

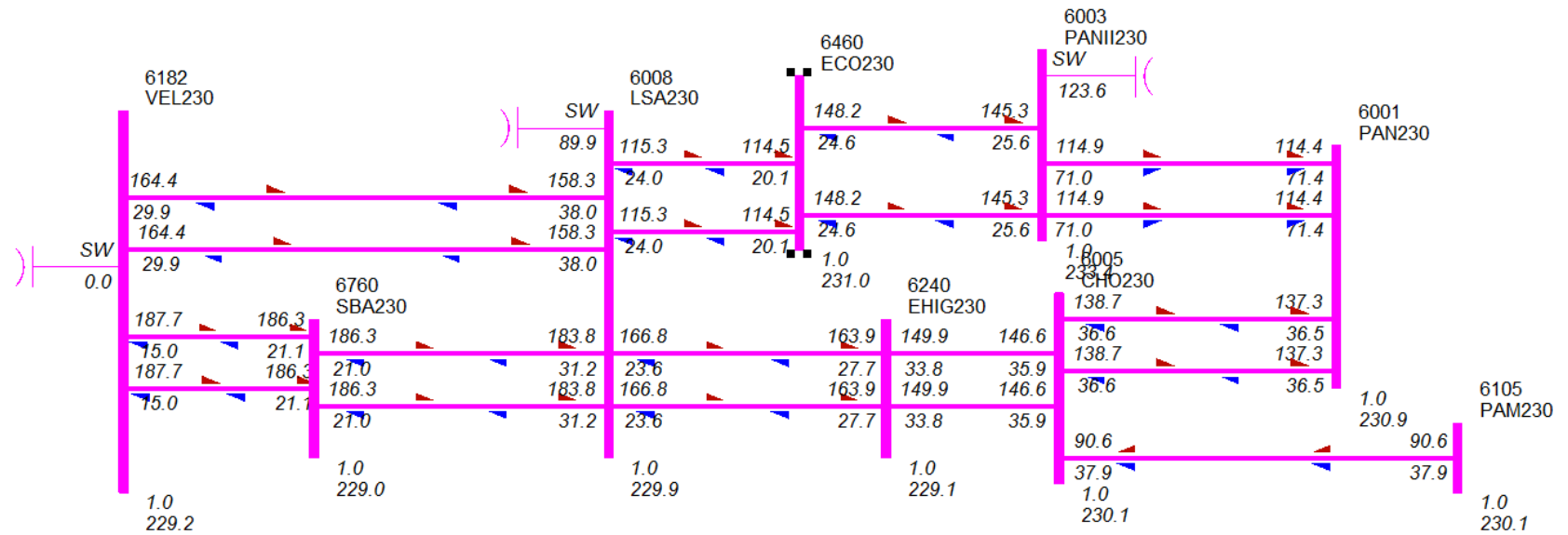
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ANÁLISIS DE FLUJOS DE POTENCIA DE CORTO PLAZO
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Año 2015

