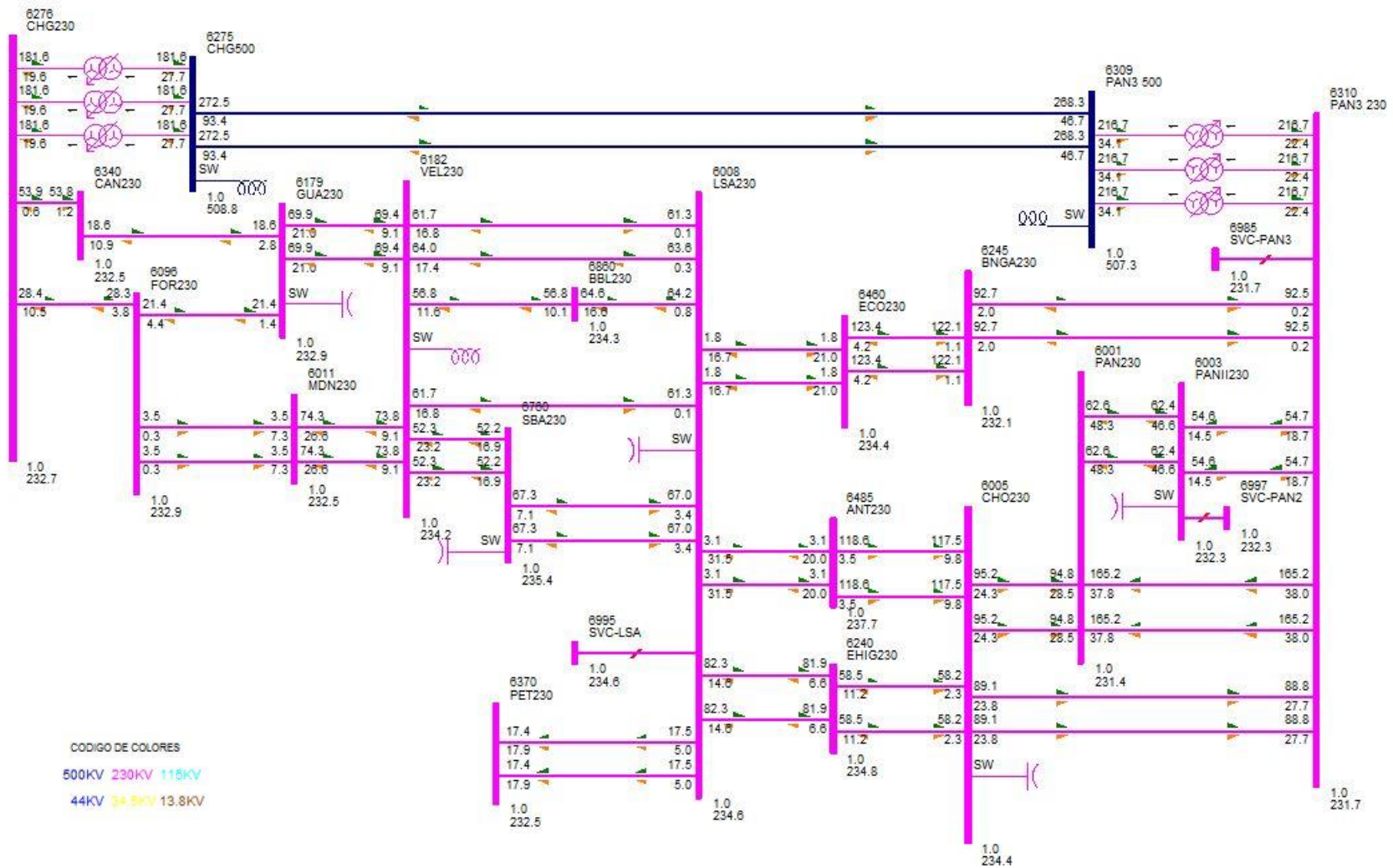


Diagrama de Panamá Atlántico

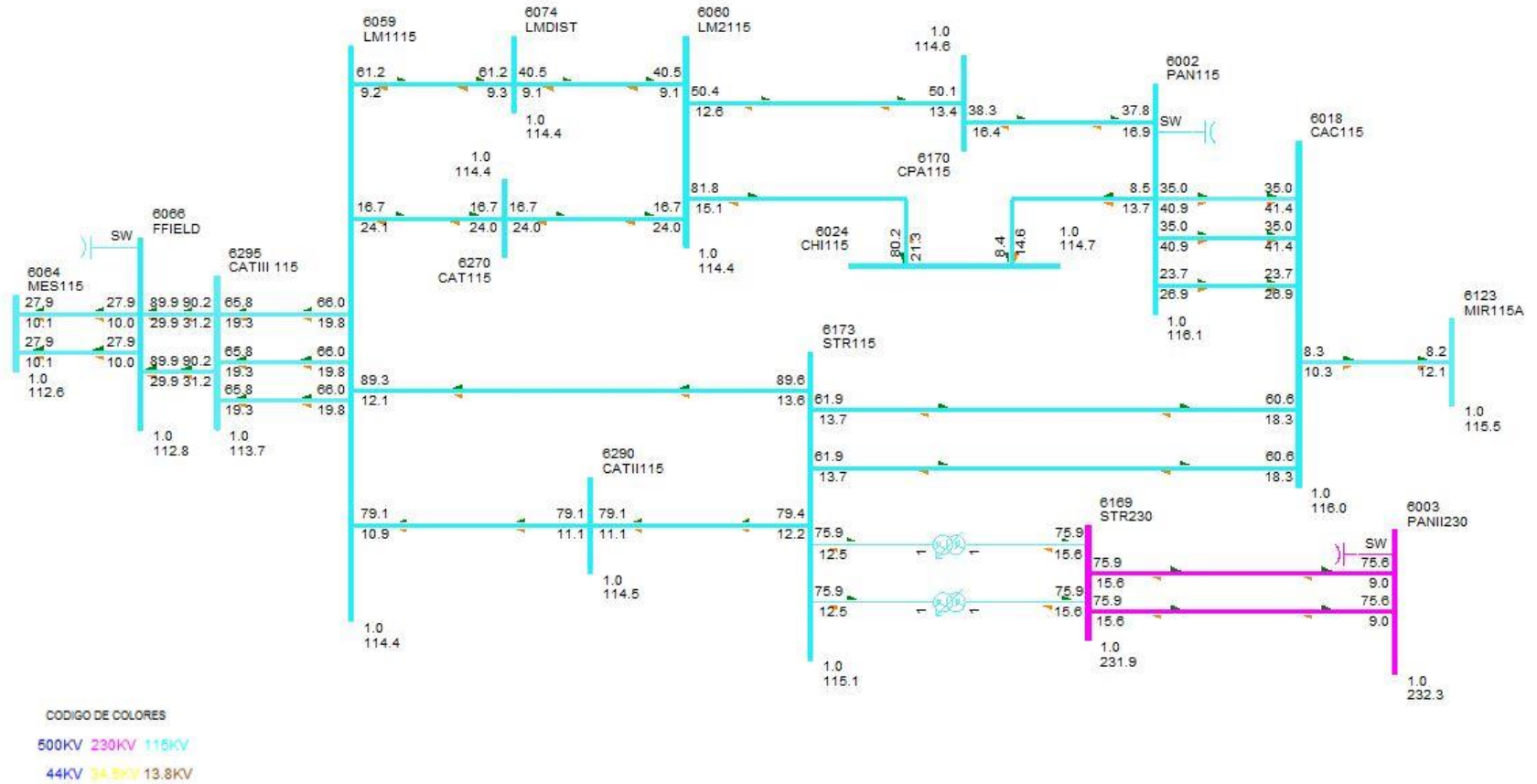


Diagrama de Panamá Este

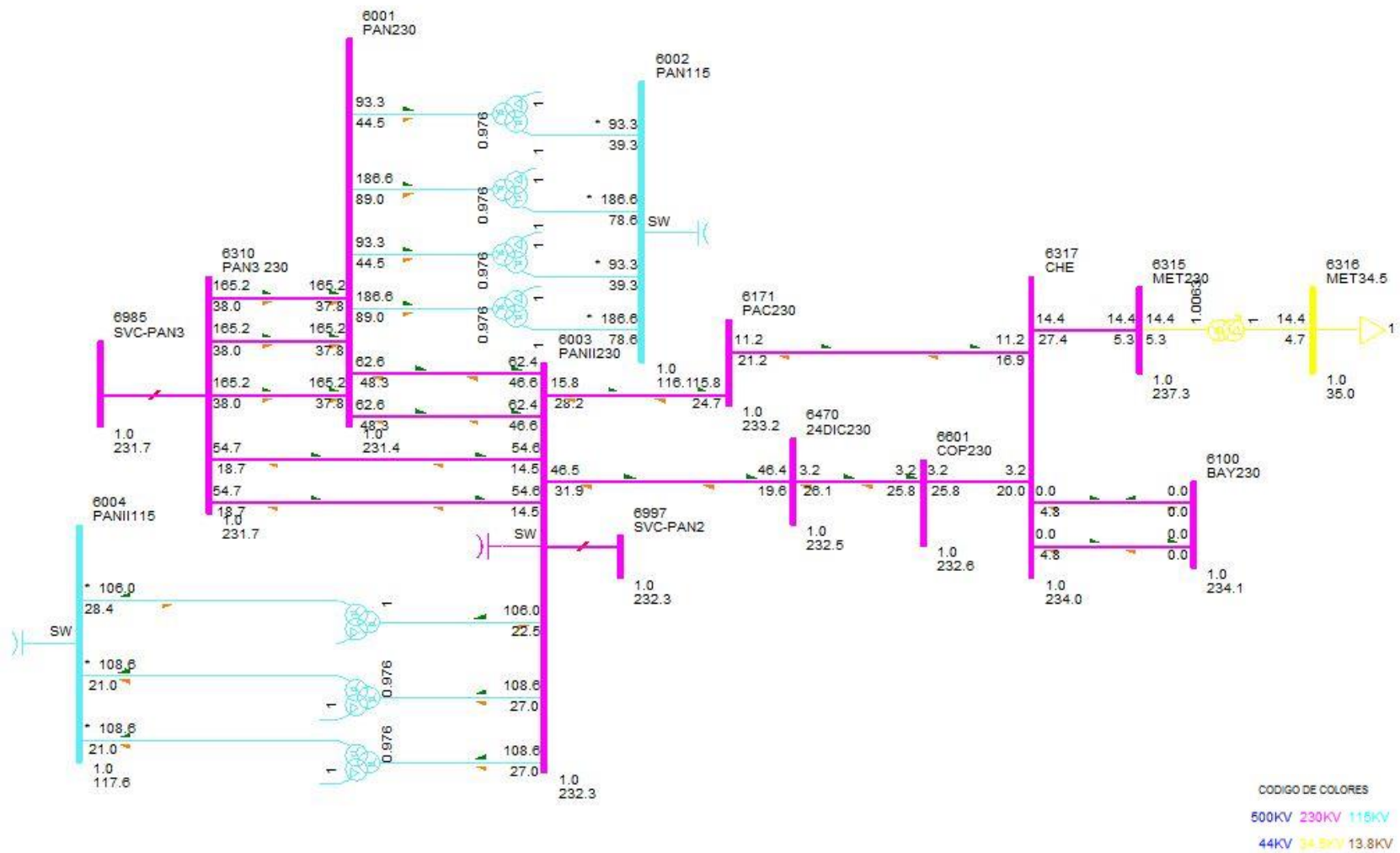
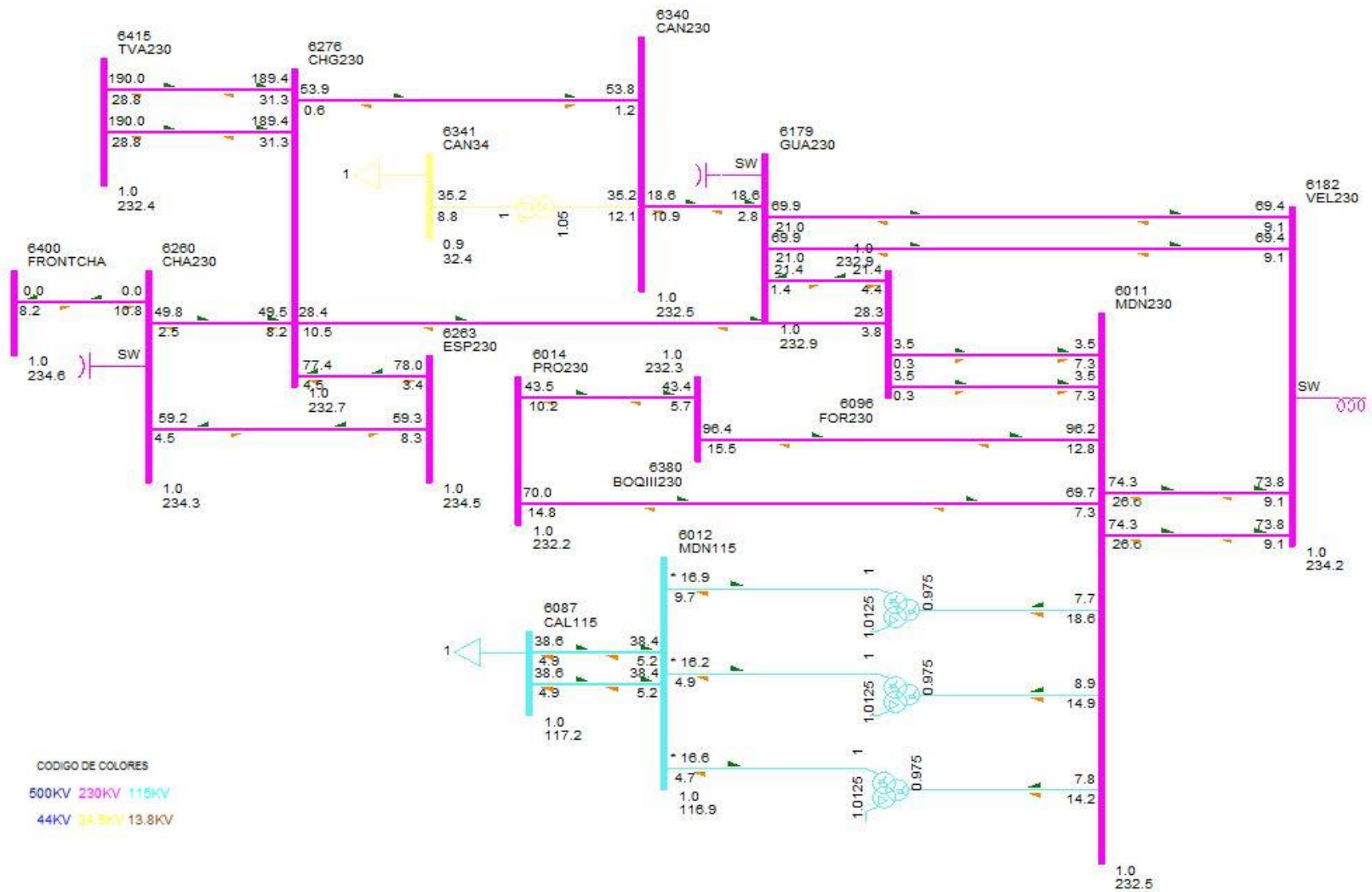


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:50
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MAXIMA
 PLAN DE EXPANSIÓN 2015 - EPOCA SECA

AREA 6 [PANAMA] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6071		BLMG2		13.800	V2	25.0	3.1	15.0	0.0	1.0000	25.2	0.9923	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	3.1	15.0	0.0	1.0000	25.2	0.9923	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	3.2	15.0	0.0	1.0000	25.2	0.9918	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9836	40.9*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	12.0	4.4	12.0	-5.0	1.0100	12.7	0.9389	27.0			64	6	
6091		LESG2		13.800	E2	12.0	4.4	12.0	-5.0	1.0100	12.7	0.9389	27.0			64	6	
6094		LVAG1		13.800	L1	13.0	-2.5	12.0	-5.0	1.0100	13.1	0.9821	27.0			64	6	
6095		LVAG2		13.800	L2	13.0	-2.5	12.0	-5.0	1.0100	13.1	0.9821	27.0			64	6	
6103		BAR13A		13.800	G1	9.8	1.1	5.7	-5.7	1.0000	9.8	0.9936	12.9			62	6	
6103		BAR13A		13.800	G2	9.8	1.1	5.7	-5.7	1.0000	9.8	0.9936	12.9			62	6	
6103		BAR13A		13.800	G3	9.8	1.1	5.7	-5.7	1.0000	9.8	0.9936	12.9			62	6	
6103		BAR13A		13.800	G4	9.8	1.1	5.7	-5.7	1.0000	9.8	0.9936	12.9			62	6	
6104		BAR13B		13.800	G1	9.8	1.3	5.7	-5.7	1.0000	9.9	0.9919	12.9			62	6	
6104		BAR13B		13.800	G2	9.8	1.3	5.7	-5.7	1.0000	9.9	0.9919	12.9			62	6	
6104		BAR13B		13.800	G3	9.8	1.3	5.7	-5.7	1.0000	9.9	0.9919	12.9			62	6	
6106		PAM 13A		13.800	M1	15.2	6.0	9.0	0.0	0.9800	16.7	0.9305	20.7			63	6	
6106		PAM 13A		13.800	M2	15.2	6.0	9.0	0.0	0.9800	16.7	0.9305	20.7			63	6	
6106		PAM 13A		13.800	M3	15.2	6.0	9.0	0.0	0.9800	16.7	0.9305	20.7			63	6	
6107		PAM 13B		13.800	M4	15.2	6.0	9.0	0.0	0.9800	16.7	0.9305	20.7			63	6	
6107		PAM 13B		13.800	M5	15.2	6.0	9.0	0.0	0.9800	16.7	0.9305	20.7			63	6	
6107		PAM 13B		13.800	M6	15.2	6.0	9.0	0.0	0.9800	16.7	0.9305	20.7			63	6	
6108		PAM 13B		13.800	M7	15.2	9.0	9.0	0.0	1.0000	17.6	0.8612	20.7			63	6	
6108		PAM 13B		13.800	M8	15.2	9.0	9.0	0.0	1.0000	17.6	0.8612	20.7			63	6	
6108		PAM 13B		13.800	M9	15.2	9.0	9.0	0.0	1.0000	17.6	0.8612	20.7			63	6	
6158		MIRG9		13.800	G9	37.0	-5.3	22.1	-20.7	1.0000	37.4	0.9898	49.2			65	6	
6159		MIRG10		13.800	G0	37.0	-5.3	22.1	-20.7	1.0000	37.4	0.9898	49.2			65	6	
6172		PAC 13A		13.800	P1	17.0	9.0	9.0	-11.0	0.9783	19.6*	0.8832	21.7			61	6	
6176		ESTG1		13.800	E1	33.0	2.8	29.0	-29.0	1.0100	32.8	0.9963	69.0			64	6	
6177		ESTG2		13.800	E2	33.0	2.8	29.0	-29.0	1.0100	32.8	0.9963	69.0			64	6	
6264		CHANG1		13.800	G1	67.8	0.2	50.8	-50.8	1.0100	67.1	1.0000	116.5			64	6	SYST
6265		CHANG2		13.800	G2	61.0	-0.2	50.8	-50.8	1.0100	60.4	1.0000	116.5			64	6	
6268		CHANG3		6.9000	G3	8.7	1.3	4.8	-3.8	1.0100	8.7	0.9890	10.9			65	6	
6305		ALG 13A		13.800	A1	1.5	-1.0	2.3	-2.3	1.0000	1.8	0.8291	5.7			64	6	
6305		ALG 13A		13.800	A2	1.5	-1.0	2.3	-2.3	1.0000	1.8	0.8291	5.7			64	6	
6306		MEN 13A		13.800	M1	2.5	3.7	4.2	-4.2	0.9850	4.6	0.5554	10.4			64	6	
6306		MEN 13A		13.800	M2	2.5	3.7	4.2	-4.2	0.9850	4.6	0.5554	10.4			64	6	
6307		COC 13A		34.500	G1	2.5	-4.5	6.5	-5.7	1.0075	5.1	0.4898	8.4			64	6	
6307		COC 13A		34.500	G2	2.5	-3.3	3.3	-3.3	1.0075	4.1*	0.6014	8.4			64	6	
6308		MENII 13A		13.800	G1	1.8	0.0	1.9	0.0	1.0007	1.7	1.0000	4.1			64	6	
6308		MENII 13A		13.800	G2	1.8	0.0	1.9	0.0	1.0007	1.7	1.0000	4.1			64	6	
6333		BAMG1		13.800	G1	15.0	-0.2	10.0	-10.0	1.0000	15.0	0.9999	30.0			64	6	
6334		BAMG2		13.800	G2	15.0	-0.2	10.0	-10.0	1.0000	15.0	0.9999	30.0			64	6	
6335		BAIG1		13.800	G1	26.0	-6.4	14.0	-14.0	1.0000	26.8	0.9709	49.0			64	6	
6336		BAIG2		13.800	G2	26.0	-6.4	14.0	-14.0	1.0000	26.8	0.9709	49.0			64	6	
6352		HCAL4.16		4.2000	G1	1.5	-1.3	1.5	-1.5	1.0080	2.0	0.7573	3.4			64	6	