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

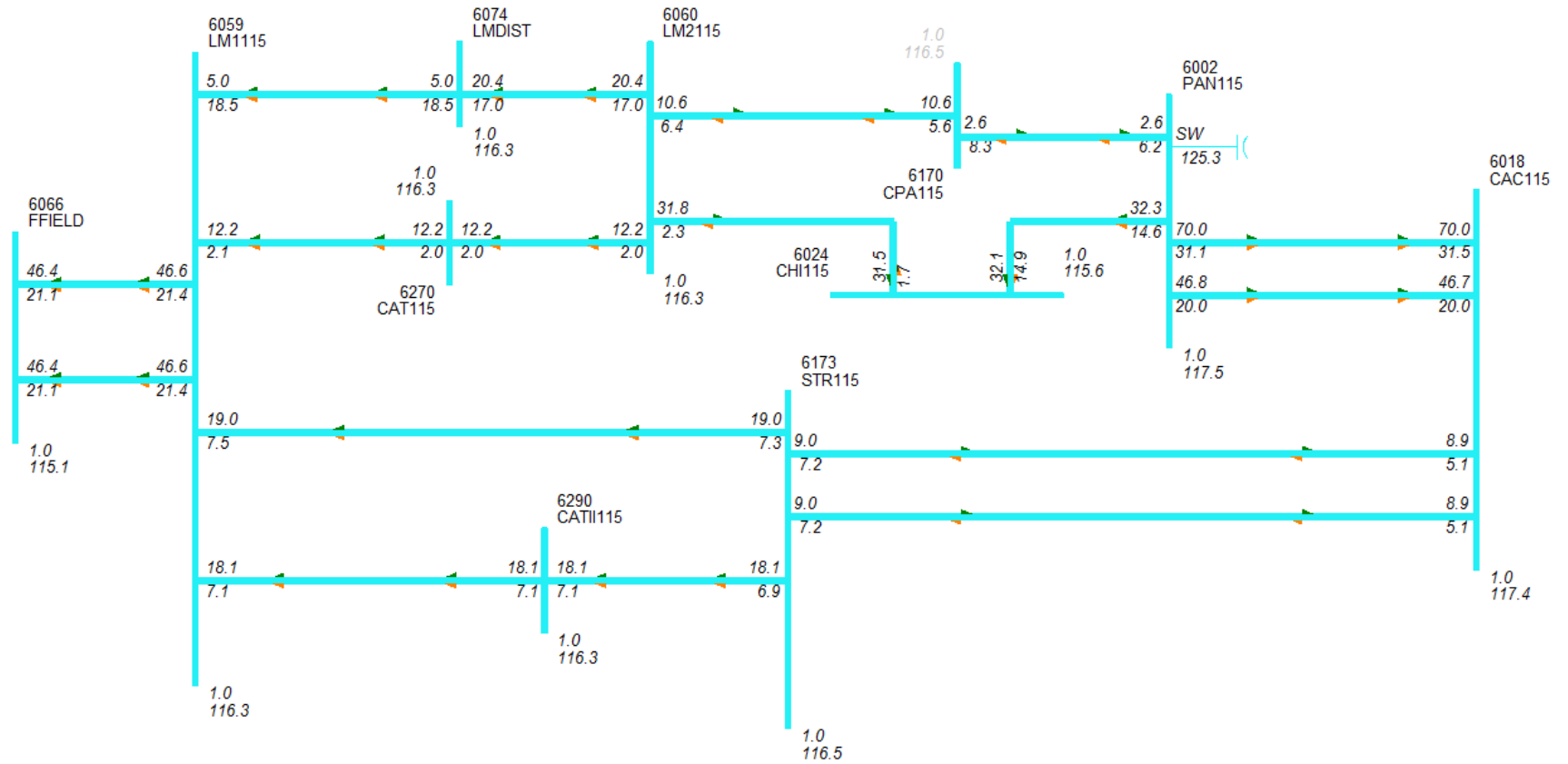


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Atlántico

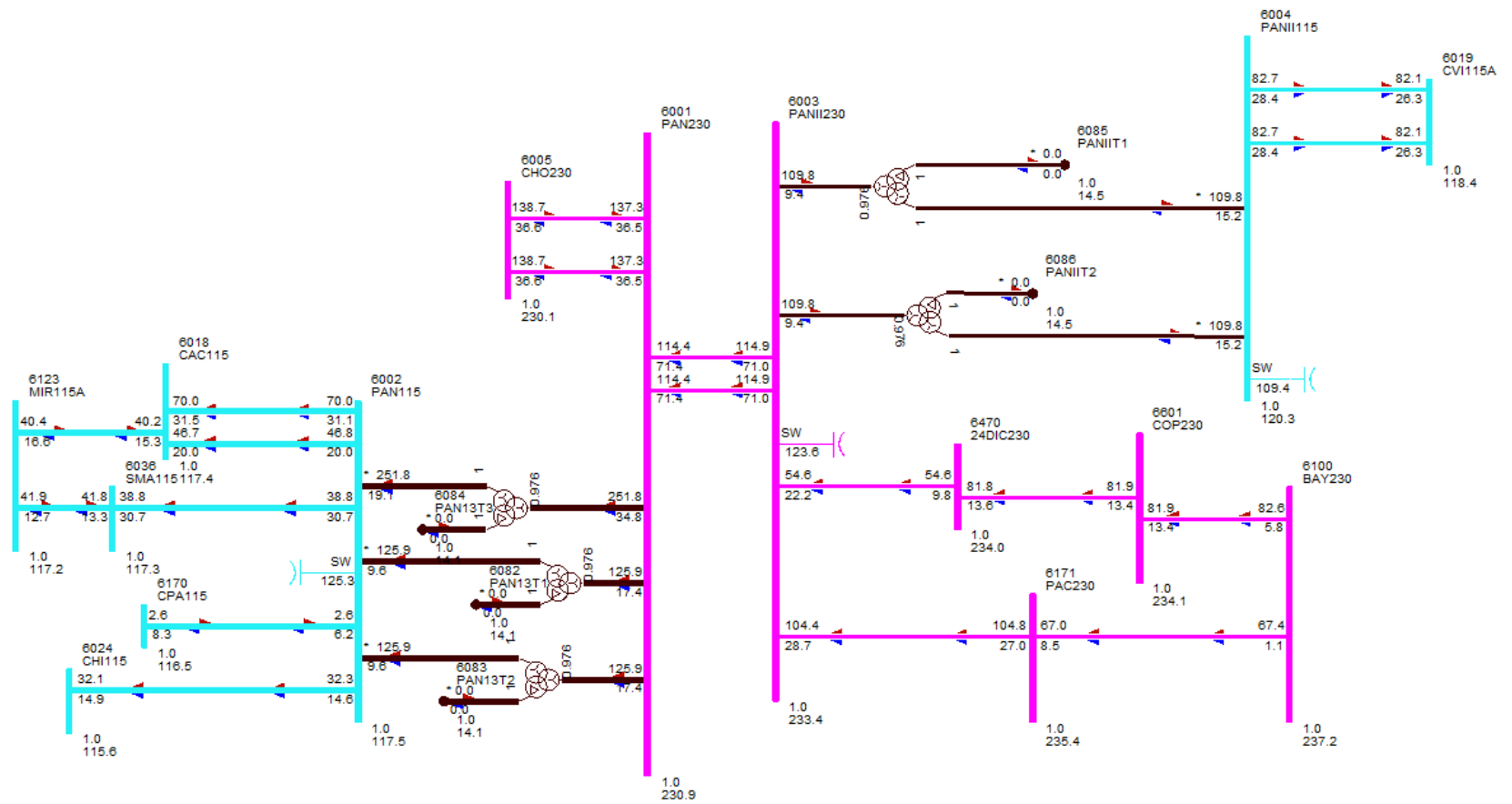


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

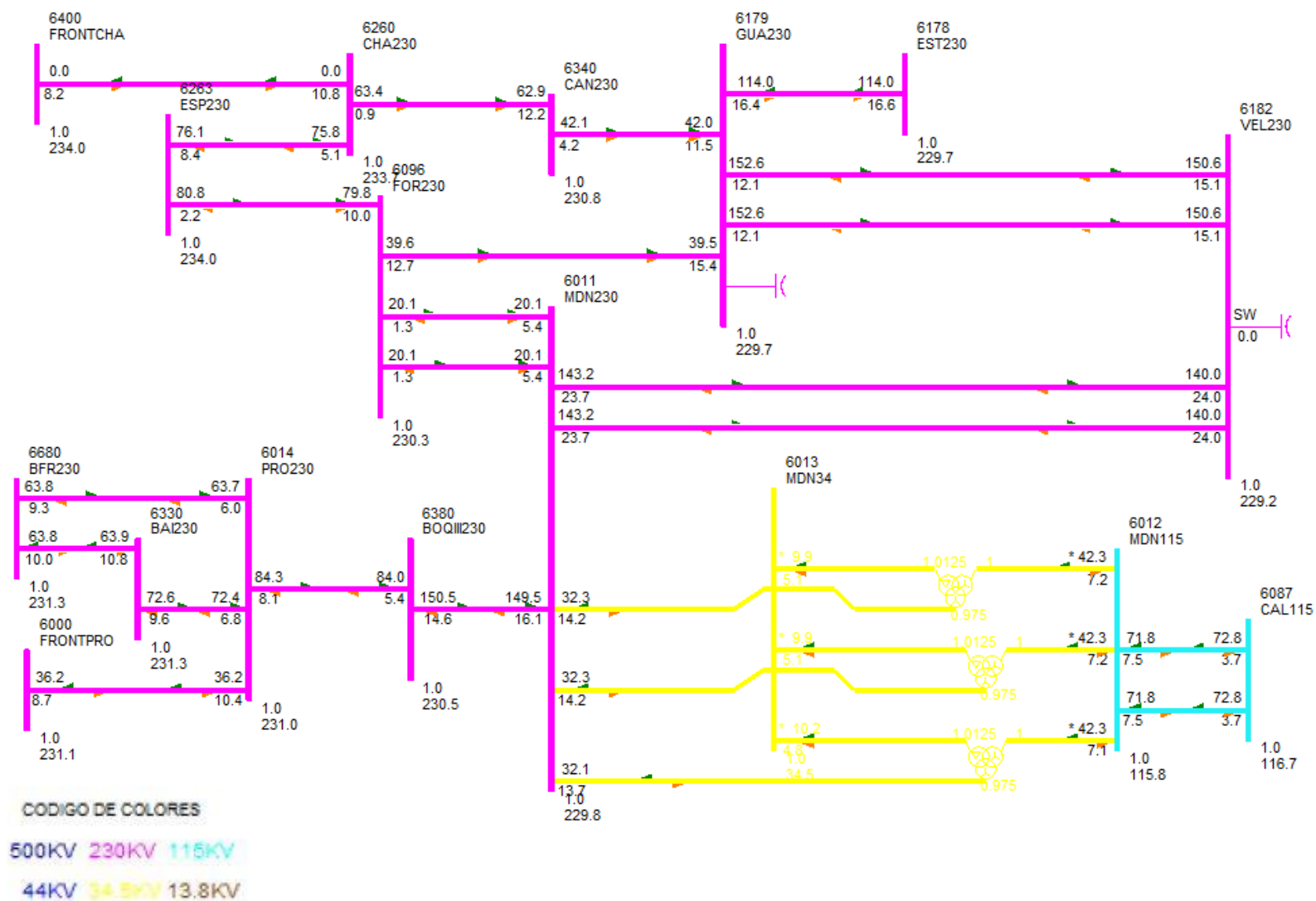


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 14:22
 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	4.7	15.0	0.0	1.0200	24.9	0.9825	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	4.7	15.0	0.0	1.0200	24.9	0.9825	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	4.9	15.0	0.0	1.0200	25.0	0.9812	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9995	40.3*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	22.4	6.0	12.0	-5.0	1.0100	23.0	0.9659	27.0			64	6	
6091		LESG2		13.800	E2	22.4	6.0	12.0	-5.0	1.0100	23.0	0.9659	27.0			64	6	
6094		LVAG1		13.800	L1	26.0	-0.4	12.0	-5.0	1.0100	25.8	0.9999	27.0			64	6	
6095		LVAG2		13.800	L2	26.0	-0.4	12.0	-5.0	1.0100	25.8	0.9999	27.0			64	6	
6101		BAYG1		13.800	B1	50.0	8.6	30.0	-25.0	1.0150	50.0	0.9856	94.0			61	6	
6102		BAYG2		13.800	B2	50.0	8.6	30.0	-25.0	1.0150	50.0	0.9856	94.0			61	6	
6106		PAM 13A		13.800	M1	15.1	8.5	9.0	0.0	0.9800	17.7	0.8723	20.7			63	6	
6106		PAM 13A		13.800	M2	15.1	8.5	9.0	0.0	0.9800	17.7	0.8723	20.7			63	6	
6106		PAM 13A		13.800	M3	15.1	8.5	9.0	0.0	0.9800	17.7	0.8723	20.7			63	6	
6107		PAM 13B		13.800	M4	15.1	8.5	9.0	0.0	0.9800	17.7	0.8723	20.7			63	6	
6107		PAM 13B		13.800	M5	15.1	8.5	9.0	0.0	0.9800	17.7	0.8723	20.7			63	6	
6107		PAM 13B		13.800	M6	15.1	8.5	9.0	0.0	0.9800	17.7	0.8723	20.7			63	6	
6110		BAYG3		13.800	B3	50.0	-1.1	35.0	-25.0	1.0150	49.3	0.9998	100.0			61	6	
6158		MIRG9		13.800	G9	37.4	-20.7	22.1	-20.7	1.0043	42.6*	0.8752	49.2			65	6	
6159		MIRG10		13.800	G0	37.4	-20.7	22.1	-20.7	1.0043	42.6*	0.8752	49.2			65	6	
6172		PAC 13A		13.800	P1	17.0	8.6	9.0	-11.0	1.0150	18.7	0.8914	21.7			61	6	
6172		PAC 13A		13.800	P2	17.0	8.6	9.0	-11.0	1.0150	18.7	0.8914	21.7			61	6	
6172		PAC 13A		13.800	P3	17.0	8.6	9.0	-11.0	1.0150	18.7	0.8914	21.7			61	6	
6176		ESTG1		13.800	E1	57.0	12.0	29.0	-29.0	1.0100	57.7	0.9785	69.0			64	6	
6177		ESTG2		13.800	E2	57.0	12.0	29.0	-29.0	1.0100	57.7	0.9785	69.0			64	6	
6264		CHANG1		13.800	G1	76.2	2.6	50.8	-50.8	1.0100	75.5	0.9994	116.5			64	6	SYST
6265		CHANG2		13.800	G2	72.0	2.2	50.8	-50.8	1.0100	71.3	0.9995	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			64	6	
6305		ALG 13A		13.800	A1	4.8	-1.2	2.3	-2.3	1.0000	5.0	0.9718	5.7			64	6	
6305		ALG 13A		13.800	A2	4.8	-1.2	2.3	-2.3	1.0000	5.0	0.9718	5.7			64	6	
6306		MEN 13A		13.800	M1	8.9	4.2	4.2	-4.2	0.9914	9.9*	0.9059	10.4			64	6	
6306		MEN 13A		13.800	M2	8.9	4.2	4.2	-4.2	0.9914	9.9*	0.9059	10.4			64	6	
6307		COC 13A		34.500	G1	7.1	-5.4	6.5	-5.7	1.0100	8.8*	0.7978	8.4			64	6	
6307		COC 13A		34.500	G2	7.1	-3.3	3.3	-3.3	1.0100	7.8*	0.9065	8.4			64	6	
6308		MENII 13A		13.800	G1	3.7	0.0	1.9	0.0	1.0038	3.6	1.0000	4.1			64	6	
6308		MENII 13A		13.800	G2	3.7	0.0	1.9	0.0	1.0038	3.6	1.0000	4.1			64	6	
6333		BAMG1		13.800	G1	26.6	2.2	10.0	-10.0	1.0000	26.7	0.9966	30.0			64	6	
6334		BAMG2		13.800	G2	26.6	2.2	10.0	-10.0	1.0000	26.7	0.9966	30.0			64	6	
6335		BAIG1		13.800	G1	41.9	-2.9	14.0	-14.0	1.0000	42.0	0.9975	49.0			64	6	
6336		BAIG2		13.800	G2	41.9	-2.9	14.0	-14.0	1.0000	42.0	0.9975	49.0			64	6	
6361		GLAG1		13.800	G1	12.1	-2.5	7.8	-7.0	1.0000	12.3	0.9799	14.1			64	6	
6362		GLAG2		13.800	G2	12.1	-2.5	7.8	-7.0	1.0000	12.3	0.9799	14.1			64	6	
6364		LORG1		13.800	G1	16.1	-6.0	7.8	-7.0	1.0000	17.1	0.9373	25.0			64	6	
6365		LORG2		13.800	G2	16.1	-6.0	7.8	-7.0	1.0000	17.1	0.9373	25.0			64	6	
6367		PRUG1		13.800	G1	27.5	-7.6	8.0	-8.0	1.0000	28.5	0.9634	33.0			64	6	
6368		PRUG2		13.800	G2	27.5	-7.6	8.0	-8.0	1.0000	28.5	0.9634	33.0			64	6	

6386	PEDI 13A	13.800	G1	11.9	2.0	6.2	-6.8	1.0000	12.0	0.9855	12.5	64	6
6386	PEDI 13A	13.800	G2	11.9	2.0	6.2	-6.8	1.0000	12.0	0.9855	12.5	64	6
6387	PEDII 13A	13.800	G1	6.0	0.2	3.3	-3.3	1.0000	6.0	0.9994	7.1	64	6
6387	PEDII 13A	13.800	G2	6.0	0.2	3.3	-3.3	1.0000	6.0	0.9994	7.1	64	6
6388	MACG1	0.6900	G1	1.7	-0.8	1.0	-0.8	1.0062	1.9*	0.9048	2.1	64	6
6389	MACG2	0.6900	G2	1.7	-0.8	1.0	-0.8	1.0062	1.9*	0.9048	2.1	64	6
6390	CON 4.16A	4.1600	G1	4.8	-0.4	1.0	-0.8	1.0000	4.8	0.9964	6.3	64	6
6390	CON 4.16A	4.1600	G2	4.8	-0.4	1.0	-0.8	1.0000	4.8	0.9964	6.3	64	6
6391	PAAG1	2.1400	G1	2.8	0.2	1.0	-0.8	1.0000	2.8	0.9986	3.5	64	6
6392	PAAG2	2.1400	G2	2.8	0.2	1.0	-0.8	1.0000	2.8	0.9986	3.5	64	6
6394	LPN 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9967	4.9*	0.9785	6.3	64	6
6394	LPN 4.16A	4.1600	G2	4.8	1.0	1.0	-0.8	0.9967	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9967	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G2	4.8	1.0	1.0	-0.8	0.9967	4.9*	0.9785	6.3	64	6
6420	DOL 4.16A	4.1600	G1	1.0	0.1	0.8	-0.8	1.0000	1.0	0.9987	1.3	64	6
6420	DOL 4.16A	4.1600	G2	1.0	0.1	0.8	-0.8	1.0000	1.0	0.9987	1.3	64	6
6420	DOL 4.16A	4.1600	G3	1.0	0.1	0.8	-0.8	1.0000	1.0	0.9987	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.5	0.1	0.8	-0.8	1.0000	1.5	0.9994	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.5	0.1	0.8	-0.8	1.0000	1.5	0.9994	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.5	0.1	0.8	-0.8	1.0000	1.5	0.9994	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.2	0.1	0.8	-0.8	1.0000	1.2	0.9979	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.2	0.1	0.8	-0.8	1.0000	1.2	0.9979	1.5	64	6
6432	YEG 4.16A	4.1600	G1	2.8	0.4	2.2	-2.2	1.0000	2.9	0.9922	3.8	64	6
6432	YEG 4.16A	4.1600	G2	2.8	0.4	2.2	-2.2	1.0000	2.9	0.9922	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.9	0.1	0.8	-0.8	1.0000	1.0	0.9922	1.2	64	6
6433	EFR 4.16A	4.1600	G1	2.5	1.1	1.6	-1.6	1.0000	2.8	0.9131	3.2	64	6
6433	EFR 4.16A	4.1600	G2	2.5	1.1	1.6	-1.6	1.0000	2.8	0.9131	3.2	64	6
6446	ALTG1	13.800	G1	21.3	-2.7	10.9	-7.6	1.0000	21.5	0.9920	24.9	64	6
6447	ALTG2	13.800	G2	21.3	-2.7	10.9	-7.6	1.0000	21.5	0.9920	24.9	64	6
6449	MLIG1	13.800	G1	15.8	-2.9	12.8	-8.3	1.0000	16.1	0.9837	18.5	64	6
6450	MLIG2	13.800	G2	15.8	-2.9	12.8	-8.3	1.0000	16.1	0.9837	18.5	64	6
6451	MLIG3	13.800	G3	15.8	-2.9	12.8	-8.3	1.0000	16.1	0.9837	18.5	64	6
6462	RDVG1	0.6900	E1	25.6	-1.8	8.4	-8.4	1.0000	25.7	0.9976	107.9	64	6
6463	PORG1	0.6900	E2	8.1	-0.7	2.7	-2.7	1.0000	8.2	0.9959	34.2	64	6
6464	MARG1	0.6900	E3	4.4	-0.4	1.4	-1.4	1.0000	4.4	0.9965	18.4	64	6
6465	NCHIG1	0.6900	E4	13.8	-1.5	4.5	-4.5	1.0000	13.8	0.9940	57.9	64	6
6473	NCHIIG1	0.6900	E5	15.6	-1.9	5.1	-5.1	1.0000	15.7	0.9926	121.1	64	6
6481	SLOR6	6.0000	G1	4.2	1.5	1.5	-1.7	0.9999	4.5*	0.9415	4.9	64	6
6481	SLOR6	6.0000	G2	4.2	1.5	1.5	-1.7	0.9999	4.5*	0.9415	4.9	64	6
6521	JIN4.16A	4.1600	G1	8.1	0.9	1.5	-1.5	1.0200	8.0	0.9935	10.6	62	6
6522	JIN4.16A	4.1600	G2	8.1	0.9	1.5	-1.5	1.0200	8.0	0.9935	10.6	62	6
6523	JIN4.16B	4.1600	G3	8.1	0.9	1.5	-1.5	1.0200	8.0	0.9935	10.6	62	6
6524	JIN4.16B	4.1600	G4	8.1	0.9	1.5	-1.5	1.0200	8.0	0.9935	10.6	62	6
6525	JIN4.16C	4.1600	G5	8.1	0.9	1.5	-1.5	1.0200	8.0	0.9937	10.6	62	6
6526	JIN4.16C	4.1600	G6	8.1	0.9	1.5	-1.5	1.0200	8.0	0.9937	10.6	62	6
6527	JIN4.16C	4.1600	G7	6.5	0.8	1.2	-1.2	1.0200	6.4	0.9933	8.5	62	6
SUBSYSTEM TOTALS				1461.3	79.5	749.2	-566.1				2279.0		

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	11.4	1.2	6.0	-6.0	1.0000	11.5	0.9949	13.0			65	7	
6135		MADG2		6.9000	G2	11.4	1.1	6.0	-6.0	1.0000	11.4	0.9957	13.0			65	7	
6136		MADG3		6.9000	G3	11.4	2.8	6.0	-6.0	1.0100	11.6	0.9707	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-0.8	2.0	-2.0	1.0100	2.9	0.9585	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-0.8	2.0	-2.0	1.0100	2.9	0.9585	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-0.8	2.0	-2.0	1.0100	2.9	0.9585	4.1			65	7	
6140		GAT6A		6.9000	G4	4.3	-1.3	3.0	-3.0	1.0100	4.4	0.9585	5.6			65	7	
6140		GAT6A		6.9000	G5	4.3	-1.3	3.0	-3.0	1.0100	4.4	0.9585	6.2			65	7	
6155		MIR13B		13.800	G7	18.0	8.0	8.0	0.0	0.9947	19.8*	0.9135	23.0			65	7	
6155		MIR13B		13.800	G8	18.0	8.0	8.0	0.0	0.9947	19.8*	0.9135	23.0			65	7	
SUBSYSTEM TOTALS									87.2	16.0	46.0	-30.0					109.3	

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 14:22
 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	1.0048	231.11	6001		PAN230		230.00	6	1.0038	230.89
6002		PAN115		115.00	6	1.0218	117.50	6003		PANII230		230.00	6	1.0148	233.41
6004		PANII115		115.00	6	1.0458	120.27	6005		CHO230		230.00	6	1.0004	230.10
6012		MDN115		115.00	6	1.0068	115.78	6014		PRO230		230.00	6	1.0045	231.04
6015		PRO115		115.00	6	1.0007	115.09	6018		CAC115		115.00	6	1.0210	117.41
6024		CHI115		115.00	6	1.0056	115.64	6059		LM1115		115.00	6	1.0110	116.26
6060		LM2115		115.00	6	1.0111	116.28	6087		CAL115		115.00	6	1.0145	116.67
6088		LES115		115.00	6	1.0181	117.08	6092		LVA115		115.00	6	1.0149	116.72
6096		FOR230		230.00	6	1.0013	230.31	6100		BAY230		230.00	6	1.0313	237.21
6170		CPA115		115.00	6	1.0131	116.50	6171		PAC230		230.00	6	1.0233	235.36
6173		STR115		115.00	6	1.0134	116.54	6260		CHA230		230.00	6	1.0161	233.71
6261		CHA115		115.00	6	1.0099	116.13	6263		ESP230		230.00	6	1.0176	234.04
6290		CATII115		115.00	6	1.0113	116.30	6340		CAN230		230.00	6	1.0036	230.84
6350		PM115-8		115.00	6	1.0154	116.77	6380		BOQIII230		230.00	6	1.0023	230.54
6400		FRONTCHA		230.00	6	1.0175	234.03	6401		PM230-29		230.00	6	1.0008	230.19
6440		DOM230		230.00	6	1.0030	230.69	6441		PRIM230		230.00	6	1.0030	230.69
6460		ECO230		230.00	6	1.0044	231.00	6470		24DIC230		230.00	6	1.0175	234.03
6500		FRONTDOM		230.00	6	1.0039	230.90	6601		COP230		230.00	6	1.0179	234.12

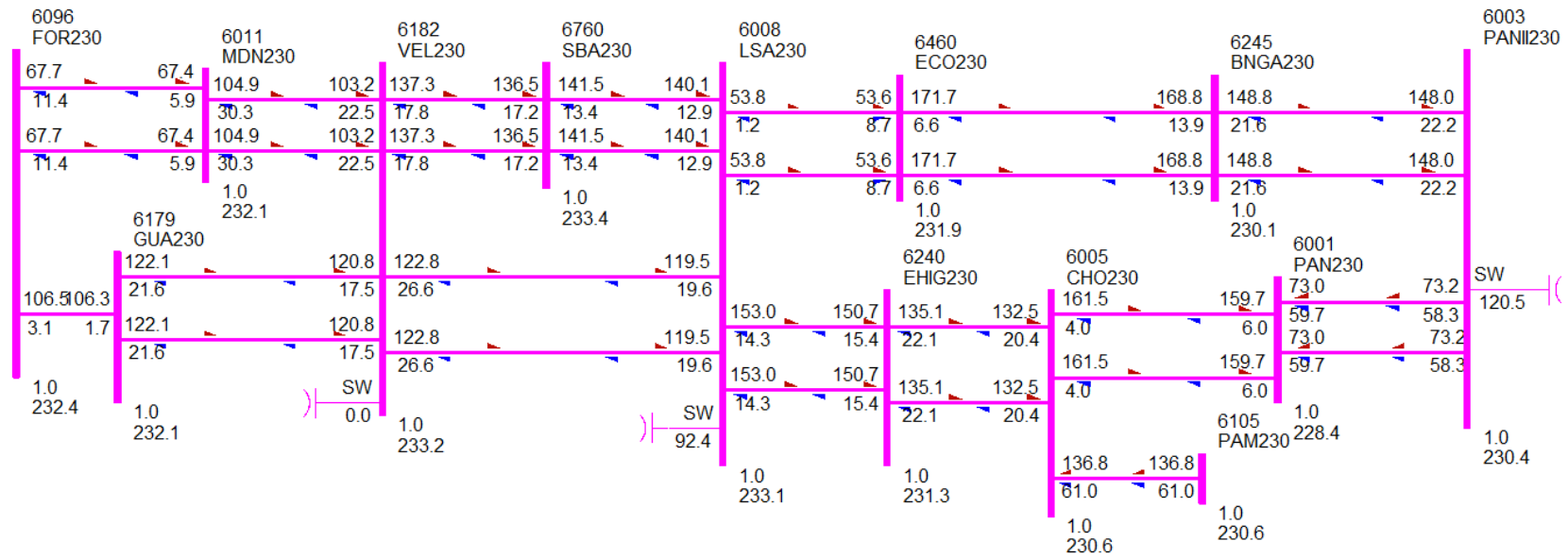
BUSES WITH VOLTAGE LESS THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6008		LSA230		230.00	6	0.9994	229.86	6009		LSA115		115.00	6	0.9986	114.84
6011		MDN230		230.00	6	0.9993	229.85	6179		GUA230		230.00	6	0.9987	229.70
6182		VEL230		230.00	6	0.9964	229.16	6240		EHIG230		230.00	6	0.9960	229.08
6760		SBA230		230.00	6	0.9955	228.96								