6352	HCAL4.16	4.2000	G2	1.5	-1.3	1.5	-1.5	1.0080	2.0	0.7573	3.4	64	6
6361	GLAG1	13.800	G1	4.0	-5.4	7.8	-7.0	1.0060	6.7	0.5969	14.1	64	6
6362	GLAG2	13.800	G2	4.0	-5.4	7.8	-7.0	1.0060	6.7	0.5969	14.1	64	6
6364	LORG1	13.800	G1	4.0	-5.0	7.8	-7.0	1.0075	6.4	0.6215	25.0	64	6
6365	LORG2	13.800	G2	4.0	-5.0	7.8	-7.0	1.0075	6.4	0.6215	25.0	64	6
6367	PRUG1	13.800	G1	9.0	-5.5	8.0	-8.0	1.0075	10.5	0.8522	33.0	64	6
6368	PRUG2	13.800	G2	9.0	-5.5	8.0	-8.0	1.0075	10.5	0.8522	33.0	64	6
6373	PRIG1	13.800	G1	141.3	8.8	92.2	-92.2	1.0000	141.6	0.9981	175.0	63	6
6374	PRIG2	13.800	G2	141.3	8.8	92.2	-92.2	1.0000	141.6	0.9981	175.0	63	6
6376	CHANIIG1	13.800	G1	61.0	-13.2	35.2	-35.2	1.0000	62.4	0.9775	112.6	64	6
6377	CHANIIG2	13.800	G2	61.0	-13.2	35.2	-35.2	1.0000	62.4	0.9775	112.6	64	6
6386	PEDI 13A	13.800	G1	2.0	0.3	6.2	-6.8	1.0000	2.0	0.9920	12.5	64	6
6386	PEDI 13A	13.800	G2	2.0	0.3	6.2	-6.8	1.0000	2.0	0.9920	12.5	64	6
6387	PEDII 13A	13.800	G1	3.5	-0.5	3.3	-3.3	1.0000	3.5	0.9912	7.1	64	6
6387	PEDII 13A	13.800	G2	3.5	-0.5	3.3	-3.3	1.0000	3.5	0.9912	7.1	64	6
6388	MACG1	0.6900	G1	1.0	-0.3	1.0	-0.8	1.0000	1.1	0.9472	2.1	64	6
6389	MACG2	0.6900	G2	1.0	-0.3	1.0	-0.8	1.0000	1.1	0.9472	2.1	64	6
6390	CON 4.16A	4.1600	G1	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9997	6.3	64	6
6390	CON 4.16A	4.1600	G2	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9997	6.3	64	6
6391	PAAG1	2.1400	G1	1.0	0.3	1.0	-0.8	1.0000	1.1	0.9518	3.5	64	6
6392	PAAG2	2.1400	G2	1.0	0.3	1.0	-0.8	1.0000	1.1	0.9518	3.5	64	6
6394	LPN 4.16A	4.1600	G1	2.5	-0.1	1.0	-0.8	1.0000	2.5	0.9994	6.3	64	6
6394	LPN 4.16A	4.1600	G2	2.5	-0.1	1.0	-0.8	1.0000	2.5	0.9994	6.3	64	6
6395	LPS 4.16A	4.1600	G1	2.5	-0.1	1.0	-0.8	1.0000	2.5	0.9994	6.3	64	6
6395	LPS 4.16A	4.1600	G2	2.5	-0.1	1.0	-0.8	1.0000	2.5	0.9994	6.3	64	6
6396	RP4G1	6.6000	G1	1.0	0.0	4.6	-2.3	1.0000	1.0	0.9988	7.3	64	6
6397	RP4G2	6.6000	G2	1.0	0.0	4.6	-2.3	1.0000	1.0	0.9988	7.3	64	6
6403	CDP4.16	4.2000	G1	1.2	-0.1	0.6	-0.8	1.0000	1.3	0.9982	2.5	64	6
6403	CDP4.16	4.2000	G2	1.2	-0.1	0.6	-0.8	1.0000	1.3	0.9982	2.5	64	6
6416	TVA G1	13.800	G1	190.0	-8.7	123.9	-123.9	1.0000	190.2	0.9989	235.0	64	6
6417	TVA G2	13.800	G2	190.0	-8.7	123.9	-123.9	1.0000	190.2	0.9989	235.0	64	6
6420	DOL 4.16A	4.1600	G1	0.5	0.1	0.8	-0.8	1.0000	0.5	0.9771	1.3	64	6
6420	DOL 4.16A	4.1600	G2	0.5	0.1	0.8	-0.8	1.0000	0.5	0.9771	1.3	64	6
6420	DOL 4.16A	4.1600	G3	0.5	0.1	0.8	-0.8	1.0000	0.5	0.9771	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.0	0.1	0.8	-0.8	1.0000	1.0	0.9938	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.0	0.1	0.8	-0.8	1.0000	1.0	0.9938	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.0	0.1	0.8	-0.8	1.0000	1.0	0.9938	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.0	0.2	0.8	-0.8	1.0000	1.0	0.9863	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.0	0.2	0.8	-0.8	1.0000	1.0	0.9863	1.5	64	6
6423	BU1G1	4.1600	G1	1.2	-0.2	1.0	-0.4	1.0000	1.3	0.9924	2.3	64	6
6424	BU1G2	4.1600	G2	1.2	-0.2	1.0	-0.4	1.0000	1.3	0.9924	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.1	0.6	-0.5	1.0000	0.9	0.9975	1.1	64	6
6427	BUGII 4.16	4.2000	G1	1.0	-0.1	1.5	-1.5	1.0000	1.0	0.9941	3.5	64	6
6427	BUGII 4.16	4.2000	G2	1.0	-0.1	1.5	-1.5	1.0000	1.0	0.9941	3.5	64	6
6427	BUGII 4.16	4.2000	G3	0.5	-0.1	0.8	-0.8	1.0000	0.5	0.9941	1.9	64	6
6429	AST4.16	4.2000	G1	2.0	0.3	1.8	-1.8	1.0000	2.0	0.9857	4.5	64	6
6432	YEG 4.16A	4.1600	G1	1.5	-2.2	2.2	-2.2	1.0044	2.7*	0.5547	3.8	64	6
6432	YEG 4.16A	4.1600	G2	1.5	-2.2	2.2	-2.2	1.0044	2.7*	0.5547	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.5	-0.8	0.8	-0.8	1.0044	0.9*	0.5547	1.2	64	6
6433	EFR 4.16A	4.1600	G1	1.5	-1.6	1.6	-1.6	1.0113	2.2*	0.6727	3.2	64	6
6433	EFR 4.16A	4.1600	G2	1.5	-1.6	1.6	-1.6	1.0113	2.2*	0.6727	3.2	64	6
6435	ODA13	13.800	G1	1.0	-0.7	1.6	-1.6	1.0000	1.2	0.8101	3.6	63	6
6435	ODA13	13.800	G2	1.0	-0.7	1.6	-1.6	1.0000	1.2	0.8101	3.6	63	6

6436	LHU13.8	13.800	G1	0.5	-0.7	1.2	-1.2	1.0000	0.9	0.5627	2.8	63	6			
6436	LHU13.8	13.800	G2	0.5	-0.7	1.2	-1.2	1.0000	0.9	0.5627	2.8	63	6			
6439	CHU13.8	13.800	G1	2.0	-0.2	1.2	-1.5	1.0000	2.0	0.9940	4.6	64	6			
6439	CHU13.8	13.800	G2	2.0	-0.2	1.2	-1.5	1.0000	2.0	0.9940	4.6	64	6			
6444	PDOG1	13.800	G1	3.0	-3.2	12.8	-8.3	1.0005	4.4	0.6878	18.5	64	6			
6445	PDOG2	13.800	G2	3.0	-3.2	12.8	-8.3	1.0005	4.4	0.6878	18.5	64	6			
6446	ALTG1	13.800	G1	8.0	-4.9	10.9	-7.6	1.0000	9.4	0.8505	24.9	64	6			
6447	ALTG2	13.800	G2	8.0	-4.9	10.9	-7.6	1.0000	9.4	0.8505	24.9	64	6			
6448	ALTG3	13.800	G3	8.0	-4.9	10.9	-7.6	1.0000	9.4	0.8505	24.9	64	6			
6449	MLIG1	13.800	G1	3.0	-4.2	12.8	-8.3	1.0000	5.2	0.5817	18.5	64	6			
6450	MLIG2	13.800	G2	3.0	-4.2	12.8	-8.3	1.0000	5.2	0.5817	18.5	64	6			
6451	MLIG3	13.800	G3	3.0	-4.2	12.8	-8.3	1.0000	5.2	0.5817	18.5	64	6			
6462	RDVG1	0.6900	E1	71.8	-4.9	23.6	-23.6	1.0000	71.9	0.9977	107.9	64	6			
6463	PORG1	0.6900	E2	33.2	-1.7	10.9	-10.9	1.0000	33.3	0.9987	50.0	64	6			
6464	MARG1	0.6900	E3	12.2	-1.1	4.0	-4.0	1.0000	12.3	0.9962	18.4	64	6			
6465	NCHIG1	0.6900	E4	38.5	-4.7	12.7	-12.7	1.0000	38.8	0.9926	57.9	64	6			
6473	NCHIIG1	0.6900	E5	80.5	-4.4	26.5	-26.5	1.0000	80.6	0.9985	121.1	64	6			
6481	SLOR6	6.0000	G1	1.0	1.5	1.5	-1.7	0.9998	1.8*	0.5547	4.9	64	6			
6481	SLOR6	6.0000	G2	1.0	1.5	1.5	-1.7	0.9998	1.8*	0.5547	4.9	64	6			
6484	ANTG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0652	72.6*	0.9500	110.5	64	6			
6488	TOAG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0652	72.6*	0.9500	110.5	63	6			
6489	TOAG2	0.7000	G2	84.0	27.6	27.6	27.6	1.0673	82.8*	0.9500	126.3	64	6			
6492	BONG1	13.800	G1	3.0	-1.0	4.9	-2.0	1.0000	3.2	0.9514	11.5	64	6			
6493	BONG2	13.800	G2	3.0	-1.0	4.9	-2.0	1.0000	3.2	0.9514	11.5	64	6			
6494	BONG3	13.800	G3	3.0	-1.0	4.9	-2.0	1.0000	3.2	0.9514	11.5	64	6			
6521	JIN4.16A	4.1600	G1	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9987	10.6	62	6			
6522	JIN4.16A	4.1600	G2	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9987	10.6	62	6			
6523	JIN4.16B	4.1600	G3	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9987	10.6	62	6			
6524	JIN4.16B	4.1600	G4	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9987	10.6	62	6			
6525	JIN4.16C	4.1600	G5	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9988	10.6	62	6			
6526	JIN4.16C	4.1600	G6	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9988	10.6	62	6			
6527	JIN4.16C	4.1600	G7	6.5	0.3	1.2	-1.2	1.0000	6.5	0.9988	8.5	62	6			
6605	CEP13.8	13.800	G1	4.8	-0.0	2.3	-2.3	1.0000	4.8	1.0000	5.3	60	6			
6605	CEP13.8	13.800	G2	4.8	-0.0	2.3	-2.3	1.0000	4.8	1.0000	5.3	60	6			
6608	COLG1	2.1000	G1	2.0	-1.0	2.0	-1.3	0.9360	2.4	0.8862	3.9	0.0000	0.2200	1.0000	64	6
6609	COLG2	2.1000	G2	2.0	-1.4	1.8	-1.4	1.0055	2.4*	0.8250	3.9	64	6			
6611	COTG1	4.1600	G1	1.2	-1.0	1.4	-1.0	1.0035	1.6*	0.7922	2.9	64	6			
6612	COTG2	4.1600	G2	1.2	-1.0	1.4	-1.0	1.0035	1.6*	0.7922	2.9	64	6			
6616	HERRG1	4.2000	G1	1.0	-0.9	1.2	-0.9	1.0034	1.4*	0.7363	2.6	64	6			
6617	HERRG2	4.2000	G2	1.0	-0.9	1.2	-0.9	1.0034	1.4*	0.7363	2.6	64	6			
6618	HERRG3	4.2000	G3	0.9	-0.4	0.5	-0.4	1.0037	1.0*	0.9100	1.2	64	6			
6620	MTR13.8	13.800	P1	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6621	MTR13.8	13.800	P2	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6622	MTR13.8	13.800	P3	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6623	MTR13.8	13.800	P4	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6624	MTR13.8	13.800	P5	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6625	MTR13.8	13.800	P6	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6626	MTR13.8	13.800	P7	50.8	1.7	27.0	-33.0	1.0000	50.9	0.9994	65.1	62	6			
6627	MTR13.8	13.800	P8	33.9	0.4	18.0	-22.0	1.0000	33.9	0.9999	43.4	62	6			
6651	BDT4.16	4.2000	G1	2.5	0.3	2.5	-2.5	1.0000	2.5	0.9943	5.6	64	6			
6682	LPO13.8	13.800	G1	5.0	-1.0	7.8	-5.9	1.0000	5.1	0.9795	15.5	64	6			
6682	LPO13.8	13.800	G2	5.0	-1.0	7.8	-5.9	1.0000	5.1	0.9795	15.5	64	6			
6682	LPO13.8	13.800	G3	1.5	-0.3	1.1	-0.9	1.0000	1.5	0.9795	2.3	64	6			