Año 2016

Demanda Máxima de Verano

Diagrama del Sistema Principal de Transmisión

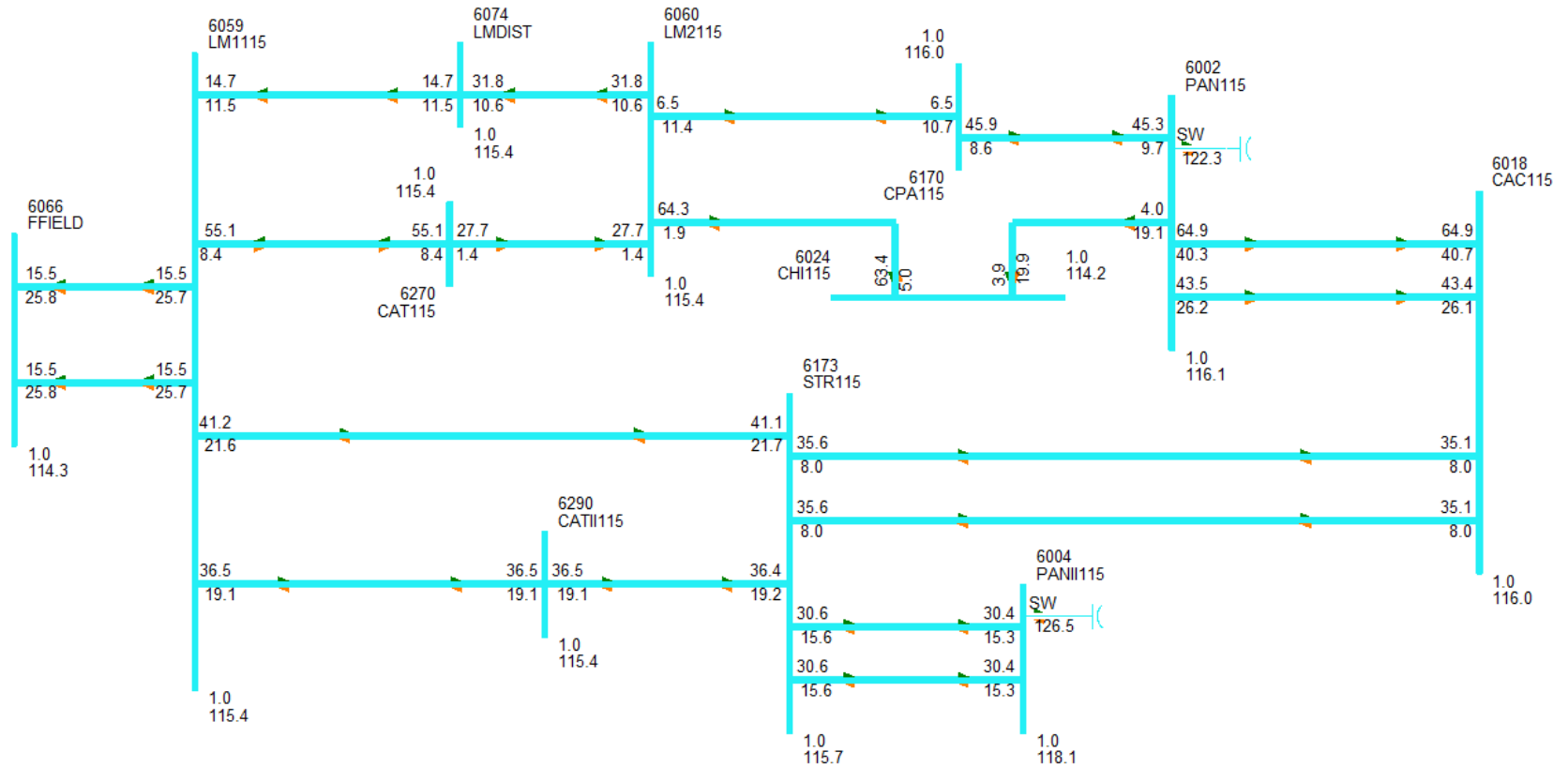


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

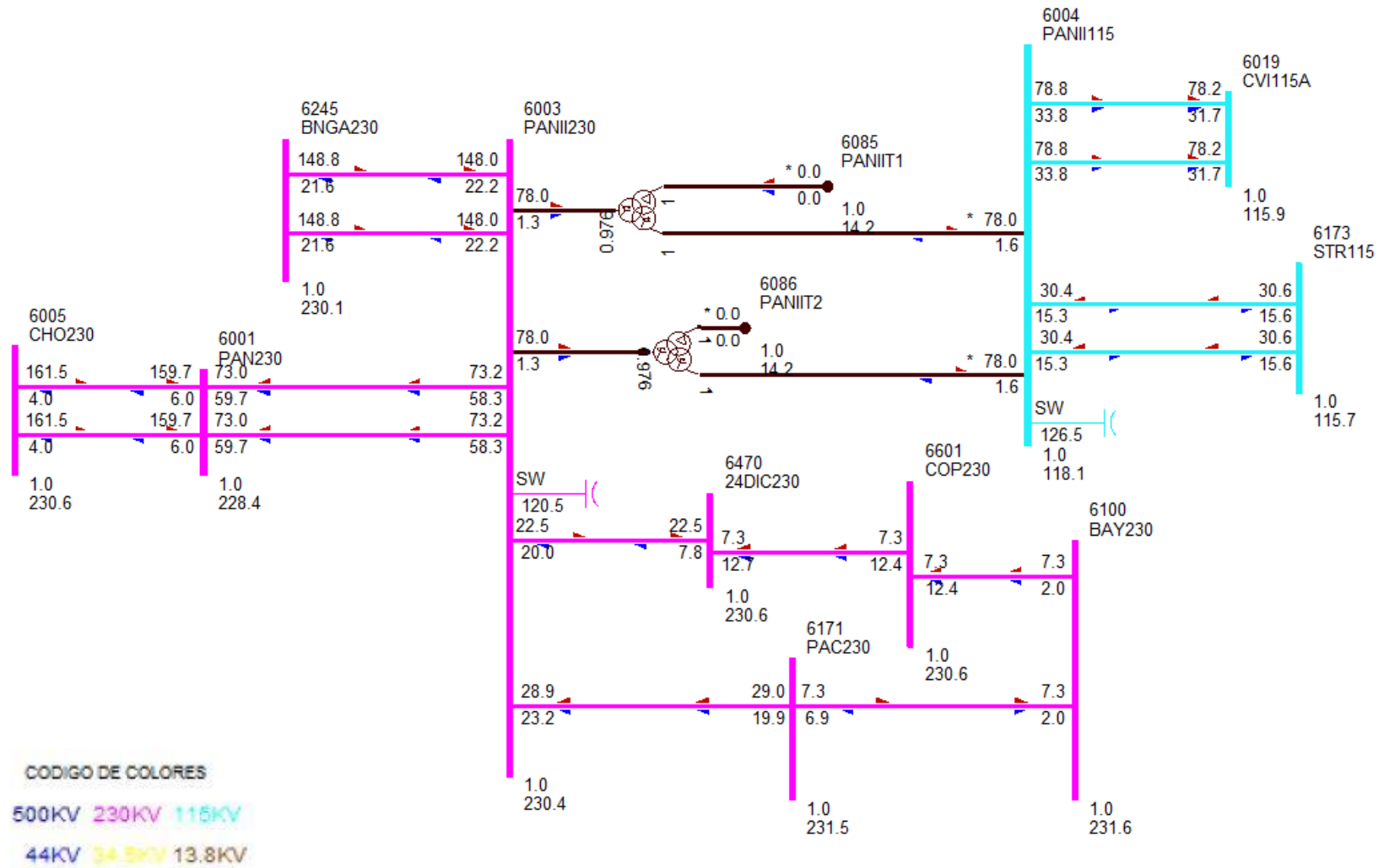
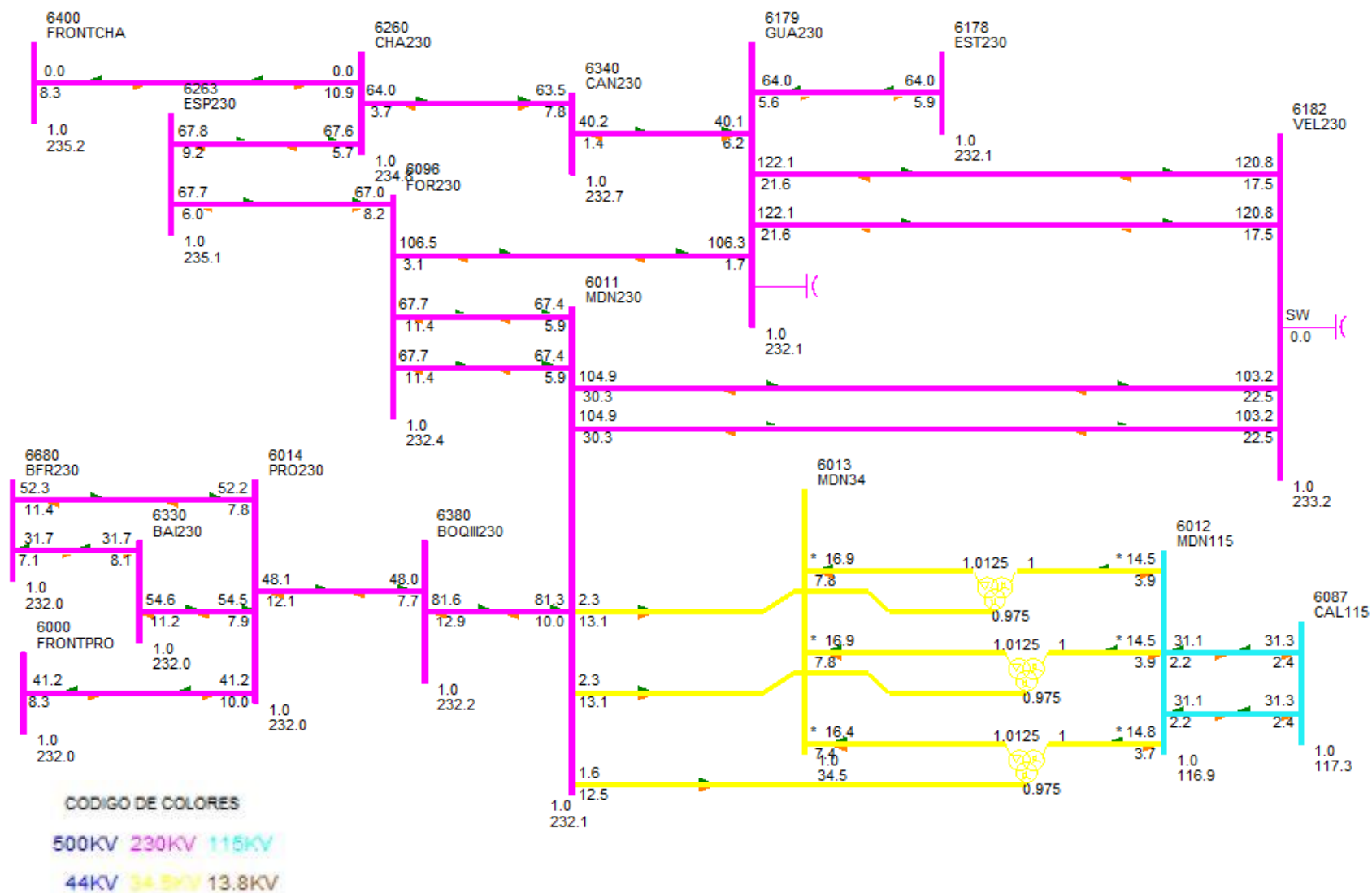


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:05
 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	0.0	15.0	0.0	1.0019	25.0	1.0000	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	0.0	15.0	0.0	1.0019	25.0	1.0000	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	0.0	15.0	0.0	1.0020	24.9	1.0000	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9921	40.6*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	12.0	4.0	12.0	-5.0	1.0100	12.5	0.9481	27.0			64	6	
6091		LESG2		13.800	E2	12.0	4.0	12.0	-5.0	1.0100	12.5	0.9481	27.0			64	6	
6094		LVAG1		13.800	L1	13.0	-2.9	12.0	-5.0	1.0100	13.2	0.9760	27.0			64	6	
6095		LVAG2		13.800	L2	13.0	-2.9	12.0	-5.0	1.0100	13.2	0.9760	27.0			64	6	
6097		FORG1		13.800	F1	60.0	-7.5	50.0	-50.0	1.0000	60.5	0.9923	111.0			64	6	
6098		FORG2		13.800	F2	60.0	-7.5	50.0	-50.0	1.0000	60.5	0.9923	111.0			64	6	
6099		FORG3		13.800	F3	55.0	-7.8	50.0	-50.0	1.0000	55.6	0.9901	111.0			64	6	
6106		PAM 13A		13.800	M1	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6106		PAM 13A		13.800	M2	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6106		PAM 13A		13.800	M3	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6107		PAM 13B		13.800	M4	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6107		PAM 13B		13.800	M5	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6107		PAM 13B		13.800	M6	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6108		PAM 13B		13.800	M7	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6108		PAM 13B		13.800	M8	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6108		PAM 13B		13.800	M9	15.2	9.0	9.0	0.0	0.9854	17.9*	0.8605	20.7			63	6	
6127		MIRG6		12.000	G6	17.1	8.0	8.0	0.0	0.9969	18.9*	0.9058	27.7			65	6	
6158		MIRG9		13.800	G9	37.4	-14.1	22.1	-20.7	1.0000	40.0	0.9354	49.2			65	6	
6159		MIRG10		13.800	G0	37.4	-14.1	22.1	-20.7	1.0000	40.0	0.9354	49.2			65	6	
6172		PAC 13A		13.800	P1	17.0	6.8	9.0	-11.0	0.9900	18.5	0.9276	21.7			61	6	
6172		PAC 13A		13.800	P2	17.0	6.8	9.0	-11.0	0.9900	18.5	0.9276	21.7			61	6	
6172		PAC 13A		13.800	P3	17.0	6.8	9.0	-11.0	0.9900	18.5	0.9276	21.7			61	6	
6176		ESTG1		13.800	E1	32.0	3.2	29.0	-29.0	1.0100	31.8	0.9949	69.0			64	6	
6177		ESTG2		13.800	E2	32.0	3.2	29.0	-29.0	1.0100	31.8	0.9949	69.0			64	6	
6264		CHANG1		13.800	G1	61.9	-2.2	50.8	-50.8	1.0100	61.3	0.9994	116.5			64	6	SYST
6265		CHANG2		13.800	G2	65.0	-1.7	50.8	-50.8	1.0100	64.4	0.9996	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	
6271		CAT 13A		13.800	G1	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G2	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G3	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G4	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G5	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G0	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G6	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G7	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G8	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G9	8.3	0.1	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6281		GIR 13A		13.800	G1	3.7	0.6	2.0	-2.0	1.0200	3.7	0.9848	4.8			62	6	
6281		GIR 13A		13.800	G2	3.7	0.6	2.0	-2.0	1.0200	3.7	0.9848	4.8			62	6	
6281		GIR 13A		13.800	G3	3.7	0.6	2.0	-2.0	1.0200	3.7	0.9848	4.8			62	6	
6281		GIR 13A		13.800	G4	3.7	0.6	2.0	-2.0	1.0200	3.7	0.9848	4.8			62	6	