6684	SAL13.8	13.800	G1	5.0	-1.0	7.8	-5.9	1.0000	5.1	0.9794	15.5	64	6
6684	SAL13.8	13.800	G2	5.0	-1.0	7.8	-5.9	1.0000	5.1	0.9794	15.5	64	6
6711	TIZ4.16	4.2000	G1	2.5	0.2	2.2	-2.2	1.0000	2.5	0.9974	5.0	64	6
6721	SIN4.16	4.2000	G1	3.0	-1.4	2.5	-2.5	1.0000	3.3	0.9028	5.6	64	6
6721	SIN4.16	4.2000	G2	3.0	-1.4	2.5	-2.5	1.0000	3.3	0.9028	5.6	64	6
6731	SAN13.8	13.800	G1	3.0	-0.3	2.7	-2.7	1.0000	3.0	0.9953	5.8	64	6
6731	SAN13.8	13.800	G2	3.0	-0.3	2.7	-2.7	1.0000	3.0	0.9953	5.8	64	6
6736	SANII13.8	13.800	G1	3.0	-0.3	1.6	-1.6	1.0000	3.0	0.9936	5.2	64	6
6736	SANII13.8	13.800	G2	3.0	-0.3	1.6	-1.6	1.0000	3.0	0.9936	5.2	64	6
6764	ESCHO13	13.800	G1	2.5	2.6	2.6	-2.6	0.9371	3.8*	0.6931	5.8	63	6
6764	ESCHO13	13.800	G2	2.5	2.6	2.6	-2.6	0.9371	3.8*	0.6931	5.8	63	6
6766	CRU13.8	13.800	G1	6.0	-4.9	4.9	-4.9	1.0267	7.5*	0.7745	12.5	63	6
6766	CRU13.8	13.800	G2	6.0	-4.9	4.9	-4.9	1.0267	7.5*	0.7745	12.5	63	6
6769	LAG13.8	13.800	G1	3.0	0.8	3.4	-3.4	1.0000	3.1	0.9629	7.7	63	6
6769	LAG13.8	13.800	G2	3.0	0.8	3.4	-3.4	1.0000	3.1	0.9629	7.7	63	6
6774	BAR13.8	13.800	G1	4.0	-0.9	4.8	-4.8	1.0000	4.1	0.9769	10.8	63	6
6774	BAR13.8	13.800	G2	4.0	-0.9	4.8	-4.8	1.0000	4.1	0.9769	10.8	63	6
6791	SMA82G1	13.800	G1	5.0	-6.9	6.9	-6.9	1.0105	8.5*	0.5851	15.8	63	6
6792	SMA82G2	13.800	G2	5.0	-6.9	6.9	-6.9	1.0105	8.5*	0.5851	15.8	63	6
6821	PLAII13.8	13.800	G1	1.0	-0.0	1.8	-1.8	1.0000	1.0	1.0000	4.1	64	6
6841	BUR13.8	13.800	G1	12.0	-3.6	15.4	-15.4	1.0000	12.5	0.9570	35.0	64	6
6841	BUR13.8	13.800	G2	12.0	-3.6	15.4	-15.4	1.0000	12.5	0.9570	35.0	64	6
6851	POT4.16	4.2000	G1	2.0	-1.1	2.0	-2.0	1.0000	2.3	0.8781	4.6	64	6
6861	BBL13.8	13.800	G1	3.0	-2.8	6.4	-6.4	1.0000	4.1	0.7367	14.8	64	6
6861	BBL13.8	13.800	G2	3.0	-2.8	6.4	-6.4	1.0000	4.1	0.7367	14.8	64	6
6861	BBL13.8	13.800	G3	1.8	-0.6	0.8	-0.6	1.0000	1.9	0.9436	2.1	64	6
6935	LTR13.8	13.800	G1	0.9	-0.3	0.3	-0.3	1.0015	1.0*	0.9451	1.0	63	6
6940	RPI13.8	13.800	G1	2.0	0.5	2.2	-2.2	1.0000	2.1	0.9728	5.0	62	6
6940	RPI13.8	13.800	G2	2.0	0.5	2.2	-2.2	1.0000	2.1	0.9728	5.0	62	6
6986	SVC-PAN3	13.200	C1	0.0	-10.4	150.0	-30.0	1.0000	10.4	0.0000	180.0	60	6
6996	SVC-LSA	13.200	C1	0.0	-24.7	120.0	-30.0	1.0021	24.6	0.0000	150.0	63	6
6998	SVC-PAN2	13.200	C1	0.0	-10.6	120.0	-30.0	1.0023	10.6	0.0000	150.0	61	6
SUBSYSTEM TOTALS				2752.4	-40.4	2177.6	-1540.9				5016.2		

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:50
SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MAXIMA
PLAN DE EXPANSIÓN 2015 - EPOCA SECA

AREA 7 [ACANAL] MACHINE SUMMARY:

BUS#	X-- NAME	--X BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6134	MADG1	6.9000	G1	4.0	5.1	6.0	-6.0	1.0000	6.4	0.6208	13.0			65	7	
6135	MADG2	6.9000	G2	4.0	4.0	6.0	-6.0	1.0000	5.7	0.7060	13.0			65	7	
6136	MADG3	6.9000	G3	4.0	5.8	6.0	-6.0	1.0100	7.0	0.5664	13.0			65	7	
6140	GAT6A	6.9000	G1	1.0	-0.1	2.0	-2.0	1.0100	1.0	0.9952	4.1			65	7	
6140	GAT6A	6.9000	G2	1.0	-0.1	2.0	-2.0	1.0100	1.0	0.9952	4.1			65	7	
6140	GAT6A	6.9000	G3	1.0	-0.1	2.0	-2.0	1.0100	1.0	0.9952	4.1			65	7	
6140	GAT6A	6.9000	G4	1.5	-0.1	3.0	-3.0	1.0100	1.5	0.9952	5.6			65	7	
6140	GAT6A	6.9000	G5	1.5	-0.1	3.0	-3.0	1.0100	1.5	0.9952	6.2			65	7	
6140	GAT6A	6.9000	G6	1.5	-0.1	3.0	-3.0	1.0100	1.5	0.9952	6.2			65	7	
SUBSYSTEM TOTALS				19.5	14.1	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:49
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MAXIMA
 PLAN DE EXPANSIÓN 2015 - EPOCA SECA

BUSES WITH VOLTAGE GREATER THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6000		FRONTPRO		230.00	6	1.0096	232.20	6001		PAN230		230.00	6	1.0060	231.37
6002		PAN115		115.00	6	1.0096	116.10	6003		PANII230		230.00	6	1.0100	232.30
6004		PANII115		115.00	6	1.0228	117.63	6005		CHO230		230.00	6	1.0192	234.42
6008		LSA230		230.00	6	1.0200	234.60	6009		LSA115		115.00	6	1.0133	116.53
6011		MDN230		230.00	6	1.0111	232.55	6012		MDN115		115.00	6	1.0168	116.93
6014		PRO230		230.00	6	1.0094	232.16	6015		PRO115		115.00	6	1.0061	115.70
6018		CAC115		115.00	6	1.0088	116.01	6019		CVI115A		115.00	6	1.0041	115.47
6036		SMA115		115.00	6	1.0028	115.32	6057		TOC115		115.00	6	1.0174	117.00
6087		CAL115		115.00	6	1.0189	117.18	6088		LES115		115.00	6	1.0215	117.47
6092		LVA115		115.00	6	1.0189	117.17	6096		FOR230		230.00	6	1.0126	232.89
6100		BAY230		230.00	6	1.0179	234.12	6105		PAM230		230.00	6	1.0194	234.47
6115		LBO115		115.00	6	1.0035	115.40	6123		MIR115A		115.00	7	1.0041	115.47
6160		BDG115		115.00	6	1.0186	117.13	6165		FLO115		115.00	6	1.0074	115.85
6169		STR230		230.00	6	1.0084	231.93	6171		PAC230		230.00	6	1.0140	233.21
6173		STR115		115.00	6	1.0012	115.14	6178		EST230		230.00	6	1.0126	232.90
6179		GUA230		230.00	6	1.0126	232.90	6182		VEL230		230.00	6	1.0183	234.22
6210		TIN115		115.00	6	1.0032	115.37	6240		EHIG230		230.00	6	1.0208	234.77
6245		BNGA230		230.00	6	1.0093	232.13	6250		BVI230		230.00	6	1.0039	230.89
6260		CHA230		230.00	6	1.0187	234.29	6261		CHA115		115.00	6	1.0072	115.83
6263		ESP230		230.00	6	1.0196	234.50	6275		CHG500		500.00	6	1.0176	508.80
6276		CHG230		230.00	6	1.0118	232.71	6309		PAN3 500		500.00	6	1.0146	507.29
6310		PAN3 230		230.00	6	1.0076	231.74	6311		PAN3 115		115.00	6	1.0073	115.84
6314		SAB500		500.00	6	1.0175	508.75	6315		MET230		230.00	6	1.0318	237.31
6317		CHE		230.00	6	1.0174	233.99	6318		SAB230		230.00	6	1.0199	234.58
6330		BAI230		230.00	6	1.0093	232.13	6331		BAI115		115.00	6	1.0026	115.30
6332		BAM115		115.00	6	1.0054	115.62	6340		CAN230		230.00	6	1.0107	232.47
6360		GLA230		230.00	6	1.0135	233.10	6363		ZAM230		230.00	6	1.0145	233.34
6366		EVA230		230.00	6	1.0153	233.51	6370		PET230		230.00	6	1.0108	232.49
6372		PRI230		230.00	6	1.0231	235.30	6375		CHANII230		230.00	6	1.0109	232.51
6380		BOQIII230		230.00	6	1.0102	232.34	6400		FRONTCHA		230.00	6	1.0201	234.61
6401		PM230-29		230.00	6	1.0123	232.83	6415		TVA230		230.00	6	1.0104	232.38
6430		GENLLS		115.00	6	1.0133	116.53	6434		ODA115		115.00	6	1.0132	116.52
6440		DOM230		230.00	6	1.0057	231.32	6441		PRIM230		230.00	6	1.0049	231.14
6442		ALT230		230.00	6	1.0042	230.97	6443		PARE230		230.00	6	1.0050	231.15
6460		ECO230		230.00	6	1.0189	234.36	6470		24DIC230		230.00	6	1.0108	232.49
6485		ANT230		230.00	6	1.0335	237.70	6490		BON115		115.00	6	1.0072	115.83
6500		FRONTDOM		230.00	6	1.0074	231.70	6601		COP230		230.00	6	1.0111	232.56
6680		BFR230		230.00	6	1.0094	232.15	6681		LPO230		230.00	6	1.0094	232.15
6683		SAL230		230.00	6	1.0094	232.15	6730		SAN115		115.00	6	1.0054	115.62
6760		SBA230		230.00	6	1.0235	235.40	6761		SBA115		115.00	6	1.0088	116.01
6790		SMA82		230.00	6	1.0201	234.63	6840		BUR230		230.00	6	1.0091	232.10
6860		BBL230		230.00	6	1.0187	234.30	6910		GON115		115.00	6	1.0168	116.93
6915		SCR115		115.00	6	1.0119	116.37	6985		SVC-PAN3		230.00	6	1.0076	231.74
6990		REACTOR1		500.00	6	1.0176	508.80	6991		REACTOR2		500.00	6	1.0146	507.29
6992		REACTOR3		500.00	6	1.0176	508.80	6993		REACTOR4		500.00	6	1.0146	507.29
6995		SVC-LSA		230.00	6	1.0200	234.60	6997		SVC-PAN2		230.00	6	1.0100	232.30