6282	GIR 13B	13.800	G5	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6282	GIR 13B	13.800	G6	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6282	GIR 13B	13.800	G7	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6282	GIR 13B	13.800	G8	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6305	ALG 13A	13.800	A1	1.0	-1.7	2.3	-2.3	1.0000	1.9	0.5166	5.7	64	6
6305	ALG 13A	13.800	A2	1.0	-1.7	2.3	-2.3	1.0000	1.9	0.5166	5.7	64	6
6306	MEN 13A	13.800	M1	2.0	4.1	4.2	-4.2	1.0000	4.5	0.4411	10.4	64	6
6306	MEN 13A	13.800	M2	2.0	4.1	4.2	-4.2	1.0000	4.5	0.4411	10.4	64	6
6307	COC 13A	34.500	G1	2.1	-5.7	6.5	-5.7	1.0205	5.9*	0.3468	8.4	64	6
6307	COC 13A	34.500	G2	2.1	-3.3	3.3	-3.3	1.0205	3.9*	0.5345	8.4	64	6
6308	MENII 13A	13.800	G1	1.3	0.0	1.9	0.0	1.0152	1.3	1.0000	4.1	64	6
6308	MENII 13A	13.800	G2	1.3	0.0	1.9	0.0	1.0152	1.3	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	-6.0	14.0	-14.0	1.0000	26.7	0.9747	49.0	64	6
6336	BAIG2	13.800	G2	26.0	-6.0	14.0	-14.0	1.0000	26.7	0.9747	49.0	64	6
6361	GLAG1	13.800	G1	4.0	-6.8	7.8	-7.0	1.0000	7.9*	0.5051	14.1	64	6
6362	GLAG2	13.800	G2	4.0	-6.8	7.8	-7.0	1.0000	7.9*	0.5051	14.1	64	6
6364	LORG1	13.800	G1	4.0	-7.0	7.8	-7.0	1.0005	8.1	0.4961	25.0	64	6
6365	LORG2	13.800	G2	4.0	-7.0	7.8	-7.0	1.0005	8.1	0.4961	25.0	64	6
6367	PRUG1	13.800	G1	9.0	-7.7	8.0	-8.0	1.0000	11.8	0.7600	33.0	64	6
6368	PRUG2	13.800	G2	9.0	-7.7	8.0	-8.0	1.0000	11.8	0.7600	33.0	64	6
6386	PEDI 13A	13.800	G1	2.0	0.6	6.2	-6.8	1.0000	2.1	0.9571	12.5	64	6
6386	PEDI 13A	13.800	G2	2.0	0.6	6.2	-6.8	1.0000	2.1	0.9571	12.5	64	6
6387	PEDII 13A	13.800	G1	4.0	-0.4	3.3	-3.3	1.0000	4.0	0.9947	7.1	64	6
6387	PEDII 13A	13.800	G2	4.0	-0.4	3.3	-3.3	1.0000	4.0	0.9947	7.1	64	6
6388	MACG1	0.6900	G1	0.5	-0.8	1.0	-0.8	1.0019	0.9*	0.5300	2.1	64	6
6389	MACG2	0.6900	G2	0.5	-0.8	1.0	-0.8	1.0019	0.9*	0.5300	2.1	64	6
6390	CON 4.16A	4.1600	G1	2.6	-0.2	1.0	-0.8	1.0000	2.6	0.9982	6.3	64	6
6390	CON 4.16A	4.1600	G2	2.6	-0.2	1.0	-0.8	1.0000	2.6	0.9982	6.3	64	6
6391	PAAG1	2.1400	G1	0.5	0.0	1.0	-0.8	1.0000	0.5	1.0000	3.5	64	6
6392	PAAG2	2.1400	G2	0.5	0.0	1.0	-0.8	1.0000	0.5	1.0000	3.5	64	6
6394	LPN 4.16A	4.1600	G1	2.6	0.2	1.0	-0.8	1.0000	2.6	0.9978	6.3	64	6
6394	LPN 4.16A	4.1600	G2	2.6	0.2	1.0	-0.8	1.0000	2.6	0.9978	6.3	64	6
6395	LPS 4.16A	4.1600	G1	2.6	0.2	1.0	-0.8	1.0000	2.6	0.9978	6.3	64	6
6395	LPS 4.16A	4.1600	G2	2.6	0.2	1.0	-0.8	1.0000	2.6	0.9978	6.3	64	6
6396	RP4G1	6.6000	G1	1.0	0.1	4.6	-2.3	1.0000	1.0	0.9984	7.3	64	6
6397	RP4G2	6.6000	G2	1.0	0.1	4.6	-2.3	1.0000	1.0	0.9984	7.3	64	6
6420	DOL 4.16A	4.1600	G1	0.3	0.0	0.8	-0.8	1.0000	0.3	1.0000	1.3	64	6
6420	DOL 4.16A	4.1600	G2	0.3	0.0	0.8	-0.8	1.0000	0.3	1.0000	1.3	64	6
6420	DOL 4.16A	4.1600	G3	0.3	0.0	0.8	-0.8	1.0000	0.3	1.0000	1.3	64	6
6421	LP1 4.16A	4.1600	G1	0.8	0.0	0.8	-0.8	1.0000	0.8	1.0000	1.8	64	6
6421	LP1 4.16A	4.1600	G2	0.8	0.0	0.8	-0.8	1.0000	0.8	1.0000	1.8	64	6
6421	LP1 4.16A	4.1600	G3	0.8	0.0	0.8	-0.8	1.0000	0.8	1.0000	1.8	64	6
6422	MMO 4.16A	4.1600	G1	0.6	0.0	0.8	-0.8	1.0000	0.6	1.0000	1.5	64	6
6422	MMO 4.16A	4.1600	G2	0.6	0.0	0.8	-0.8	1.0000	0.6	1.0000	1.5	64	6
6423	BU1G1	4.1600	G1	1.2	-0.4	1.0	-0.4	1.0000	1.3	0.9455	2.3	64	6
6424	BU1G2	4.1600	G2	1.2	-0.4	1.0	-0.4	1.0000	1.3	0.9455	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.2	0.6	-0.5	1.0000	1.0	0.9788	1.1	64	6
6432	YEG 4.16A	4.1600	G1	0.5	-2.2	2.2	-2.2	1.0000	2.2*	0.2240	3.8	64	6
6432	YEG 4.16A	4.1600	G2	0.5	-2.2	2.2	-2.2	1.0000	2.2*	0.2240	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.9	-0.8	0.8	-0.8	1.0000	1.2*	0.7849	1.2	64	6
6433	EFR 4.16A	4.1600	G1	1.5	-1.6	1.6	-1.6	1.0067	2.2*	0.6727	3.2	64	6

6433	EFR 4.16A	4.1600	G2	1.5	-1.6	1.6	-1.6	1.0067	2.2*	0.6727	3.2	64	6
6446	ALTG1	13.800	G1	7.7	-5.2	10.9	-7.6	1.0000	9.3	0.8311	24.9	64	6
6447	ALTG2	13.800	G2	7.7	-5.2	10.9	-7.6	1.0000	9.3	0.8311	24.9	64	6
6448	ALTG3	13.800	G3	7.7	-5.2	10.9	-7.6	1.0000	9.3	0.8311	24.9	64	6
6449	MLIG1	13.800	G1	3.0	-4.7	12.8	-8.3	1.0000	5.5	0.5416	18.5	64	6
6450	MLIG2	13.800	G2	3.0	-4.7	12.8	-8.3	1.0000	5.5	0.5416	18.5	64	6
6451	MLIG3	13.800	G3	3.0	-4.7	12.8	-8.3	1.0000	5.5	0.5416	18.5	64	6
6462	RDVG1	0.6900	E1	71.8	0.6	23.6	-23.6	1.0000	71.8	1.0000	107.9	64	6
6463	PORG1	0.6900	E2	33.2	0.5	10.9	-10.9	1.0000	33.3	0.9999	50.0	64	6
6464	MARG1	0.6900	E3	12.2	0.0	4.0	-4.0	1.0000	12.3	1.0000	18.4	64	6
6465	NCHIG1	0.6900	E4	38.5	-0.3	12.7	-12.7	1.0000	38.5	1.0000	57.9	64	6
6473	NCHIIIG1	0.6900	E5	80.5	1.1	26.5	-26.5	1.0000	80.5	0.9999	121.1	64	6
6481	SLOR6	6.0000	G1	0.5	-0.8	1.5	-1.7	1.0000	0.9	0.5394	4.9	64	6
6481	SLOR6	6.0000	G2	0.5	-0.8	1.5	-1.7	1.0000	0.9	0.5394	4.9	64	6
6492	BONG1	13.800	G1	3.1	-1.3	4.9	-2.0	1.0000	3.4	0.9227	11.5	64	6
6493	BONG2	13.800	G2	3.1	-1.3	4.9	-2.0	1.0000	3.4	0.9227	11.5	64	6
6494	BONG3	13.800	G3	3.1	-1.3	4.9	-2.0	1.0000	3.4	0.9227	11.5	64	6
6521	JIN4.16A	4.1600	G1	8.0	0.1	1.5	-1.5	1.0000	8.0	1.0000	10.6	62	6
6522	JIN4.16A	4.1600	G2	8.1	0.1	1.5	-1.5	1.0000	8.1	1.0000	10.6	62	6
6523	JIN4.16B	4.1600	G3	8.1	0.1	1.5	-1.5	1.0000	8.1	1.0000	10.6	62	6
6524	JIN4.16B	4.1600	G4	8.1	0.1	1.5	-1.5	1.0000	8.1	1.0000	10.6	62	6
6525	JIN4.16C	4.1600	G5	8.1	0.1	1.5	-1.5	1.0000	8.1	1.0000	10.6	62	6
6526	JIN4.16C	4.1600	G6	8.1	0.1	1.5	-1.5	1.0000	8.1	1.0000	10.6	62	6
6527	JIN4.16C	4.1600	G7	6.3	0.0	1.2	-1.2	1.0000	6.3	1.0000	8.5	62	6
6605	CEP13.8	13.800	G1	4.8	-0.4	2.3	-2.3	1.0000	4.8	0.9970	5.3	60	6
6605	CEP13.8	13.800	G2	4.8	-0.4	2.3	-2.3	1.0000	4.8	0.9970	5.3	60	6
6682	LPO13.8	13.800	G1	4.7	-0.9	7.8	-5.9	1.0000	4.7	0.9815	15.5	64	6
6682	LPO13.8	13.800	G2	4.7	-0.9	7.8	-5.9	1.0000	4.7	0.9815	15.5	64	6
6682	LPO13.8	13.800	G3	2.0	-0.4	1.1	-0.9	1.0000	2.0	0.9815	2.3	64	6
6684	SAL13.8	13.800	G1	4.7	-1.0	7.8	-5.9	1.0000	4.7	0.9790	15.5	64	6
6684	SAL13.8	13.800	G2	4.7	-1.0	7.8	-5.9	1.0000	4.7	0.9790	15.5	64	6
6731	SAN13.8	13.800	G1	2.3	-0.3	2.7	-2.7	1.0000	2.3	0.9914	5.8	64	6
6731	SAN13.8	13.800	G2	2.3	-0.3	2.7	-2.7	1.0000	2.3	0.9914	5.8	64	6
6766	CRU13.8	13.800	G1	5.1	4.9	4.9	-4.9	0.9493	7.5*	0.7211	12.5	63	6
6766	CRU13.8	13.800	G2	5.1	4.9	4.9	-4.9	0.9493	7.5*	0.7211	12.5	63	6
6821	PLAII13.8	13.800	G1	0.6	-0.0	1.8	-1.8	1.0000	0.6	0.9991	4.1	64	6
6981	BKO13A	13.800	G1	52.5	5.1	30.2	-30.2	1.0000	52.7	0.9953	68.8	62	6
6982	BKO13B	13.800	G2	10.0	1.1	8.6	-3.0	1.0000	10.1	0.9938	13.2	62	6
6982	BKO13B	13.800	G3	25.5	2.8	21.5	-7.6	1.0000	25.7	0.9938	33.0	62	6
SUBSYSTEM TOTALS				1588.9	-5.3	1120.0	-877.0				2911.8		

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:05
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	2.3	6.0	-6.0	1.0000	4.6	0.8691	13.0			65	7	
6135		MADG2		6.9000	G2	4.0	1.8	6.0	-6.0	1.0000	4.4	0.9104	13.0			65	7	
6136		MADG3		6.9000	G3	4.0	3.6	6.0	-6.0	1.0100	5.3	0.7433	13.0			65	7	
6140		GAT6A		6.9000	G1	1.0	-0.8	2.0	-2.0	1.0100	1.3	0.7909	4.1			65	7	

6140	GAT6A	6.9000	G2	1.0	-0.8	2.0	-2.0	1.0100	1.3	0.7909	4.1	65	7
6140	GAT6A	6.9000	G3	1.0	-0.8	2.0	-2.0	1.0100	1.3	0.7909	4.1	65	7
6140	GAT6A	6.9000	G4	1.5	-1.2	3.0	-3.0	1.0100	1.9	0.7909	5.6	65	7
6140	GAT6A	6.9000	G5	1.5	-1.2	3.0	-3.0	1.0100	1.9	0.7909	6.2	65	7
6140	GAT6A	6.9000	G6	1.5	-1.2	3.0	-3.0	1.0100	1.9	0.7909	6.2	65	7
6155	MIR13B	13.800	G7	18.0	8.0	8.0	0.0	0.9967	19.7*	0.9135	23.0	65	7
6155	MIR13B	13.800	G8	18.0	8.0	8.0	0.0	0.9967	19.7*	0.9135	23.0	65	7
SUBSYSTEM TOTALS				55.4	17.9	49.0	-33.0				115.5		

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:05
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA SECA
 BUSES WITH VOLTAGE GREATER THAN 1.0000:

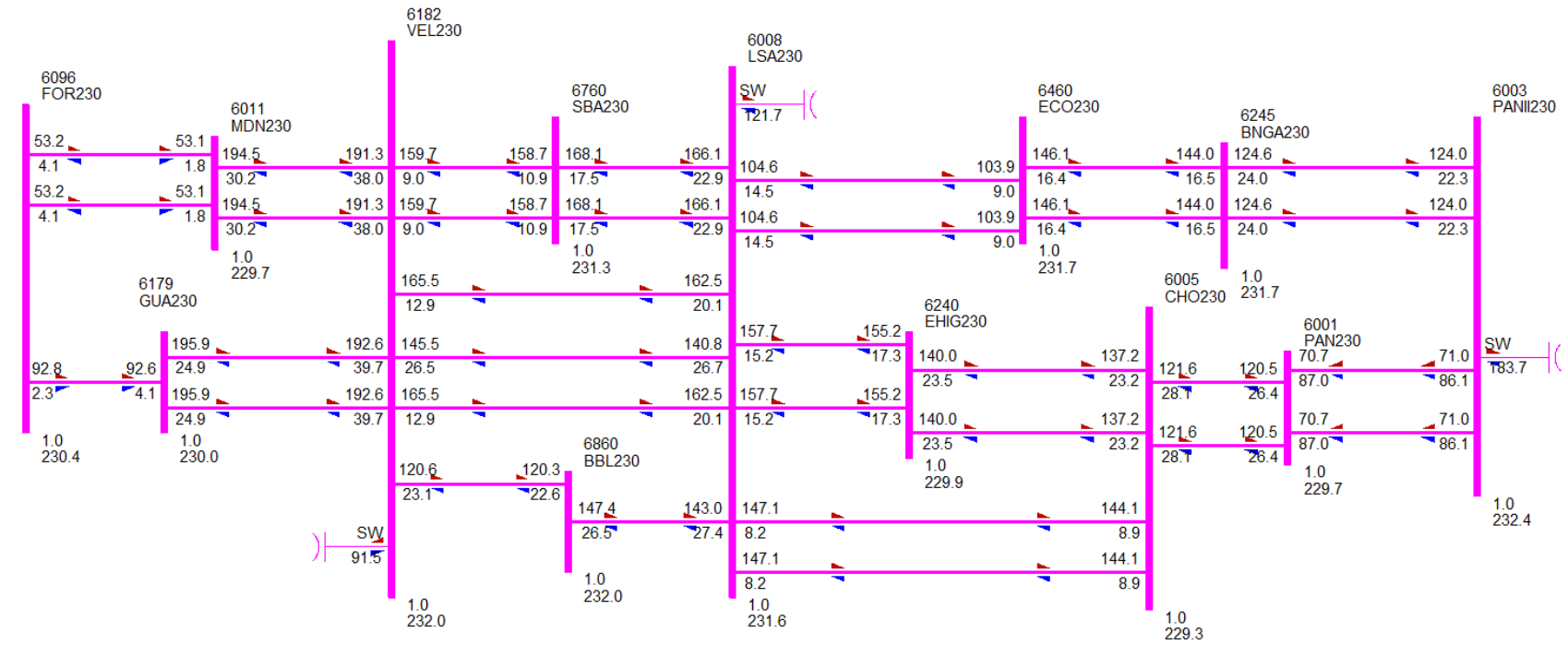
BUS#	X-- NAME	--X BASKV	AREA	V(PU)	V(KV)	BUS#	X-- NAME	--X BASKV	AREA	V(PU)	V(KV)
6000	FRONTPRO	230.00	6	1.0088	232.02	6002	PAN115	115.00	6	1.0094	116.08
6003	PANII230	230.00	6	1.0019	230.44	6004	PANII115	115.00	6	1.0266	118.06
6005	CHO230	230.00	6	1.0024	230.56	6008	LSA230	230.00	6	1.0135	233.10
6009	LSA115	115.00	6	1.0087	116.00	6011	MDN230	230.00	6	1.0090	232.06
6012	MDN115	115.00	6	1.0169	116.94	6014	PRO230	230.00	6	1.0086	231.98
6015	PRO115	115.00	6	1.0044	115.50	6018	CAC115	115.00	6	1.0085	115.97
6059	LM1115	115.00	6	1.0033	115.38	6060	LM2115	115.00	6	1.0034	115.39
6087	CAL115	115.00	6	1.0203	117.34	6088	LES115	115.00	6	1.0227	117.61
6092	LVA115	115.00	6	1.0202	117.32	6096	FOR230	230.00	6	1.0104	232.39
6100	BAY230	230.00	6	1.0071	231.63	6170	CPA115	115.00	6	1.0091	116.05
6171	PAC230	230.00	6	1.0067	231.54	6173	STR115	115.00	6	1.0063	115.72
6179	GUA230	230.00	6	1.0090	232.08	6182	VEL230	230.00	6	1.0139	233.20
6240	EHIG230	230.00	6	1.0059	231.35	6245	BNGA230	230.00	6	1.0003	230.06
6260	CHA230	230.00	6	1.0211	234.85	6261	CHA115	115.00	6	1.0096	116.10
6263	ESP230	230.00	6	1.0220	235.07	6290	CATII115	115.00	6	1.0037	115.43
6340	CAN230	230.00	6	1.0118	232.70	6350	PM115-8	115.00	6	1.0000	115.00
6380	BOQIII230	230.00	6	1.0098	232.24	6400	FRONTCHA	230.00	6	1.0225	235.16
6401	PM230-29	230.00	6	1.0104	232.39	6440	DOM230	230.00	6	1.0060	231.38
6441	PRIM230	230.00	6	1.0060	231.38	6460	ECO230	230.00	6	1.0082	231.90
6470	24DIC230	230.00	6	1.0024	230.56	6500	FRONTDOM	230.00	6	1.0073	231.68
6601	COP230	230.00	6	1.0026	230.60	6760	SBA230	230.00	6	1.0149	233.42

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	0.9932	228.45	6024	CHI115	115.00	6	0.9934	114.24

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

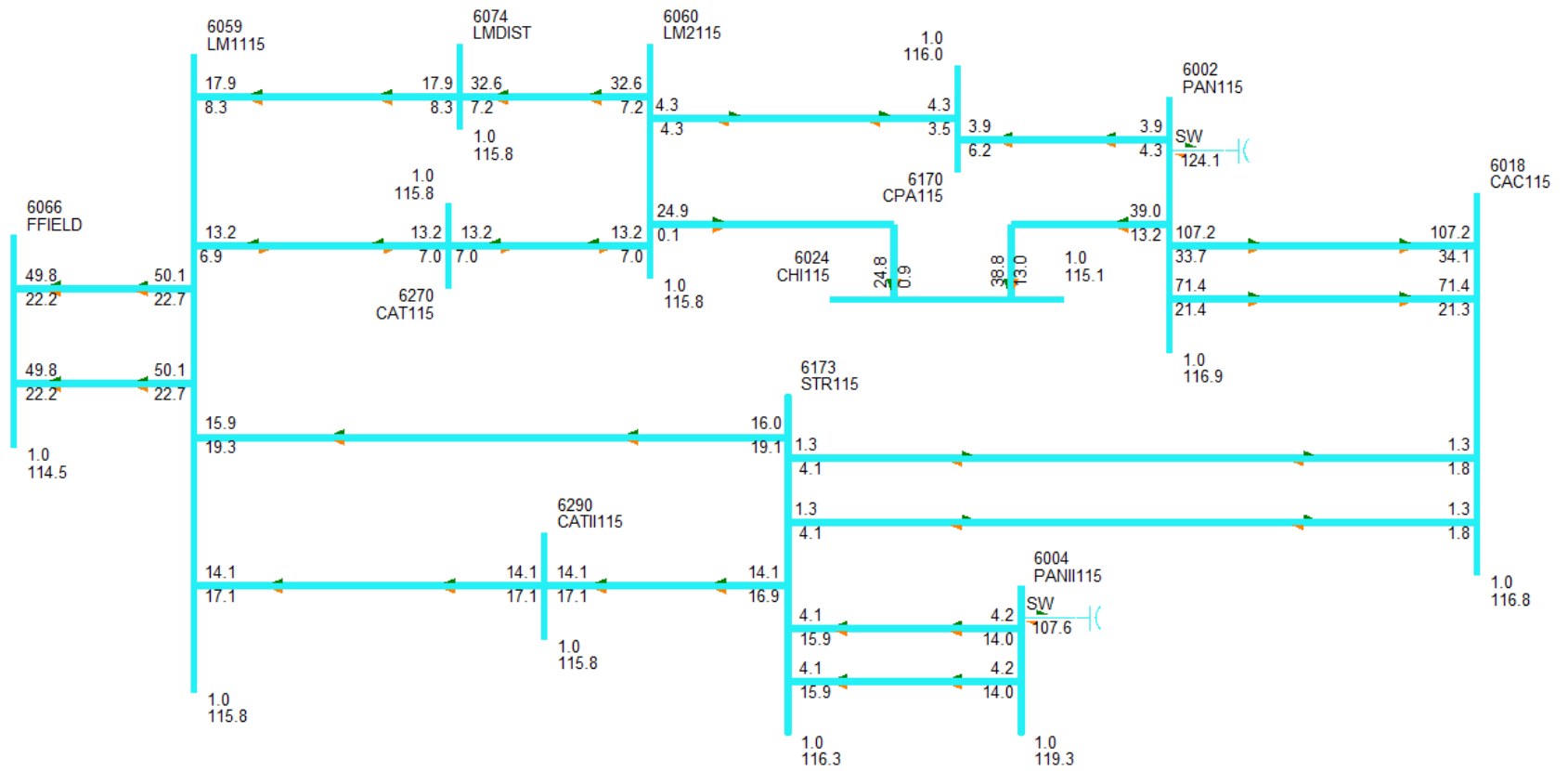


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

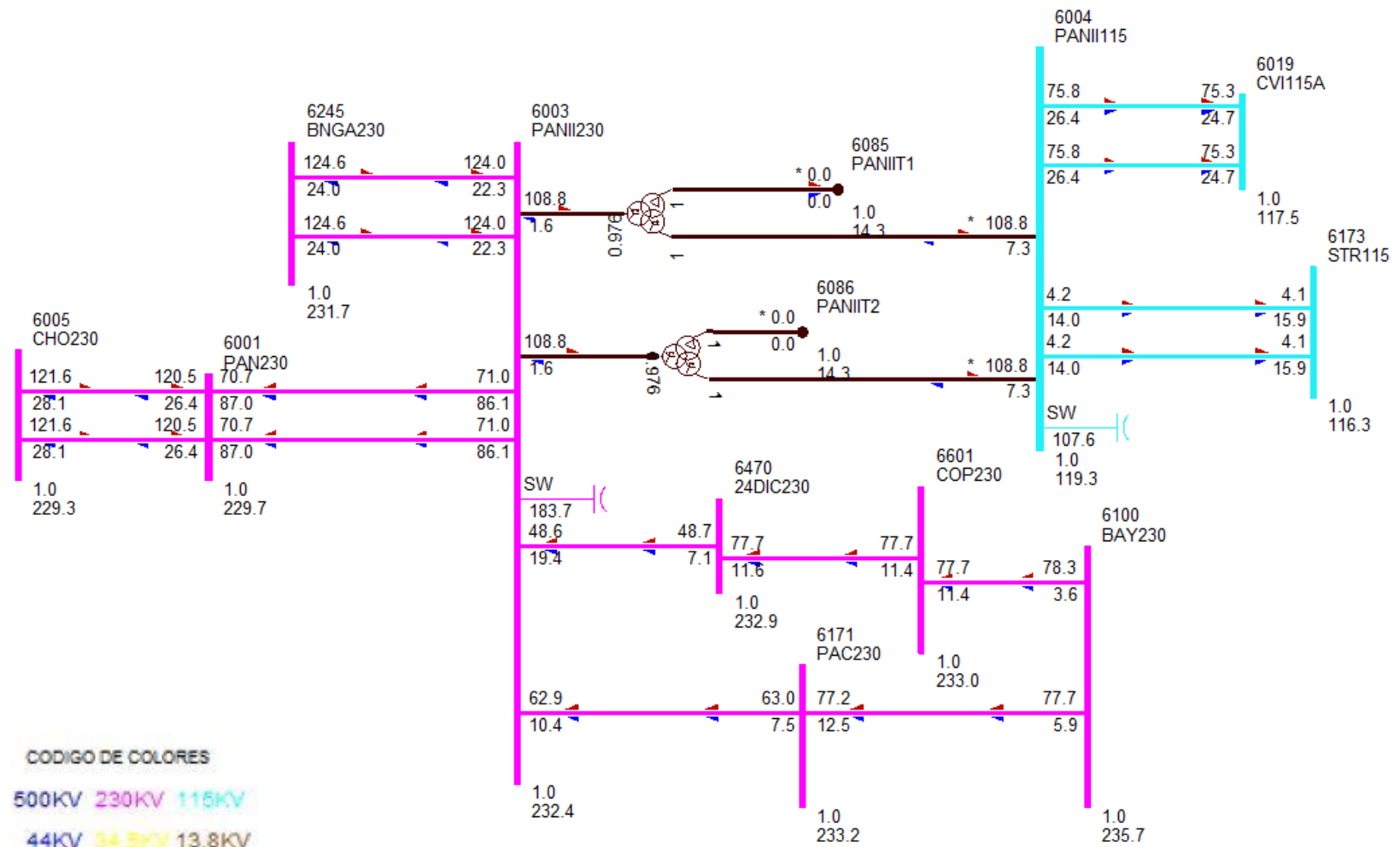
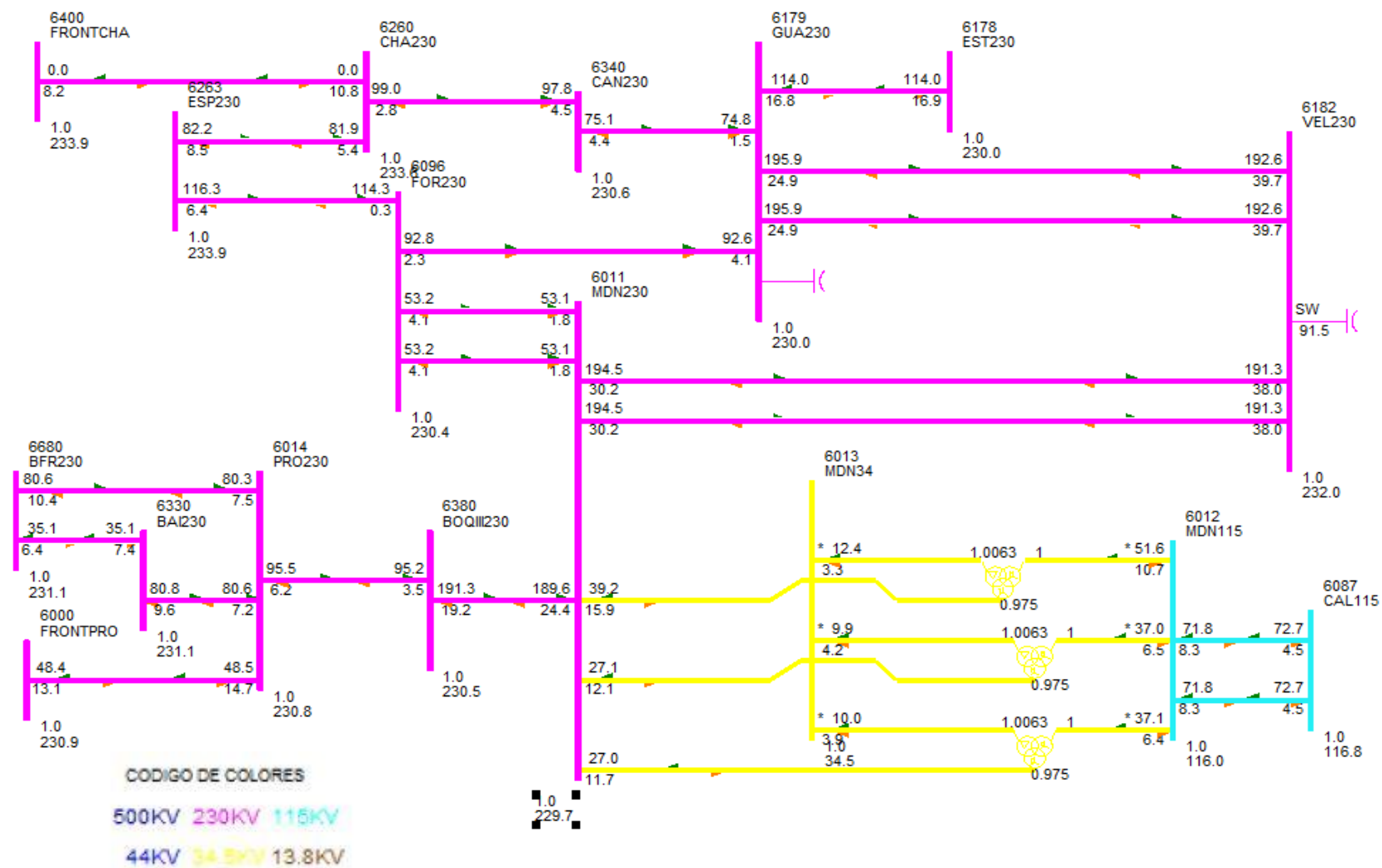