BUSES WITH VOLTAGE LESS THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6024		CHI115		115.00	6	0.9972	114.68	6027		LOC115A		115.00	6	0.9962	114.57
6032		MAR115A		115.00	6	0.9965	114.60	6040		SFR115		115.00	6	0.9900	113.85
6047		CLA115		115.00	6	0.9972	114.68	6055		MOS115B		115.00	6	0.9938	114.29
6059		LM1115		115.00	6	0.9945	114.37	6060		LM2115		115.00	6	0.9946	114.38
6064		MES115		115.00	6	0.9792	112.61	6066		FFIELD		115.00	6	0.9805	112.75
6074		LMDIST		115.00	6	0.9946	114.38	6170		CPA115		115.00	6	0.9965	114.60
6211		PM115-9		115.00	6	0.9999	114.99	6225		CDE115		115.00	6	0.9915	114.03
6230		CBA115		115.00	6	0.9929	114.18	6251		BVI115		115.00	6	0.9981	114.78
6270		CAT115		115.00	6	0.9946	114.38	6280		GIR115		115.00	6	0.9965	114.60
6290		CATII115		115.00	6	0.9952	114.45	6295		CATIII 115		115.00	6	0.9889	113.73
6350		PM115-8		115.00	6	0.9997	114.97	6980		BKO115		115.00	6	0.9805	112.76
6999		BAR115		115.00	6	0.9949	114.41								

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

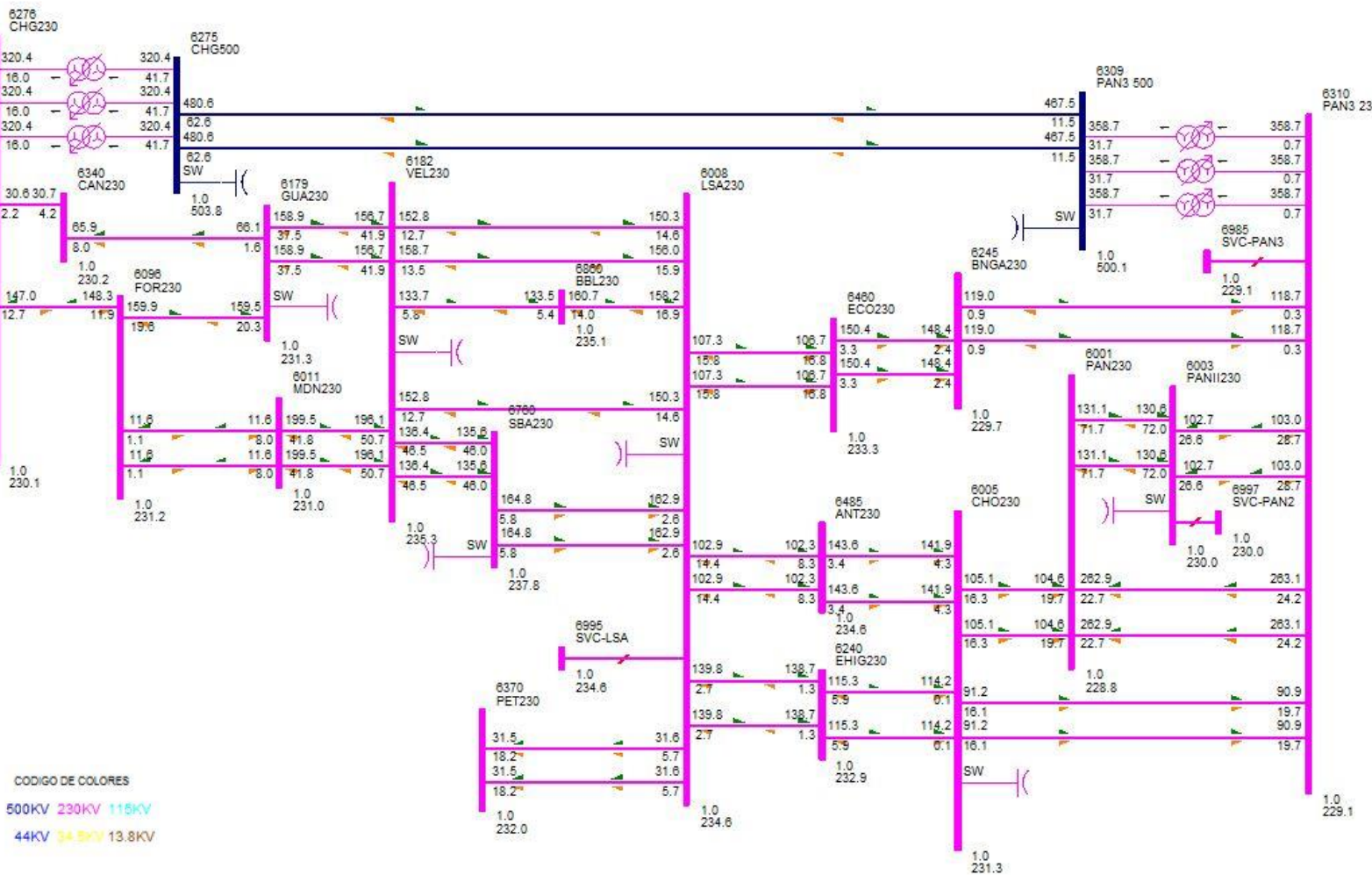
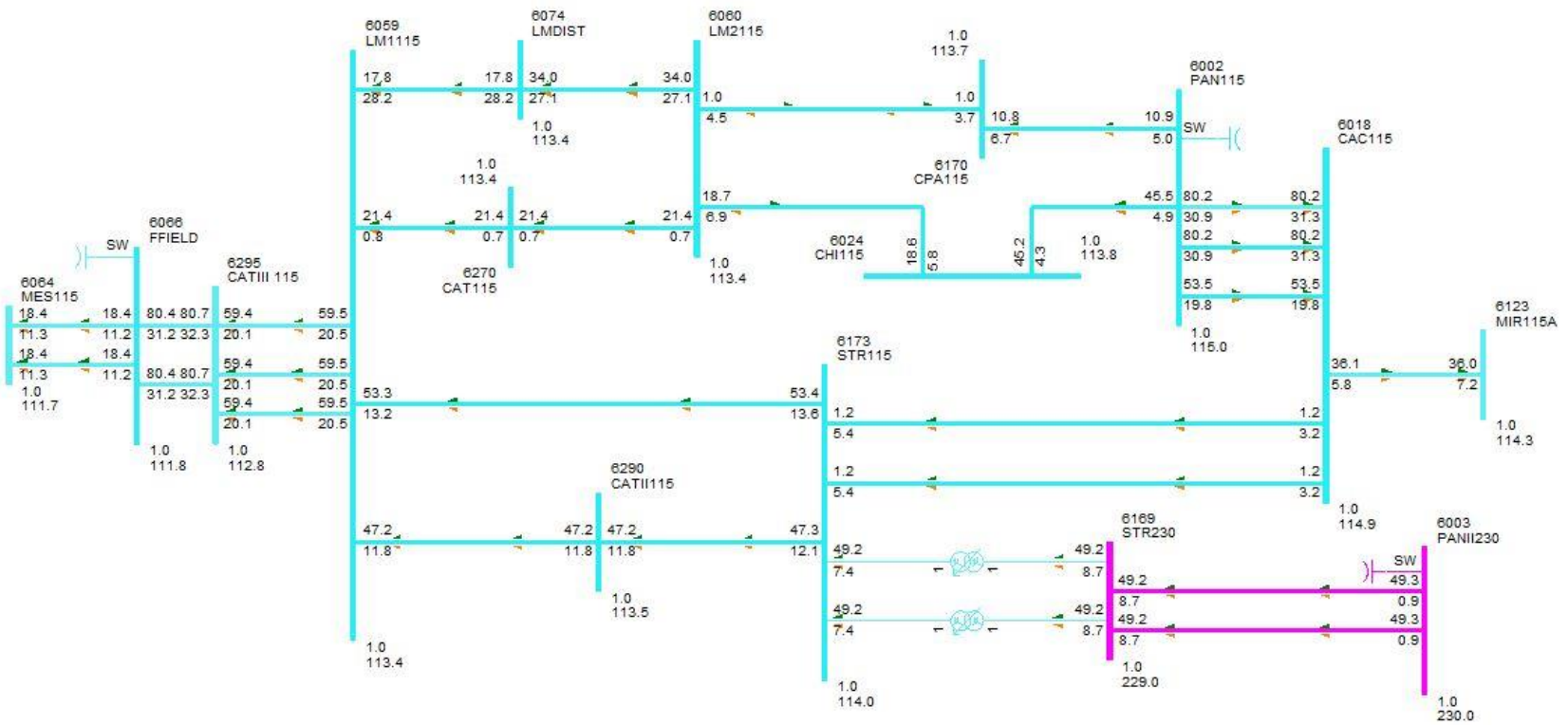