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 10:35
 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	1.0051	24.9	1.0000	47.0			62	6	
6072	BLMG3	13.800	V3	25.0	0.0	15.0	0.0	1.0051	24.9	1.0000	47.0			62	6	
6073	BLMG4	13.800	V4	25.0	0.0	15.0	0.0	1.0053	24.9	1.0000	47.0			62	6	
6078	BLMG9	13.800	V9	39.0	10.0	10.0	0.0	0.9952	40.5*	0.9687	71.0			62	6	
6090	LESG1	13.800	E1	22.4	5.7	12.0	-5.0	1.0100	22.9	0.9693	27.0			64	6	
6091	LESG2	13.800	E2	22.4	5.7	12.0	-5.0	1.0100	22.9	0.9693	27.0			64	6	
6094	LVAG1	13.800	L1	26.0	-0.8	12.0	-5.0	1.0100	25.8	0.9995	27.0			64	6	
6095	LVAG2	13.800	L2	26.0	-0.8	12.0	-5.0	1.0100	25.8	0.9995	27.0			64	6	
6097	FORG1	13.800	F1	85.0	2.3	50.0	-50.0	1.0000	85.0	0.9996	111.0			64	6	
6101	BAYG1	13.800	B1	52.0	9.6	30.0	-25.0	1.0100	52.4	0.9832	94.0			61	6	
6102	BAYG2	13.800	B2	52.0	9.6	30.0	-25.0	1.0100	52.4	0.9832	94.0			61	6	
6110	BAYG3	13.800	B3	52.0	0.2	35.0	-25.0	1.0100	51.5	1.0000	100.0			61	6	
6158	MIRG9	13.800	G9	37.4	-16.0	22.1	-20.7	1.0000	40.7	0.9198	49.2			65	6	
6159	MIRG10	13.800	G0	37.4	-16.0	22.1	-20.7	1.0000	40.7	0.9198	49.2			65	6	
6176	ESTG1	13.800	E1	57.0	11.8	29.0	-29.0	1.0100	57.6	0.9792	69.0			64	6	
6177	ESTG2	13.800	E2	57.0	11.8	29.0	-29.0	1.0100	57.6	0.9792	69.0			64	6	
6264	CHANG1	13.800	G1	93.9	5.1	50.8	-50.8	1.0100	93.1	0.9985	116.5			64	6	SYST
6265	CHANG2	13.800	G2	96.0	5.2	50.8	-50.8	1.0100	95.2	0.9985	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			64	6	
6305	ALG 13A	13.800	A1	4.8	-1.2	2.3	-2.3	1.0000	4.9	0.9701	5.7			64	6	
6305	ALG 13A	13.800	A2	4.8	-1.2	2.3	-2.3	1.0000	4.9	0.9701	5.7			64	6	
6306	MEN 13A	13.800	M1	8.9	4.2	4.2	-4.2	0.9919	9.9*	0.9059	10.4			64	6	
6306	MEN 13A	13.800	M2	8.9	4.2	4.2	-4.2	0.9919	9.9*	0.9059	10.4			64	6	
6307	COC 13A	34.500	G1	7.1	-5.7	6.5	-5.7	1.0100	9.0*	0.7821	8.4			64	6	
6307	COC 13A	34.500	G2	7.1	-3.3	3.3	-3.3	1.0100	7.8*	0.9064	8.4			64	6	
6308	MENII 13A	13.800	G1	3.6	0.0	1.9	0.0	1.0043	3.6	1.0000	4.1			64	6	
6308	MENII 13A	13.800	G2	3.6	0.0	1.9	0.0	1.0043	3.6	1.0000	4.1			64	6	
6333	BAMG1	13.800	G1	26.6	2.0	10.0	-10.0	1.0000	26.7	0.9971	30.0			64	6	
6334	BAMG2	13.800	G2	15.0	0.6	10.0	-10.0	1.0000	15.0	0.9993	30.0			64	6	
6335	BAIG1	13.800	G1	39.0	-2.5	14.0	-14.0	1.0000	39.1	0.9980	49.0			64	6	
6336	BAIG2	13.800	G2	26.0	-3.0	14.0	-14.0	1.0000	26.2	0.9933	49.0			64	6	
6361	GLAG1	13.800	G1	12.1	-3.3	7.8	-7.0	1.0000	12.5	0.9654	14.1			64	6	
6362	GLAG2	13.800	G2	12.1	-3.3	7.8	-7.0	1.0000	12.5	0.9654	14.1			64	6	
6364	LORG1	13.800	G1	16.1	-6.7	7.8	-7.0	1.0000	17.4	0.9222	25.0			64	6	
6365	LORG2	13.800	G2	16.1	-6.7	7.8	-7.0	1.0000	17.4	0.9222	25.0			64	6	
6367	PRUG1	13.800	G1	27.9	-8.0	8.0	-8.0	1.0006	29.0	0.9612	33.0			64	6	
6368	PRUG2	13.800	G2	27.9	-8.0	8.0	-8.0	1.0006	29.0	0.9612	33.0			64	6	
6386	PEDI 13A	13.800	G1	11.9	2.8	6.2	-6.8	1.0000	12.2	0.9732	12.5			64	6	
6386	PEDI 13A	13.800	G2	11.9	2.8	6.2	-6.8	1.0000	12.2	0.9732	12.5			64	6	
6387	PEDII 13A	13.800	G1	6.1	0.5	3.3	-3.3	1.0000	6.1	0.9967	7.1			64	6	
6387	PEDII 13A	13.800	G2	6.1	0.5	3.3	-3.3	1.0000	6.1	0.9967	7.1			64	6	
6388	MACG1	0.6900	G1	1.7	-0.8	1.0	-0.8	1.0049	1.9*	0.9048	2.1			64	6	

6389	MACG2	0.6900	G2	1.7	-0.8	1.0	-0.8	1.0049	1.9*	0.9048	2.1	64	6
6390	CON 4.16A	4.1600	G1	4.8	-0.3	1.0	-0.8	1.0000	4.8	0.9980	6.3	64	6
6390	CON 4.16A	4.1600	G2	4.8	-0.3	1.0	-0.8	1.0000	4.8	0.9980	6.3	64	6
6391	PAAG1	2.1400	G1	2.8	1.0	1.0	-0.8	0.9997	3.0*	0.9429	3.5	64	6
6392	PAAG2	2.1400	G2	2.8	1.0	1.0	-0.8	0.9997	3.0*	0.9429	3.5	64	6
6394	LPN 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9937	4.9*	0.9785	6.3	64	6
6394	LPN 4.16A	4.1600	G2	4.8	1.0	1.0	-0.8	0.9937	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9937	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G2	4.8	1.0	1.0	-0.8	0.9937	4.9*	0.9785	6.3	64	6
6396	RP4G1	6.6000	G1	6.2	0.7	4.6	-2.3	1.0000	6.3	0.9945	7.3	64	6
6397	RP4G2	6.6000	G2	6.2	0.7	4.6	-2.3	1.0000	6.3	0.9945	7.3	64	6
6420	DOL 4.16A	4.1600	G1	1.0	0.5	0.8	-0.8	1.0000	1.1	0.9043	1.3	64	6
6420	DOL 4.16A	4.1600	G2	1.0	0.5	0.8	-0.8	1.0000	1.1	0.9043	1.3	64	6
6420	DOL 4.16A	4.1600	G3	1.0	0.5	0.8	-0.8	1.0000	1.1	0.9043	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.5	0.5	0.8	-0.8	1.0000	1.6	0.9533	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.5	0.5	0.8	-0.8	1.0000	1.6	0.9533	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.5	0.5	0.8	-0.8	1.0000	1.6	0.9533	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.2	0.7	0.8	-0.8	1.0000	1.4	0.8565	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.2	0.7	0.8	-0.8	1.0000	1.4	0.8565	1.5	64	6
6423	BU1G1	4.1600	G1	2.0	-0.4	1.0	-0.4	1.0000	2.0	0.9838	2.3	64	6
6424	BU1G2	4.1600	G2	2.0	-0.4	1.0	-0.4	1.0000	2.0	0.9838	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.2	0.6	-0.5	1.0000	0.9	0.9813	1.1	64	6
6427	BUGII 4.16	4.2000	G1	3.0	-0.2	1.5	-1.5	1.0000	3.0	0.9976	3.5	64	6
6427	BUGII 4.16	4.2000	G2	3.0	-0.2	1.5	-1.5	1.0000	3.0	0.9976	3.5	64	6
6427	BUGII 4.16	4.2000	G3	1.7	-0.1	0.8	-0.8	1.0000	1.7	0.9976	1.9	64	6
6432	YEG 4.16A	4.1600	G1	2.8	-1.1	2.2	-2.2	1.0000	3.0	0.9363	3.8	64	6
6432	YEG 4.16A	4.1600	G2	2.8	-1.1	2.2	-2.2	1.0000	3.0	0.9363	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.9	-0.4	0.8	-0.8	1.0000	1.0	0.9363	1.2	64	6
6433	EFR 4.16A	4.1600	G1	2.5	-1.6	1.6	-1.6	1.0023	3.0*	0.8386	3.2	64	6
6433	EFR 4.16A	4.1600	G2	2.5	-1.6	1.6	-1.6	1.0023	3.0*	0.8386	3.2	64	6
6436	LHU13.8	13.800	G1	2.4	-0.2	1.2	-1.2	1.0000	2.4	0.9969	2.8	63	6
6436	LHU13.8	13.800	G2	2.4	-0.2	1.2	-1.2	1.0000	2.4	0.9969	2.8	63	6
6444	PDOG1	13.800	G1	15.8	-2.3	12.8	-8.3	1.0000	16.0	0.9895	18.5	64	6
6445	PDOG2	13.800	G2	6.0	-2.4	12.8	-8.3	1.0000	6.5	0.9274	18.5	64	6
6446	ALTG1	13.800	G1	21.3	-3.1	10.9	-7.6	1.0000	21.5	0.9897	24.9	64	6
6447	ALTG2	13.800	G2	21.3	-3.1	10.9	-7.6	1.0000	21.5	0.9897	24.9	64	6
6448	ALTG3	13.800	G3	9.0	-3.3	10.9	-7.6	1.0000	9.6	0.9400	24.9	64	6
6449	MLIG1	13.800	G1	15.8	-3.3	12.8	-8.3	1.0000	16.1	0.9782	18.5	64	6
6450	MLIG2	13.800	G2	15.8	-3.3	12.8	-8.3	1.0000	16.1	0.9782	18.5	64	6
6462	RDVG1	0.6900	E1	25.6	-3.1	8.4	-8.4	1.0000	25.8	0.9928	107.9	64	6
6463	PORG1	0.6900	E2	11.9	-1.2	3.9	-3.9	1.0000	11.9	0.9949	50.0	64	6
6464	MARG1	0.6900	E3	4.4	-0.6	1.4	-1.4	1.0000	4.4	0.9898	18.4	64	6
6465	NCHIG1	0.6900	E4	13.8	-2.6	4.5	-4.5	1.0000	14.0	0.9828	57.9	64	6
6473	NCHIIIG1	0.6900	E5	28.8	-3.0	9.4	-9.4	1.0000	28.9	0.9945	121.1	64	6
6481	SLOR6	6.0000	G1	4.2	1.5	1.5	-1.7	0.9990	4.4*	0.9412	4.9	64	6
6481	SLOR6	6.0000	G2	4.2	1.5	1.5	-1.7	0.9990	4.4*	0.9412	4.9	64	6
6492	BONG1	13.800	G1	9.9	-0.4	4.9	-2.0	1.0000	9.9	0.9993	11.5	64	6
6493	BONG2	13.800	G2	9.9	-0.4	4.9	-2.0	1.0000	9.9	0.9993	11.5	64	6
6494	BONG3	13.800	G3	9.9	-0.4	4.9	-2.0	1.0000	9.9	0.9993	11.5	64	6
6521	JIN4.16A	4.1600	G1	8.1	-0.3	1.5	-1.5	1.0000	8.1	0.9995	10.6	62	6
6522	JIN4.16A	4.1600	G2	8.1	-0.3	1.5	-1.5	1.0000	8.1	0.9995	10.6	62	6
6523	JIN4.16B	4.1600	G3	8.1	-0.7	1.5	-1.5	1.0000	8.1	0.9959	10.6	62	6
6605	CEP13.8	13.800	G1	4.8	-0.8	2.3	-2.3	1.0000	4.8	0.9847	5.3	60	6

6605	CEP13.8	13.800	G2	4.8	-0.8	2.3	-2.3	1.0000	4.8	0.9847	5.3	60	6
6651	BDT4.16	4.2000	G1	4.8	0.4	2.5	-2.5	1.0000	4.8	0.9961	5.6	64	6
6682	LPO13.8	13.800	G1	12.0	-0.4	7.8	-5.9	1.0000	12.0	0.9994	15.5	64	6
6682	LPO13.8	13.800	G2	7.0	-0.2	7.8	-5.9	1.0000	7.0	0.9994	15.5	64	6
6684	SAL13.8	13.800	G1	13.2	0.2	7.8	-5.9	1.0000	13.3	0.9999	15.5	64	6
6684	SAL13.8	13.800	G2	13.2	0.2	7.8	-5.9	1.0000	13.3	0.9999	15.5	64	6
6731	SAN13.8	13.800	G1	4.9	0.1	2.7	-2.7	1.0000	4.9	0.9997	5.8	64	6
6731	SAN13.8	13.800	G2	4.9	0.1	2.7	-2.7	1.0000	4.9	0.9997	5.8	64	6
6766	CRU13.8	13.800	G1	9.8	-4.0	4.9	-4.9	1.0000	10.6*	0.9276	12.5	63	6
6766	CRU13.8	13.800	G2	9.8	-4.0	4.9	-4.9	1.0000	10.6*	0.9276	12.5	63	6
6821	PLAII13.8	13.800	G1	3.5	0.0	1.8	-1.8	1.0000	3.5	1.0000	4.1	64	6
6861	BBL13.8	13.800	G1	12.7	-0.8	6.4	-6.4	1.0000	12.7	0.9980	14.8	64	6
6861	BBL13.8	13.800	G2	12.7	-0.8	6.4	-6.4	1.0000	12.7	0.9980	14.8	64	6
6861	BBL13.8	13.800	G3	1.8	-0.1	0.8	-0.6	1.0000	1.8	0.9980	2.1	64	6
SUBSYSTEM TOTALS				1603.1	-30.4	843.1	-678.1				2439.6		

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E FRI, JUN 26 2015 10:35
 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	11.4	2.7	6.0	-6.0	1.0000	11.7	0.9734	13.0			65	7	
6135		MADG2		6.9000	G2	11.4	2.3	6.0	-6.0	1.0000	11.6	0.9808	13.0			65	7	
6136		MADG3		6.9000	G3	11.4	4.0	6.0	-6.0	1.0100	12.0	0.9425	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-0.5	2.0	-2.0	1.0100	2.9	0.9855	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-0.5	2.0	-2.0	1.0100	2.9	0.9855	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-0.5	2.0	-2.0	1.0100	2.9	0.9855	4.1			65	7	
6140		GAT6A		6.9000	G4	4.3	-0.7	3.0	-3.0	1.0100	4.3	0.9855	5.6			65	7	
6140		GAT6A		6.9000	G5	4.3	-0.7	3.0	-3.0	1.0100	4.3	0.9855	6.2			65	7	
6140		GAT6A		6.9000	G6	4.3	-0.7	3.0	-3.0	1.0100	4.3	0.9855	6.2			65	7	
SUBSYSTEM TOTALS						55.6	5.3	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 10:35
 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	1.0039	230.89	6002		PAN115		115.00	6	1.0169	116.95
6003		PANII230		230.00	6	1.0103	232.36	6004		PANII115		115.00	6	1.0373	119.29
6008		LSA230		230.00	6	1.0072	231.65	6009		LSA115		115.00	6	1.0043	115.50
6012		MDN115		115.00	6	1.0088	116.01	6014		PRO230		230.00	6	1.0034	230.77
6018		CAC115		115.00	6	1.0160	116.84	6024		CHI115		115.00	6	1.0007	115.09
6059		LM1115		115.00	6	1.0066	115.76	6060		LM2115		115.00	6	1.0066	115.76
6087		CAL115		115.00	6	1.0157	116.81	6088		LES115		115.00	6	1.0191	117.20
6092		LVA115		115.00	6	1.0161	116.85	6096		FOR230		230.00	6	1.0018	230.42
6100		BAY230		230.00	6	1.0250	235.74	6170		CPA115		115.00	6	1.0084	115.97
6171		PAC230		230.00	6	1.0140	233.23	6173		STR115		115.00	6	1.0114	116.31
6182		VEL230		230.00	6	1.0085	231.96	6245		BNGA230		230.00	6	1.0074	231.70
6260		CHA230		230.00	6	1.0155	233.56	6261		CHA115		115.00	6	1.0051	115.59
6263		ESP230		230.00	6	1.0171	233.94	6290		CATII115		115.00	6	1.0071	115.82
6340		CAN230		230.00	6	1.0026	230.60	6350		PM115-8		115.00	6	1.0090	116.03
6380		BOQIII230		230.00	6	1.0020	230.45	6400		FRONTCHA		230.00	6	1.0169	233.88
6401		PM230-29		230.00	6	1.0012	230.27	6440		DOM230		230.00	6	1.0036	230.82
6441		PRIM230		230.00	6	1.0035	230.79	6460		ECO230		230.00	6	1.0072	231.66
6470		24DIC230		230.00	6	1.0126	232.90	6500		FRONTDOM		230.00	6	1.0042	230.97
6601		COP230		230.00	6	1.0130	232.98	6760		SBA230		230.00	6	1.0058	231.34
6860		BBL230		230.00	6	1.0085	231.95								

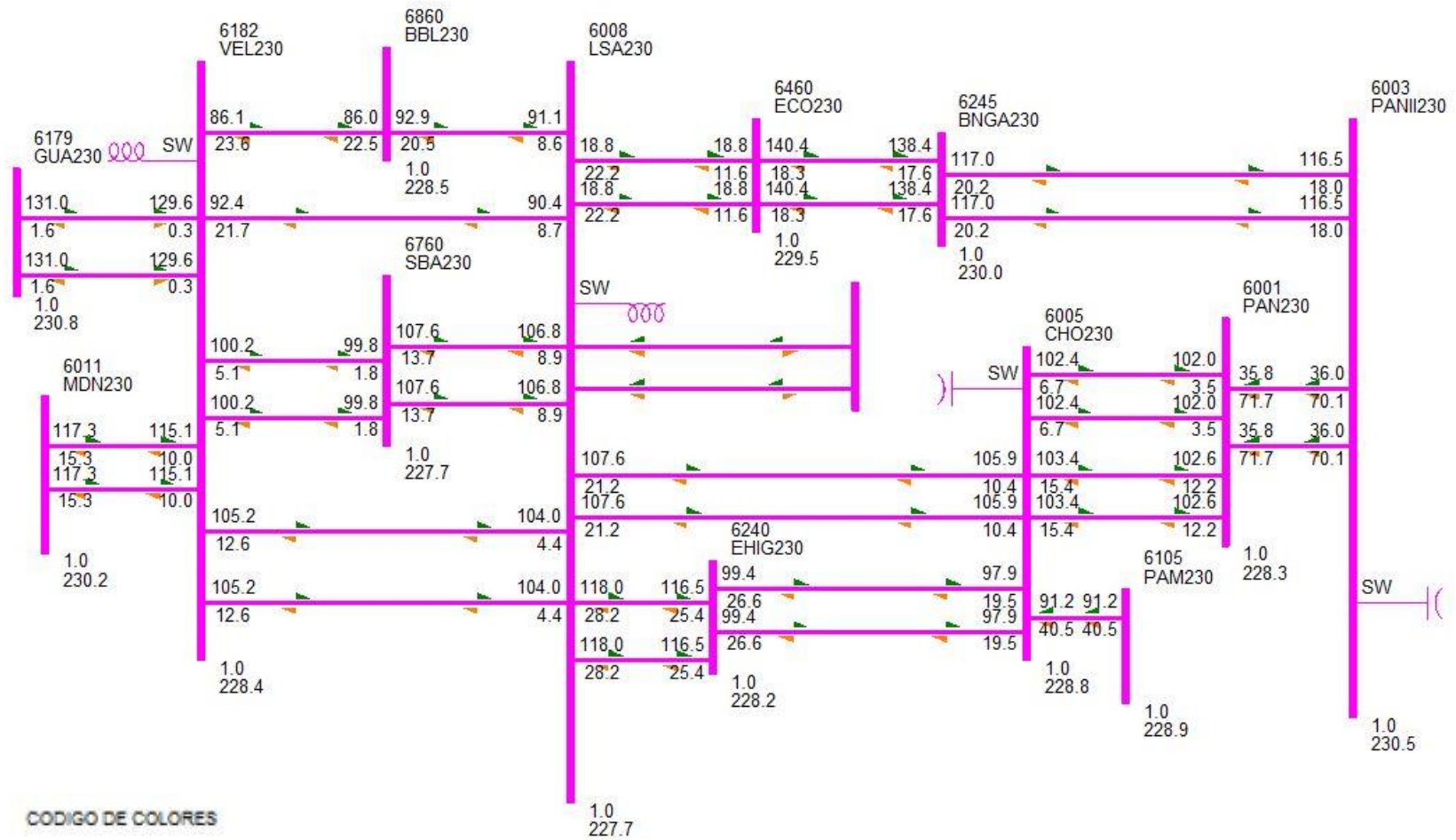
BUSES WITH VOLTAGE LESS THAN 1.0000:

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	0.9985	229.65	6005		CHO230		230.00	6	0.9972	229.35
6011		MDN230		230.00	6	0.9988	229.72	6015		PRO115		115.00	6	0.9992	114.91
6179		GUA230		230.00	6	0.9999	229.97	6240		EHIG230		230.00	6	0.9998	229.94

Año 2017

Demanda Máxima de Verano

Diagrama del Sistema Principal de Transmisión

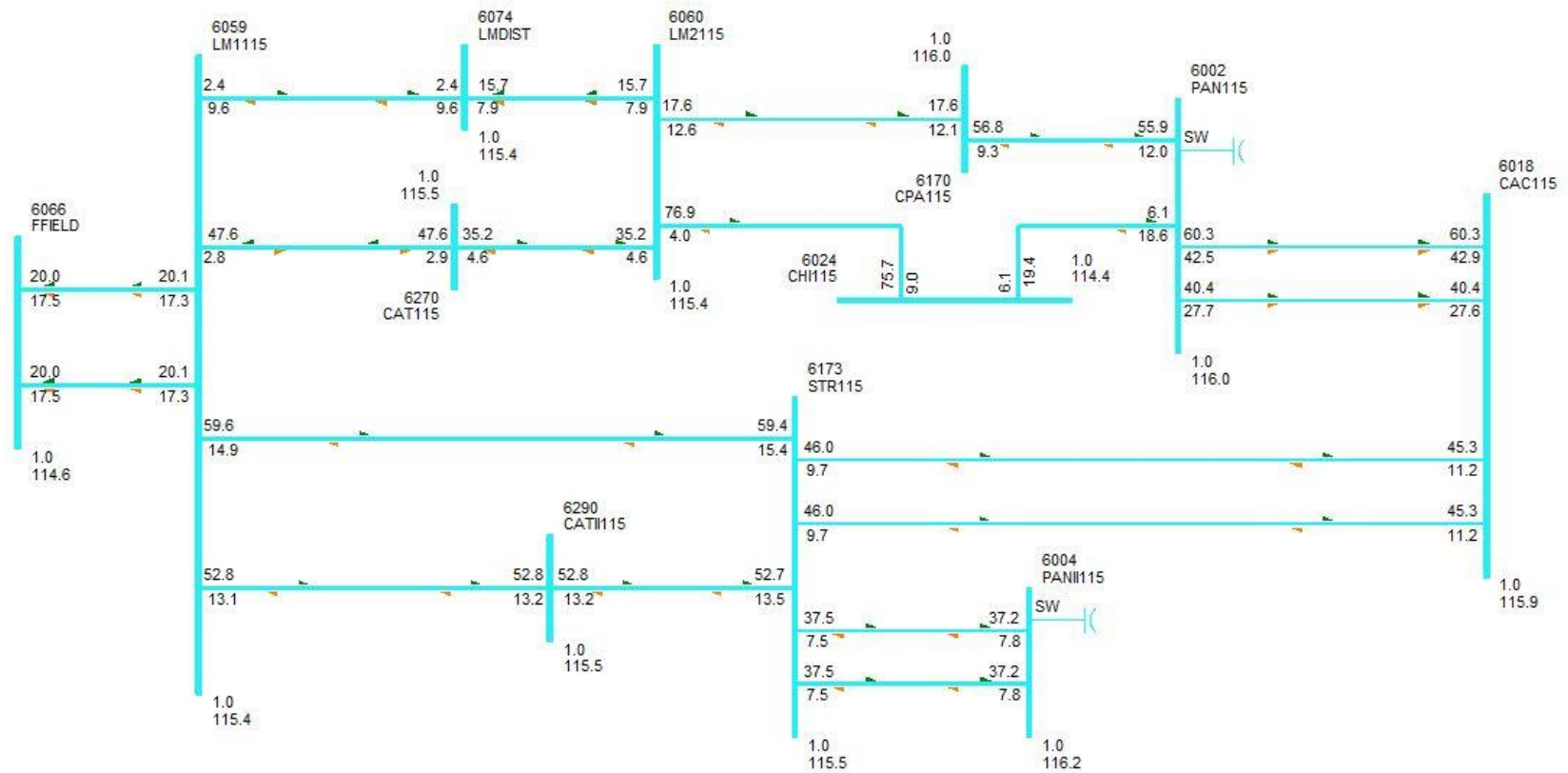


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

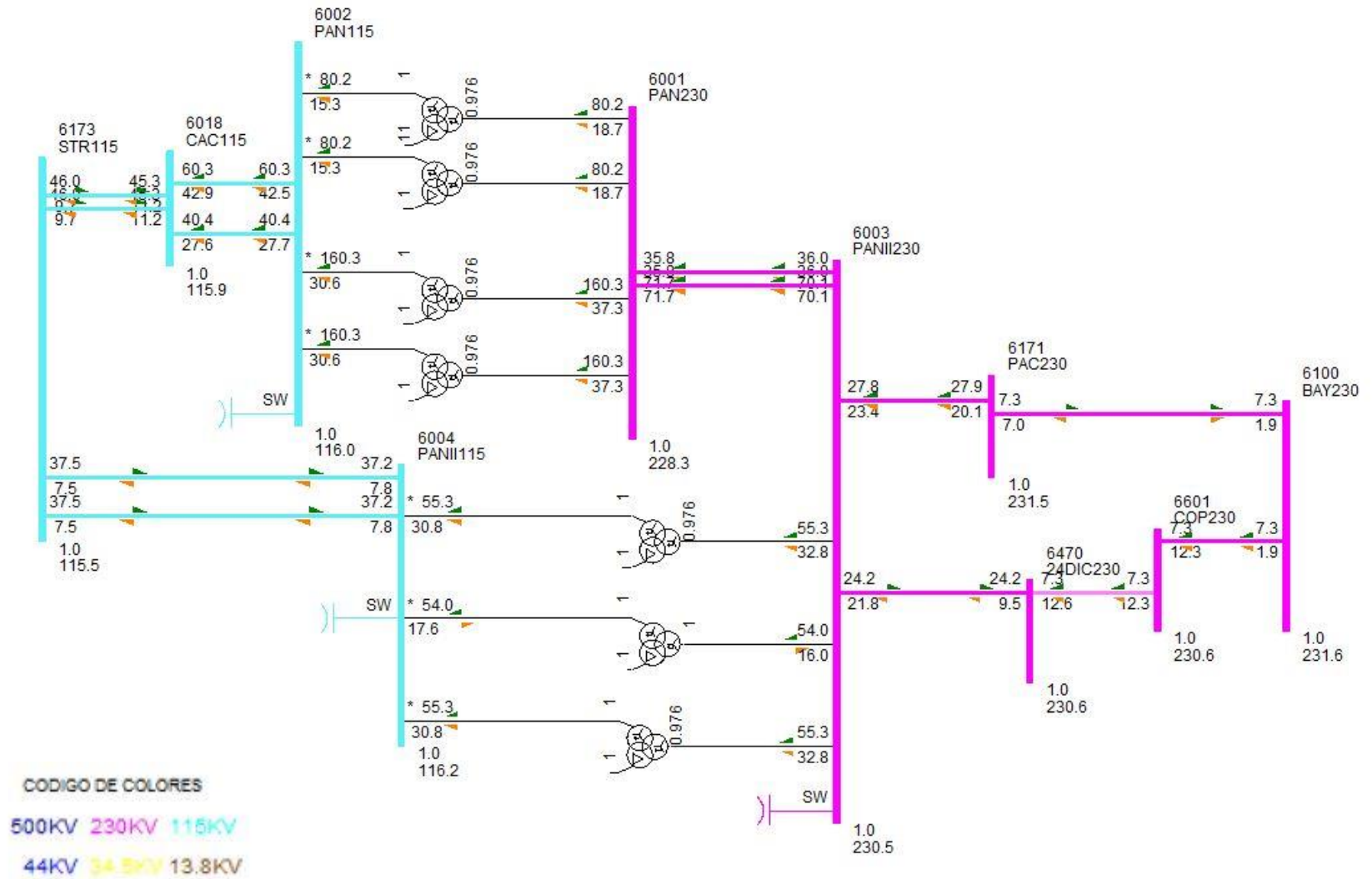
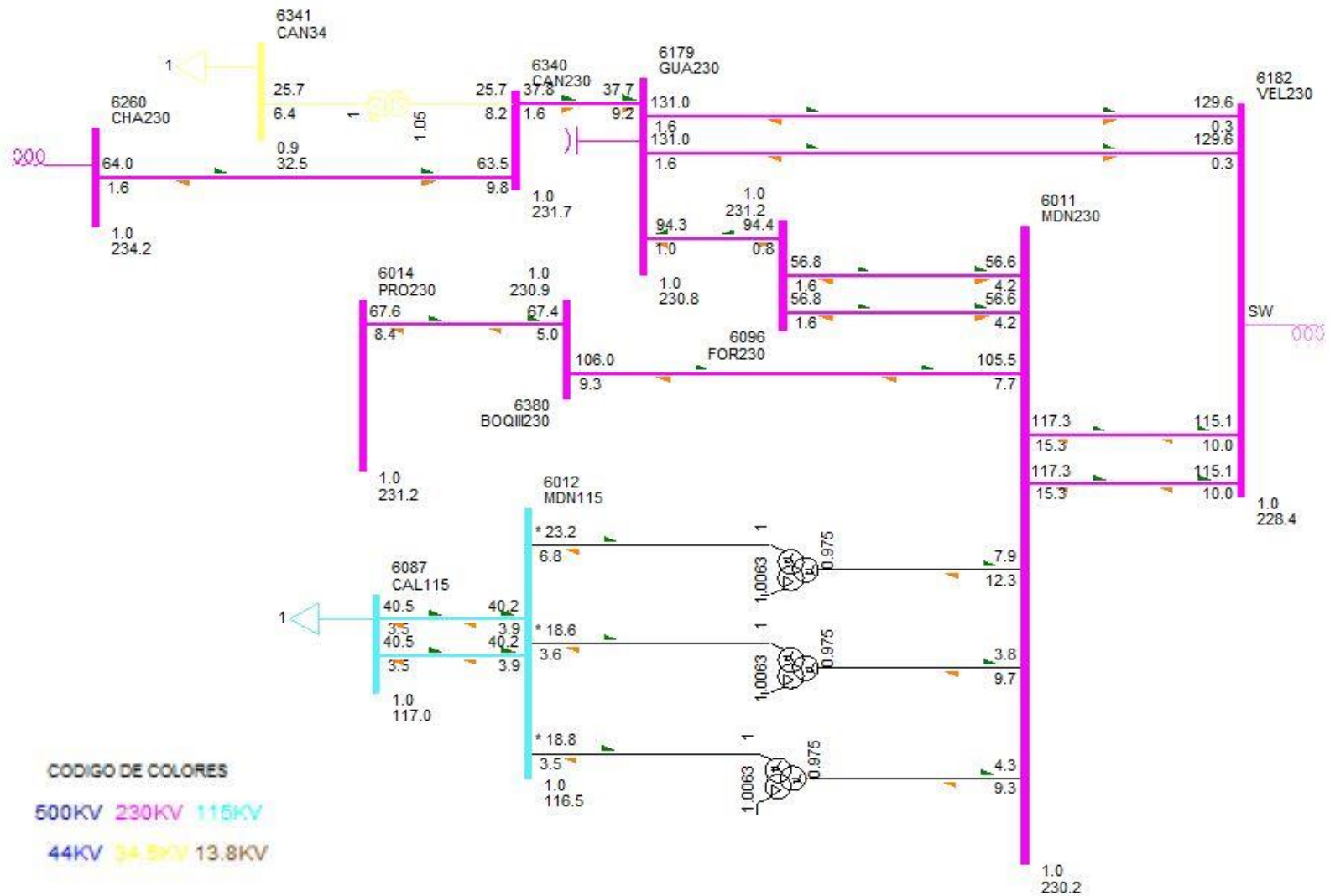