Diagrama de Panamá Atlántico



CODIGO DE COLORES
 500KV 230KV 115KV
 44KV 34.5KV 13.8KV

Diagrama de Panamá Este

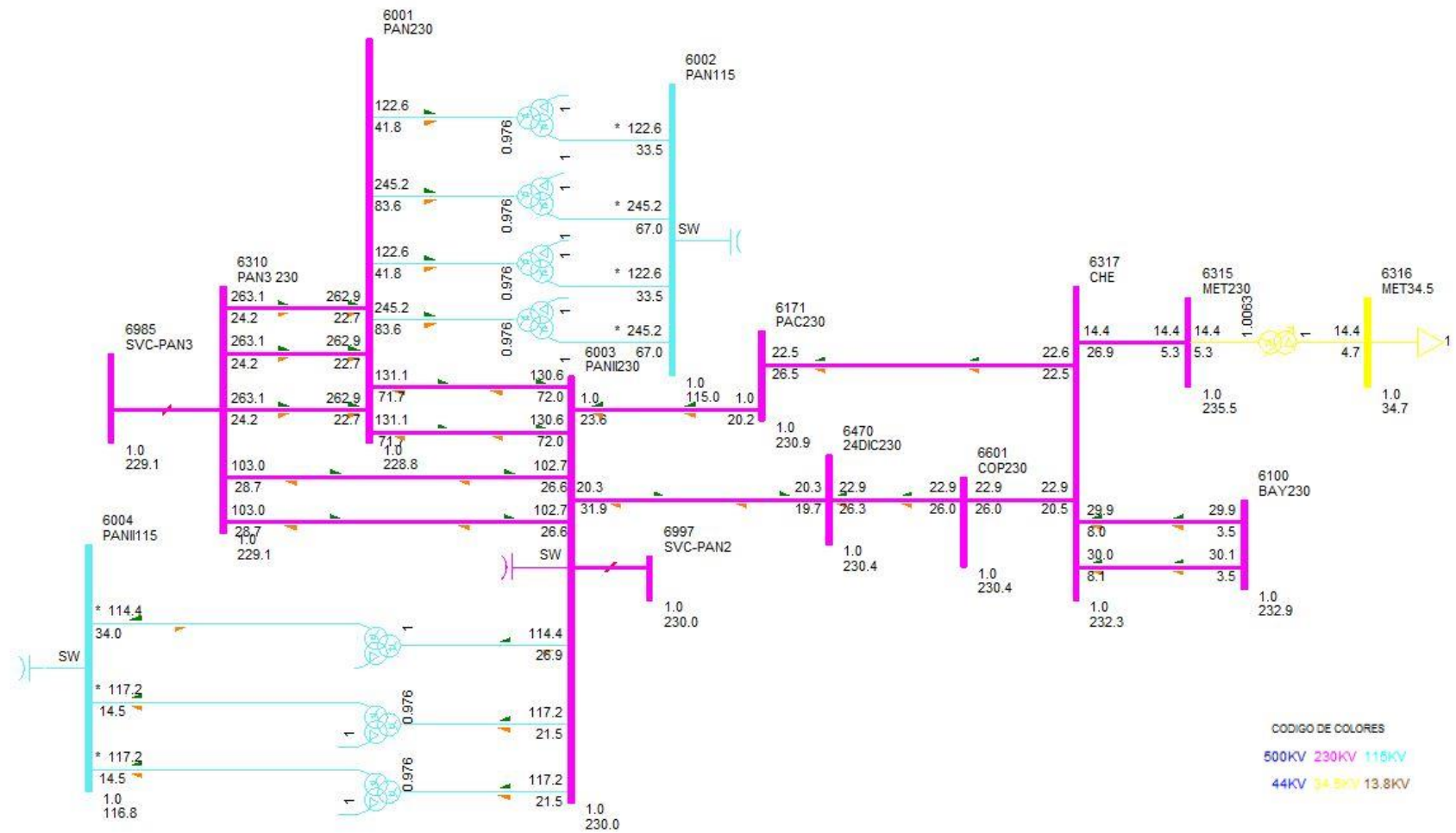
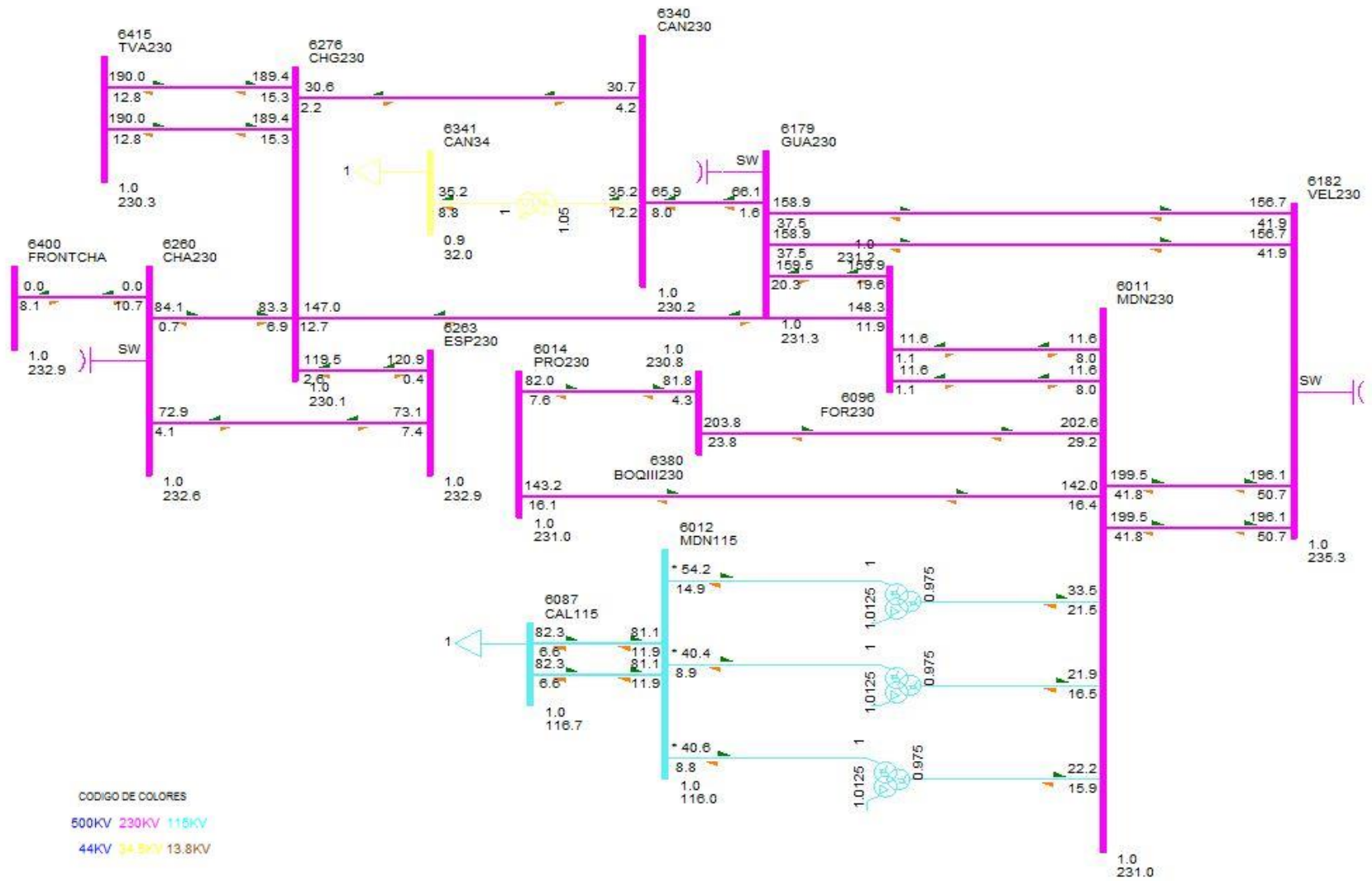


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:44
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MAXIMA
 PLAN DE EXPANSIÓN 2015 - EPOCA LLUVIOSA

AREA 6 [PANAMA] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6071		BLMG2		13.800	V2	25.0	6.9	15.0	0.0	1.0000	25.9	0.9644	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	6.9	15.0	0.0	1.0000	25.9	0.9644	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	7.1	15.0	0.0	1.0000	26.0	0.9615	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9754	41.3*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	22.4	6.0	12.0	-5.0	1.0100	23.0	0.9661	27.0			64	6	
6091		LESG2		13.800	E2	22.4	6.0	12.0	-5.0	1.0100	23.0	0.9661	27.0			64	6	
6094		LVAG1		13.800	L1	26.0	-0.5	12.0	-5.0	1.0100	25.8	0.9998	27.0			64	6	
6095		LVAG2		13.800	L2	26.0	-0.5	12.0	-5.0	1.0100	25.8	0.9998	27.0			64	6	
6097		FORG1		13.800	F1	95.0	0.2	50.0	-50.0	1.0000	95.0	1.0000	111.0			64	6	
6098		FORG2		13.800	F2	95.0	0.2	50.0	-50.0	1.0000	95.0	1.0000	111.0			64	6	
6099		FORG3		13.800	F3	95.0	0.2	50.0	-50.0	1.0000	95.0	1.0000	111.0			64	6	
6101		BAYG1		13.800	B1	60.0	11.8	30.0	-25.0	1.0000	61.2	0.9811	94.0			61	6	
6176		ESTG1		13.800	E1	57.0	10.8	29.0	-29.0	1.0100	57.4	0.9824	69.0			64	6	
6177		ESTG2		13.800	E2	57.0	10.8	29.0	-29.0	1.0100	57.4	0.9824	69.0			64	6	
6264		CHANG1		13.800	G1	88.4	7.7	50.8	-50.8	1.0100	87.8	0.9963	116.5			64	6	SYST
6265		CHANG2		13.800	G2	97.0	8.6	50.8	-50.8	1.0100	96.4	0.9960	116.5			64	6	
6268		CHANG3		6.9000	G3	8.7	1.3	4.8	-3.8	1.0100	8.7	0.9890	10.9			65	6	
6305		ALG 13A		13.800	A1	4.8	-0.9	2.3	-2.3	1.0000	4.9	0.9847	5.7			64	6	
6305		ALG 13A		13.800	A2	4.8	-0.9	2.3	-2.3	1.0000	4.9	0.9847	5.7			64	6	
6306		MEN 13A		13.800	M1	8.9	4.2	4.2	-4.2	0.9847	10.0*	0.9060	10.4			64	6	
6306		MEN 13A		13.800	M2	8.9	4.2	4.2	-4.2	0.9847	10.0*	0.9060	10.4			64	6	
6307		COC 13A		34.500	G1	7.1	-3.0	6.5	-5.7	1.0075	7.7*	0.9202	8.4			64	6	
6307		COC 13A		34.500	G2	7.1	-3.0	3.3	-3.3	1.0075	7.7*	0.9202	8.4			64	6	
6308		MENII 13A		13.800	G1	3.7	1.0	1.9	0.0	1.0000	3.8	0.9662	4.1			64	6	
6308		MENII 13A		13.800	G2	3.7	1.0	1.9	0.0	1.0000	3.8	0.9662	4.1			64	6	
6333		BAMG1		13.800	G1	26.6	2.4	10.0	-10.0	1.0000	26.7	0.9960	30.0			64	6	
6334		BAMG2		13.800	G2	26.6	2.4	10.0	-10.0	1.0000	26.7	0.9960	30.0			64	6	
6335		BAIG1		13.800	G1	41.9	-2.8	14.0	-14.0	1.0000	42.0	0.9977	49.0			64	6	
6336		BAIG2		13.800	G2	41.9	-2.8	14.0	-14.0	1.0000	42.0	0.9977	49.0			64	6	
6352		HCAL4.16		4.2000	G1	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9587	3.4			64	6	
6352		HCAL4.16		4.2000	G2	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9587	3.4			64	6	
6361		GLAG1		13.800	G1	12.1	-3.1	7.8	-7.0	1.0060	12.4	0.9685	14.1			64	6	
6362		GLAG2		13.800	G2	12.1	-3.1	7.8	-7.0	1.0060	12.4	0.9685	14.1			64	6	
6364		LORG1		13.800	G1	16.1	-5.6	7.8	-7.0	1.0075	16.9	0.9439	25.0			64	6	
6365		LORG2		13.800	G2	16.1	-5.6	7.8	-7.0	1.0075	16.9	0.9439	25.0			64	6	
6367		PRUG1		13.800	G1	27.9	-7.3	8.0	-8.0	1.0075	28.6	0.9670	33.0			64	6	
6368		PRUG2		13.800	G2	27.9	-7.3	8.0	-8.0	1.0075	28.6	0.9670	33.0			64	6	
6373		PRIG1		13.800	G1	141.3	15.5	92.2	-92.2	1.0000	142.2	0.9940	175.0			63	6	
6374		PRIG2		13.800	G2	141.3	15.5	92.2	-92.2	1.0000	142.2	0.9940	175.0			63	6	
6376		CHANIIG1		13.800	G1	101.7	-1.8	35.2	-35.2	1.0000	101.7	0.9998	112.6			64	6	
6377		CHANIIG2		13.800	G2	101.7	-1.8	35.2	-35.2	1.0000	101.7	0.9998	112.6			64	6	
6386		PEDI 13A		13.800	G1	11.9	0.9	6.2	-6.8	1.0000	11.9	0.9969	12.5			64	6	
6386		PEDI 13A		13.800	G2	11.9	0.9	6.2	-6.8	1.0000	11.9	0.9969	12.5			64	6	
6387		PEDII 13A		13.800	G1	6.1	-0.2	3.3	-3.3	1.0000	6.1	0.9993	7.1			64	6	
6387		PEDII 13A		13.800	G2	6.1	-0.2	3.3	-3.3	1.0000	6.1	0.9993	7.1			64	6	

6388	MACG1	0.6900	G1	1.7	-0.3	1.0	-0.8	1.0000	1.7	0.9892	2.1	64	6
6389	MACG2	0.6900	G2	1.7	-0.3	1.0	-0.8	1.0000	1.7	0.9892	2.1	64	6
6390	CON 4.16A	4.1600	G1	4.8	0.2	1.0	-0.8	1.0000	4.8	0.9987	6.3	64	6
6390	CON 4.16A	4.1600	G2	4.8	0.2	1.0	-0.8	1.0000	4.8	0.9987	6.3	64	6
6391	PAAG1	2.1400	G1	2.8	1.0	1.0	-0.8	0.9995	3.0*	0.9427	3.5	64	6
6392	PAAG2	2.1400	G2	2.8	1.0	1.0	-0.8	0.9995	3.0*	0.9427	3.5	64	6
6394	LPN 4.16A	4.1600	G1	4.8	0.8	1.0	-0.8	1.0000	4.8	0.9856	6.3	64	6
6394	LPN 4.16A	4.1600	G2	4.8	0.8	1.0	-0.8	1.0000	4.8	0.9856	6.3	64	6
6395	LPS 4.16A	4.1600	G1	4.8	0.8	1.0	-0.8	1.0000	4.8	0.9856	6.3	64	6
6395	LPS 4.16A	4.1600	G2	4.8	0.8	1.0	-0.8	1.0000	4.8	0.9856	6.3	64	6
6396	RP4G1	6.6000	G1	6.2	0.7	4.6	-2.3	1.0000	6.3	0.9946	7.3	64	6
6397	RP4G2	6.6000	G2	6.2	0.7	4.6	-2.3	1.0000	6.3	0.9946	7.3	64	6
6403	CDP4.16	4.2000	G1	2.1	0.2	0.6	-0.8	1.0000	2.1	0.9959	2.5	64	6
6403	CDP4.16	4.2000	G2	2.1	0.2	0.6	-0.8	1.0000	2.1	0.9959	2.5	64	6
6416	TVA G1	13.800	G1	190.0	7.3	123.9	-123.9	1.0000	190.1	0.9993	235.0	64	6
6417	TVA G2	13.800	G2	190.0	7.3	123.9	-123.9	1.0000	190.1	0.9993	235.0	64	6
6420	DOL 4.16A	4.1600	G1	1.0	0.6	0.8	-0.8	1.0000	1.1	0.8675	1.3	64	6
6420	DOL 4.16A	4.1600	G2	1.0	0.6	0.8	-0.8	1.0000	1.1	0.8675	1.3	64	6
6420	DOL 4.16A	4.1600	G3	1.0	0.6	0.8	-0.8	1.0000	1.1	0.8675	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.5	0.6	0.8	-0.8	1.0000	1.6	0.9332	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.5	0.6	0.8	-0.8	1.0000	1.6	0.9332	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.5	0.6	0.8	-0.8	1.0000	1.6	0.9332	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.2	0.8	0.8	-0.8	0.9999	1.4*	0.8186	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.2	0.8	0.8	-0.8	0.9999	1.4*	0.8186	1.5	64	6
6423	BU1G1	4.1600	G1	2.0	-0.1	1.0	-0.4	1.0000	2.0	0.9973	2.3	64	6
6424	BU1G2	4.1600	G2	2.0	-0.1	1.0	-0.4	1.0000	2.0	0.9973	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.1	0.6	-0.5	1.0000	0.9	0.9967	1.1	64	6
6427	BUGII 4.16	4.2000	G1	3.0	0.0	1.5	-1.5	1.0000	3.0	0.9999	3.5	64	6
6427	BUGII 4.16	4.2000	G2	3.0	0.0	1.5	-1.5	1.0000	3.0	0.9999	3.5	64	6
6427	BUGII 4.16	4.2000	G3	1.7	0.0	0.8	-0.8	1.0000	1.7	0.9999	1.9	64	6
6429	AST4.16	4.2000	G1	3.9	1.8	1.8	-1.8	0.9987	4.3*	0.9074	4.5	64	6
6432	YEG 4.16A	4.1600	G1	2.8	-2.2	2.2	-2.2	1.0043	3.6*	0.7849	3.8	64	6
6432	YEG 4.16A	4.1600	G2	2.8	-2.2	2.2	-2.2	1.0043	3.6*	0.7849	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.9	-0.8	0.8	-0.8	1.0043	1.2*	0.7849	1.2	64	6
6433	EFR 4.16A	4.1600	G1	2.5	-1.6	1.6	-1.6	1.0113	3.0*	0.8383	3.2	64	6
6433	EFR 4.16A	4.1600	G2	2.5	-1.6	1.6	-1.6	1.0113	3.0*	0.8383	3.2	64	6
6435	ODA13	13.800	G1	3.1	-0.7	1.6	-1.6	1.0000	3.1	0.9780	3.6	63	6
6435	ODA13	13.800	G2	3.1	-0.7	1.6	-1.6	1.0000	3.1	0.9780	3.6	63	6
6436	LHU13.8	13.800	G1	2.4	-0.7	1.2	-1.2	1.0000	2.5	0.9598	2.8	63	6
6436	LHU13.8	13.800	G2	2.4	-0.7	1.2	-1.2	1.0000	2.5	0.9598	2.8	63	6
6439	CHU13.8	13.800	G1	4.2	0.0	1.2	-1.5	1.0000	4.2	1.0000	4.6	64	6
6439	CHU13.8	13.800	G2	4.2	0.0	1.2	-1.5	1.0000	4.2	1.0000	4.6	64	6
6444	PDOG1	13.800	G1	15.8	-2.9	12.8	-8.3	1.0005	16.1	0.9841	18.5	64	6
6445	PDOG2	13.800	G2	15.8	-2.9	12.8	-8.3	1.0005	16.1	0.9841	18.5	64	6
6446	ALTG1	13.800	G1	21.3	-4.1	10.9	-7.6	1.0000	21.7	0.9816	24.9	64	6
6447	ALTG2	13.800	G2	21.3	-4.1	10.9	-7.6	1.0000	21.7	0.9816	24.9	64	6
6448	ALTG3	13.800	G3	21.3	-4.1	10.9	-7.6	1.0000	21.7	0.9816	24.9	64	6
6449	MLIG1	13.800	G1	15.8	-4.0	12.8	-8.3	1.0000	16.3	0.9701	18.5	64	6
6450	MLIG2	13.800	G2	15.8	-4.0	12.8	-8.3	1.0000	16.3	0.9701	18.5	64	6
6451	MLIG3	13.800	G3	15.8	-4.0	12.8	-8.3	1.0000	16.3	0.9701	18.5	64	6
6462	RDVG1	0.6900	E1	25.6	-6.9	8.4	-8.4	1.0000	26.5	0.9657	107.9	64	6
6463	PORG1	0.6900	E2	11.9	-2.7	3.9	-3.9	1.0000	12.2	0.9747	50.0	64	6
6464	MARG1	0.6900	E3	4.4	-1.4	1.4	-1.4	1.0000	4.6	0.9530	18.4	64	6

6465	NCHIG1	0.6900	E4	13.8	-4.5	4.5	-4.5	1.0010	14.5	0.9500	57.9		64	6
6473	NCHIG1	0.6900	E5	28.8	-6.8	9.4	-9.4	1.0000	29.5	0.9729	121.1		64	6
6481	SLOR6	6.0000	G1	4.2	1.5	1.5	-1.7	0.9988	4.5*	0.9415	4.9		64	6
6481	SLOR6	6.0000	G2	4.2	1.5	1.5	-1.7	0.9988	4.5*	0.9415	4.9		64	6
6484	ANTG1	0.7000	G1	26.2	8.6	8.6	8.6	1.0331	26.7*	0.9500	110.5		64	6
6488	TOAG1	0.7000	G1	26.2	8.6	8.6	8.6	1.0331	26.7*	0.9500	110.5		63	6
6489	TOAG2	0.7000	G2	30.0	9.9	9.9	9.9	1.0340	30.5*	0.9500	126.3		64	6
6492	BONG1	13.800	G1	9.9	0.1	4.9	-2.0	1.0000	9.9	0.9999	11.5		64	6
6493	BONG2	13.800	G2	9.9	0.1	4.9	-2.0	1.0000	9.9	0.9999	11.5		64	6
6494	BONG3	13.800	G3	9.9	0.1	4.9	-2.0	1.0000	9.9	0.9999	11.5		64	6
6605	CEP13.8	13.800	G1	4.8	0.6	2.3	-2.3	1.0000	4.8	0.9909	5.3		60	6
6605	CEP13.8	13.800	G2	4.8	0.6	2.3	-2.3	1.0000	4.8	0.9909	5.3		60	6
6608	COLG1	2.1000	G1	2.0	-1.0	2.0	-1.3	0.9359	2.4	0.8862	3.9	0.0000 0.2200 1.0000	64	6
6609	COLG2	2.1000	G2	2.0	-1.4	1.8	-1.4	1.0054	2.4*	0.8250	3.9		64	6
6611	COTG1	4.1600	G1	2.4	-1.0	1.4	-1.0	1.0044	2.6*	0.9267	2.9		64	6
6612	COTG2	4.1600	G2	2.4	-1.0	1.4	-1.0	1.0044	2.6*	0.9267	2.9		64	6
6616	HERRG1	4.2000	G1	2.1	-0.9	1.2	-0.9	1.0053	2.3*	0.9187	2.6		64	6
6617	HERRG2	4.2000	G2	2.1	-0.9	1.2	-0.9	1.0053	2.3*	0.9187	2.6		64	6
6618	HERRG3	4.2000	G3	0.9	-0.4	0.5	-0.4	1.0057	1.0*	0.9100	1.2		64	6
6651	BDT4.16	4.2000	G1	4.8	1.6	2.5	-2.5	1.0000	5.0	0.9491	5.6		64	6
6682	LPO13.8	13.800	G1	13.2	-0.0	7.8	-5.9	1.0000	13.3	1.0000	15.5		64	6
6682	LPO13.8	13.800	G2	13.2	-0.0	7.8	-5.9	1.0000	13.3	1.0000	15.5		64	6
6682	LPO13.8	13.800	G3	2.0	-0.0	1.1	-0.9	1.0000	2.0	1.0000	2.3		64	6
6684	SAL13.8	13.800	G1	13.2	0.1	7.8	-5.9	1.0000	13.3	1.0000	15.5		64	6
6684	SAL13.8	13.800	G2	13.2	0.1	7.8	-5.9	1.0000	13.3	1.0000	15.5		64	6
6711	TIZ4.16	4.2000	G1	4.3	0.9	2.2	-2.2	1.0000	4.4	0.9771	5.0		64	6
6721	SIN4.16	4.2000	G1	4.8	-1.1	2.5	-2.5	1.0000	4.9	0.9755	5.6		64	6
6721	SIN4.16	4.2000	G2	4.8	-1.1	2.5	-2.5	1.0000	4.9	0.9755	5.6		64	6
6731	SAN13.8	13.800	G1	4.9	0.3	2.7	-2.7	1.0000	4.9	0.9987	5.8		64	6
6731	SAN13.8	13.800	G2	4.9	0.3	2.7	-2.7	1.0000	4.9	0.9987	5.8		64	6
6736	SANII13.8	13.800	G1	4.7	0.1	1.6	-1.6	1.0000	4.7	0.9998	5.2		64	6
6736	SANII13.8	13.800	G2	4.7	0.1	1.6	-1.6	1.0000	4.7	0.9998	5.2		64	6
6764	ESCHO13	13.800	G1	4.8	2.6	2.6	-2.6	0.9226	5.9*	0.8772	5.8		63	6
6764	ESCHO13	13.800	G2	4.8	2.6	2.6	-2.6	0.9226	5.9*	0.8772	5.8		63	6
6766	CRU13.8	13.800	G1	9.8	-4.9	4.9	-4.9	1.0226	10.7*	0.8950	12.5		63	6
6766	CRU13.8	13.800	G2	9.8	-4.9	4.9	-4.9	1.0226	10.7*	0.8950	12.5		63	6
6769	LAG13.8	13.800	G1	6.5	0.9	3.4	-3.4	1.0000	6.6	0.9902	7.7		63	6
6769	LAG13.8	13.800	G2	6.5	0.9	3.4	-3.4	1.0000	6.6	0.9902	7.7		63	6
6774	BAR13.8	13.800	G1	9.2	1.7	4.8	-4.8	1.0000	9.4	0.9841	10.8		63	6
6774	BAR13.8	13.800	G2	9.2	1.7	4.8	-4.8	1.0000	9.4	0.9841	10.8		63	6
6791	SMA82G1	13.800	G1	13.5	-6.9	6.9	-6.9	1.0112	15.0*	0.8892	15.8		63	6
6792	SMA82G2	13.800	G2	13.5	-6.9	6.9	-6.9	1.0112	15.0*	0.8892	15.8		63	6
6821	PLAII13.8	13.800	G1	3.5	0.1	1.8	-1.8	1.0000	3.5	0.9999	4.1		64	6
6841	BUR13.8	13.800	G1	29.9	-0.9	15.4	-15.4	1.0000	29.9	0.9995	35.0		64	6
6841	BUR13.8	13.800	G2	29.9	-0.9	15.4	-15.4	1.0000	29.9	0.9995	35.0		64	6
6851	POT4.16	4.2000	G1	4.0	-0.7	2.0	-2.0	1.0000	4.0	0.9826	4.6		64	6
6861	BBL13.8	13.800	G1	12.7	-2.9	6.4	-6.4	1.0000	13.0	0.9740	14.8		64	6
6861	BBL13.8	13.800	G2	12.7	-2.9	6.4	-6.4	1.0000	13.0	0.9740	14.8		64	6
6861	BBL13.8	13.800	G3	1.8	-0.4	0.8	-0.6	1.0000	1.8	0.9740	2.1		64	6
6935	LTR13.8	13.800	G1	0.9	-0.3	0.3	-0.3	1.0015	1.0*	0.9451	1.0		63	6
6940	RPI13.8	13.800	G1	4.3	1.3	2.2	-2.2	1.0000	4.5	0.9592	5.0		62	6
6940	RPI13.8	13.800	G2	4.3	1.3	2.2	-2.2	1.0000	4.5	0.9592	5.0		62	6
6986	SVC-PAN3	13.200	C1	0.0	5.2	150.0	-30.0	1.0000	5.2	0.0000	180.0		60	6

6996 SVC-LSA	13.200	C1	0.0	6.8	120.0	-30.0	1.0249	6.7	0.0000	150.0	63	6
6998 SVC-PAN2	13.200	C1	0.0	-20.1	120.0	-30.0	0.9852	20.4	0.0000	150.0	61	6
SUBSYSTEM TOTALS			2836.7	53.0	1867.4	-1359.3				4475.8		

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:44
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MAXIMA
 PLAN DE EXPANSIÓN 2015 - EPOCA LLUVIOSA

AREA 7 [ACANAL] MACHINE SUMMARY:

BUS#	X--	NAME	--X	BASKV	ID	MW	MVAR	QMAX	QMIN	ETERM	CURRENT	PF	MVABASE	X T R A N	GENTAP	ZONE	AREA	SWING
6134		MADG1		6.9000	G1	11.3	4.4	6.0	-6.0	1.0000	12.1	0.9324	13.0			65	7	
6135		MADG2		6.9000	G2	11.3	3.6	6.0	-6.0	1.0000	11.8	0.9527	13.0			65	7	
6136		MADG3		6.9000	G3	11.3	5.4	6.0	-6.0	1.0100	12.4	0.9023	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-0.3	2.0	-2.0	1.0100	2.8	0.9959	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-0.3	2.0	-2.0	1.0100	2.8	0.9959	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-0.3	2.0	-2.0	1.0100	2.8	0.9959	4.1			65	7	
6140		GAT6A		6.9000	G4	4.2	-0.4	3.0	-3.0	1.0100	4.2	0.9959	5.6			65	7	
6140		GAT6A		6.9000	G5	4.2	-0.4	3.0	-3.0	1.0100	4.2	0.9959	6.2			65	7	
6140		GAT6A		6.9000	G6	4.2	-0.4	3.0	-3.0	1.0100	4.2	0.9959	6.2			65	7	
SUBSYSTEM TOTALS						55.0	11.4	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:45
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MAXIMA
 PLAN DE EXPANSIÓN 2015 - EPOCA LLUVIOSA

BUSES WITH VOLTAGE GREATER THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6000		FRONTPRO		230.00	6	1.0049	231.12	6002		PAN115		115.00	6	1.0000	115.00
6004		PANII115		115.00	6	1.0155	116.78	6005		CHO230		230.00	6	1.0055	231.26
6008		LSA230		230.00	6	1.0200	234.60	6009		LSA115		115.00	6	1.0133	116.53
6011		MDN230		230.00	6	1.0045	231.03	6012		MDN115		115.00	6	1.0086	115.99
6014		PRO230		230.00	6	1.0041	230.95	6015		PRO115		115.00	6	1.0007	115.08
6057		TOC115		115.00	6	1.0100	116.15	6087		CAL115		115.00	6	1.0146	116.68
6088		LES115		115.00	6	1.0181	117.09	6092		LVA115		115.00	6	1.0150	116.72
6096		FOR230		230.00	6	1.0053	231.21	6100		BAY230		230.00	6	1.0126	232.89
6105		PAM230		230.00	6	1.0055	231.26	6160		BDG115		115.00	6	1.0110	116.26
6171		PAC230		230.00	6	1.0038	230.88	6178		EST230		230.00	6	1.0054	231.25
6179		GUA230		230.00	6	1.0055	231.27	6182		VEL230		230.00	6	1.0229	235.26
6240		EHIG230		230.00	6	1.0128	232.94	6260		CHA230		230.00	6	1.0112	232.58
6261		CHA115		115.00	6	1.0015	115.18	6263		ESP230		230.00	6	1.0128	232.94
6275		CHG500		500.00	6	1.0077	503.84	6276		CHG230		230.00	6	1.0005	230.11
6309		PAN3 500		500.00	6	1.0001	500.06	6314		SAB500		500.00	6	1.0035	501.77
6315		MET230		230.00	6	1.0240	235.52	6317		CHE		230.00	6	1.0098	232.26
6318		SAB230		230.00	6	1.0086	231.98	6330		BAI230		230.00	6	1.0054	231.25
6340		CAN230		230.00	6	1.0007	230.16	6360		GLA230		230.00	6	1.0105	232.40
6363		ZAM230		230.00	6	1.0156	233.58	6366		EVA230		230.00	6	1.0184	234.24
6370		PET230		230.00	6	1.0088	232.02	6372		PRI230		230.00	6	1.0196	234.51
6375		CHANII230		230.00	6	1.0043	230.98	6380		BOQIII230		230.00	6	1.0034	230.78
6400		FRONTCHA		230.00	6	1.0126	232.89	6401		PM230-29		230.00	6	1.0041	230.94
6415		TVA230		230.00	6	1.0015	230.35	6430		GENLLS		115.00	6	1.0133	116.53
6434		ODA115		115.00	6	1.0133	116.53	6440		DOM230		230.00	6	1.0047	231.09
6441		PRIM230		230.00	6	1.0047	231.09	6442		ALT230		230.00	6	1.0041	230.94
6443		PARE230		230.00	6	1.0044	231.01	6460		ECO230		230.00	6	1.0142	233.27
6470		24DIC230		230.00	6	1.0015	230.35	6485		ANT230		230.00	6	1.0199	234.58
6490		BON115		115.00	6	1.0015	115.18	6500		FRONTDOM		230.00	6	1.0055	231.26
6601		COP230		230.00	6	1.0019	230.44	6680		BFR230		230.00	6	1.0055	231.26
6681		LPO230		230.00	6	1.0055	231.27	6683		SAL230		230.00	6	1.0055	231.26
6760		SBA230		230.00	6	1.0341	237.83	6761		SBA115		115.00	6	1.0051	115.59
6790		SMA82		230.00	6	1.0210	234.83	6840		BUR230		230.00	6	1.0048	231.10
6860		BBL230		230.00	6	1.0221	235.09	6910		GON115		115.00	6	1.0091	116.05
6915		SCR115		115.00	6	1.0036	115.42	6990		REACTOR1		500.00	6	1.0077	503.84
6991		REACTOR2		500.00	6	1.0001	500.06	6992		REACTOR3		500.00	6	1.0077	503.84
6993		REACTOR4		500.00	6	1.0001	500.06	6995		SVC-LSA		230.00	6	1.0200	234.60

BUSES WITH VOLTAGE LESS THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6001		PAN230		230.00	6	0.9947	228.78	6018		CAC115		115.00	6	0.9992	114.90
6019		CVI115A		115.00	6	0.9958	114.52	6024		CHI115		115.00	6	0.9893	113.77
6027		LOC115A		115.00	6	0.9864	113.43	6032		MAR115A		115.00	6	0.9867	113.47
6036		SMA115		115.00	6	0.9931	114.20	6040		SFR115		115.00	6	0.9802	112.72
6047		CLA115		115.00	6	0.9895	113.79	6055		MOS115B		115.00	6	0.9839	113.14
6059		LM1115		115.00	6	0.9861	113.40	6060		LM2115		115.00	6	0.9863	113.43
6064		MES115		115.00	6	0.9710	111.66	6066		FFIELD		115.00	6	0.9722	111.80
6074		LMDIST		115.00	6	0.9862	113.41	6115		LBO115		115.00	6	0.9952	114.45
6123		MIR115A		115.00	7	0.9935	114.26	6165		FLO115		115.00	6	0.9976	114.73
6169		STR230		230.00	6	0.9955	228.97	6170		CPA115		115.00	6	0.9886	113.69
6173		STR115		115.00	6	0.9913	114.00	6210		TIN115		115.00	6	0.9935	114.25
6211		PM115-9		115.00	6	0.9901	113.86	6225		CDE115		115.00	6	0.9816	112.88
6230		CBA115		115.00	6	0.9830	113.04	6245		BNGA230		230.00	6	0.9986	229.67
6250		BVI230		230.00	6	0.9922	228.21	6251		BVI115		115.00	6	0.9883	113.66
6270		CAT115		115.00	6	0.9862	113.41	6280		GIR115		115.00	6	0.9886	113.69
6290		CATII115		115.00	6	0.9867	113.47	6295		CATIII 115		115.00	6	0.9806	112.77
6310		PAN3 230		230.00	6	0.9962	229.13	6311		PAN3 115		115.00	6	0.9976	114.72
6331		BAI115		115.00	6	0.9926	114.14	6332		BAM115		115.00	6	0.9988	114.86
6350		PM115-8		115.00	6	0.9899	113.84	6730		SAN115		115.00	6	0.9989	114.87
6980		BKO115		115.00	6	0.9722	111.81	6985		SVC-PAN3		230.00	6	0.9962	229.13
6999		BAR115		115.00	6	0.9861	113.40								