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:34
 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	0.0	15.0	0.0	1.0024	24.9	1.0000	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	0.0	15.0	0.0	1.0024	24.9	1.0000	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	0.0	15.0	0.0	1.0025	24.9	1.0000	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9926	40.6*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	14.2	4.9	12.0	-5.0	1.0100	14.8	0.9443	27.0			64	6	
6091		LESG2		13.800	E2	14.2	4.9	12.0	-5.0	1.0100	14.8	0.9443	27.0			64	6	
6094		LVAG1		13.800	L1	12.0	-2.0	12.0	-5.0	1.0100	12.0	0.9865	27.0			64	6	
6095		LVAG2		13.800	L2	12.0	-2.0	12.0	-5.0	1.0100	12.0	0.9865	27.0			64	6	
6097		FORG1		13.800	F1	75.0	-1.6	50.0	-50.0	1.0000	75.0	0.9998	111.0			64	6	
6098		FORG2		13.800	F2	65.0	-2.4	50.0	-50.0	1.0000	65.0	0.9993	111.0			64	6	
6103		BAR13A		13.800	G1	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9977	12.9			62	6	
6103		BAR13A		13.800	G2	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9977	12.9			62	6	
6103		BAR13A		13.800	G3	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9977	12.9			62	6	
6103		BAR13A		13.800	G4	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9977	12.9			62	6	
6104		BAR13B		13.800	G1	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9978	12.9			62	6	
6104		BAR13B		13.800	G2	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9978	12.9			62	6	
6104		BAR13B		13.800	G3	9.8	0.7	5.7	-5.7	1.0000	9.8	0.9978	12.9			62	6	
6106		PAM 13A		13.800	M1	15.2	9.0	9.0	0.0	0.9787	18.0*	0.8605	20.7			63	6	
6106		PAM 13A		13.800	M2	15.2	9.0	9.0	0.0	0.9787	18.0*	0.8605	20.7			63	6	
6106		PAM 13A		13.800	M3	15.2	9.0	9.0	0.0	0.9787	18.0*	0.8605	20.7			63	6	
6107		PAM 13B		13.800	M4	15.2	9.0	9.0	0.0	0.9787	18.0*	0.8605	20.7			63	6	
6107		PAM 13B		13.800	M5	15.2	9.0	9.0	0.0	0.9787	18.0*	0.8605	20.7			63	6	
6107		PAM 13B		13.800	M6	15.2	9.0	9.0	0.0	0.9787	18.0*	0.8605	20.7			63	6	
6127		MIRG6		12.000	G6	17.1	8.0	8.0	0.0	0.9975	18.9*	0.9058	27.7			65	6	
6158		MIRG9		13.800	G9	37.4	-13.4	22.1	-20.7	1.0000	39.7	0.9413	49.2			65	6	
6159		MIRG10		13.800	G0	37.4	-13.4	22.1	-20.7	1.0000	39.7	0.9413	49.2			65	6	
6172		PAC 13A		13.800	P1	17.0	6.5	9.0	-11.0	0.9900	18.3	0.9335	21.7			61	6	
6172		PAC 13A		13.800	P2	17.0	6.5	9.0	-11.0	0.9900	18.3	0.9335	21.7			61	6	
6172		PAC 13A		13.800	P3	17.0	6.5	9.0	-11.0	0.9900	18.3	0.9335	21.7			61	6	
6176		ESTG1		13.800	E1	36.0	5.0	29.0	-29.0	1.0100	36.0	0.9905	69.0			64	6	
6177		ESTG2		13.800	E2	36.0	5.0	29.0	-29.0	1.0100	36.0	0.9905	69.0			64	6	
6264		CHANG1		13.800	G1	65.8	0.1	50.8	-50.8	1.0100	65.2	1.0000	116.5			64	6	SYST
6265		CHANG2		13.800	G2	62.9	0.0	50.8	-50.8	1.0100	62.3	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			64	6	
6271		CAT 13A		13.800	G1	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G2	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G3	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G4	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6271		CAT 13A		13.800	G5	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G0	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G6	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G7	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G8	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6272		CAT 13B		13.800	G9	8.3	0.0	5.6	-5.6	1.0000	8.3	1.0000	10.9			62	6	
6281		GIR 13A		13.800	G1	3.7	0.7	2.0	-2.0	1.0200	3.7	0.9847	4.8			62	6	

6281	GIR 13A	13.800	G2	3.7	0.7	2.0	-2.0	1.0200	3.7	0.9847	4.8	62	6
6281	GIR 13A	13.800	G3	3.7	0.7	2.0	-2.0	1.0200	3.7	0.9847	4.8	62	6
6281	GIR 13A	13.800	G4	3.7	0.7	2.0	-2.0	1.0200	3.7	0.9847	4.8	62	6
6282	GIR 13B	13.800	G5	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6282	GIR 13B	13.800	G6	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6282	GIR 13B	13.800	G7	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6282	GIR 13B	13.800	G8	8.3	1.4	2.5	-2.5	1.0200	8.3	0.9851	10.9	62	6
6305	ALG 13A	13.800	A1	1.0	-1.0	2.3	-2.3	1.0000	1.4	0.7004	5.7	64	6
6305	ALG 13A	13.800	A2	1.0	-1.0	2.3	-2.3	1.0000	1.4	0.7004	5.7	64	6
6306	MEN 13A	13.800	M1	5.6	3.0	4.2	-4.2	0.9850	6.5	0.8815	10.4	64	6
6306	MEN 13A	13.800	M2	5.6	3.0	4.2	-4.2	0.9850	6.5	0.8815	10.4	64	6
6307	COC 13A	34.500	G1	4.5	-5.4	6.5	-5.7	1.0075	7.0*	0.6386	8.4	64	6
6307	COC 13A	34.500	G2	4.5	-3.3	3.3	-3.3	1.0075	5.6*	0.8046	8.4	64	6
6308	MENII 13A	13.800	G1	1.3	0.0	1.9	0.0	1.0013	1.3	1.0000	4.1	64	6
6308	MENII 13A	13.800	G2	1.3	0.0	1.9	0.0	1.0013	1.3	1.0000	4.1	64	6
6333	BAMG1	13.800	G1	16.8	0.3	10.0	-10.0	1.0000	16.8	0.9998	30.0	64	6
6334	BAMG2	13.800	G2	16.8	0.3	10.0	-10.0	1.0000	16.8	0.9998	30.0	64	6
6335	BAIG1	13.800	G1	26.5	-3.9	14.0	-14.0	1.0000	26.7	0.9892	49.0	64	6
6336	BAIG2	13.800	G2	26.5	-3.9	14.0	-14.0	1.0000	26.7	0.9892	49.0	64	6
6361	GLAG1	13.800	G1	7.6	-0.3	7.8	-7.0	1.0060	7.6	0.9990	14.1	64	6
6362	GLAG2	13.800	G2	7.6	-0.3	7.8	-7.0	1.0060	7.6	0.9990	14.1	64	6
6364	LORG1	13.800	G1	4.0	-1.3	7.8	-7.0	1.0075	4.2	0.9521	25.0	64	6
6365	LORG2	13.800	G2	4.0	-1.3	7.8	-7.0	1.0075	4.2	0.9521	25.0	64	6
6367	PRUG1	13.800	G1	17.6	-2.5	8.0	-8.0	1.0075	17.6	0.9899	33.0	64	6
6368	PRUG2	13.800	G2	17.6	-2.5	8.0	-8.0	1.0075	17.6	0.9899	33.0	64	6
6386	PEDI 13A	13.800	G1	2.0	0.5	6.2	-6.8	1.0000	2.1	0.9656	12.5	64	6
6386	PEDI 13A	13.800	G2	2.0	0.5	6.2	-6.8	1.0000	2.1	0.9656	12.5	64	6
6387	PEDII 13A	13.800	G1	3.8	-0.4	3.3	-3.3	1.0000	3.9	0.9943	7.1	64	6
6387	PEDII 13A	13.800	G2	3.8	-0.4	3.3	-3.3	1.0000	3.9	0.9943	7.1	64	6
6388	MACG1	0.6900	G1	0.5	-0.0	1.0	-0.8	1.0000	0.5	0.9960	2.1	64	6
6389	MACG2	0.6900	G2	0.5	-0.0	1.0	-0.8	1.0000	0.5	0.9960	2.1	64	6
6390	CON 4.16A	4.1600	G1	3.0	0.1	1.0	-0.8	1.0000	3.0	0.9998	6.3	64	6
6390	CON 4.16A	4.1600	G2	3.0	0.1	1.0	-0.8	1.0000	3.0	0.9998	6.3	64	6
6391	PAAG1	2.1400	G1	1.8	0.1	1.0	-0.8	1.0000	1.8	0.9970	3.5	64	6
6392	PAAG2	2.1400	G2	1.8	0.1	1.0	-0.8	1.0000	1.8	0.9970	3.5	64	6
6394	LPN 4.16A	4.1600	G1	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9985	6.3	64	6
6394	LPN 4.16A	4.1600	G2	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9985	6.3	64	6
6395	LPS 4.16A	4.1600	G1	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9985	6.3	64	6
6395	LPS 4.16A	4.1600	G2	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9985	6.3	64	6
6396	RP4G1	6.6000	G1	2.2	0.0	4.6	-2.3	1.0000	2.2	0.9999	7.3	64	6
6397	RP4G2	6.6000	G2	2.2	0.0	4.6	-2.3	1.0000	2.2	0.9999	7.3	64	6
6403	CDP4.16	4.2000	G1	1.1	-0.0	0.6	-0.8	1.0000	1.1	0.9990	2.5	64	6
6403	CDP4.16	4.2000	G2	1.1	-0.0	0.6	-0.8	1.0000	1.1	0.9990	2.5	64	6
6420	DOL 4.16A	4.1600	G1	0.3	0.0	0.8	-0.8	1.0000	0.3	0.9834	1.3	64	6
6420	DOL 4.16A	4.1600	G2	0.3	0.0	0.8	-0.8	1.0000	0.3	0.9834	1.3	64	6
6420	DOL 4.16A	4.1600	G3	0.3	0.0	0.8	-0.8	1.0000	0.3	0.9834	1.3	64	6
6421	LP1 4.16A	4.1600	G1	0.8	0.0	0.8	-0.8	1.0000	0.8	0.9981	1.8	64	6
6421	LP1 4.16A	4.1600	G2	0.8	0.0	0.8	-0.8	1.0000	0.8	0.9981	1.8	64	6
6421	LP1 4.16A	4.1600	G3	0.8	0.0	0.8	-0.8	1.0000	0.8	0.9981	1.8	64	6
6422	MMO 4.16A	4.1600	G1	0.5	0.1	0.8	-0.8	1.0000	0.5	0.9901	1.5	64	6
6422	MMO 4.16A	4.1600	G2	0.5	0.1	0.8	-0.8	1.0000	0.5	0.9901	1.5	64	6
6423	BU1G1	4.1600	G1	1.1	-0.1	1.0	-0.4	1.0000	1.1	0.9987	2.3	64	6
6424	BU1G2	4.1600	G2	1.1	-0.1	1.0	-0.4	1.0000	1.1	0.9987	2.3	64	6

6425	BU1G3	0.6900	G3	0.6	-0.0	0.6	-0.5	1.0000	0.6	0.9990	1.1	64	6
6427	BUGII 4.16	4.2000	G1	1.0	-0.0	1.5	-1.5	1.0000	1.0	0.9995	3.5	64	6
6427	BUGII 4.16	4.2000	G2	1.0	-0.0	1.5	-1.5	1.0000	1.0	0.9995	3.5	64	6
6427	BUGII 4.16	4.2000	G3	1.0	-0.0	0.8	-0.8	1.0000	1.0	0.9995	1.9	64	6
6432	YEG 4.16A	4.1600	G1	0.3	2.2	2.2	-2.2	1.0014	2.3	0.1322	3.8	64	6
6432	YEG 4.16A	4.1600	G2	0.3	2.2	2.2	-2.2	1.0014	2.3	0.1322	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.3	0.8	0.8	-0.8	1.0014	0.8	0.3714	1.2	64	6
6433	EFR 4.16A	4.1600	G1	1.5	1.6	1.6	-1.6	0.9945	2.2*	0.6727	3.2	64	6
6433	EFR 4.16A	4.1600	G2	1.5	1.6	1.6	-1.6	0.9945	2.2*	0.6727	3.2	64	6
6436	LHU13.8	13.800	G1	0.3	0.4	1.2	-1.2	1.0000	0.5	0.5827	2.8	63	6
6436	LHU13.8	13.800	G2	0.3	0.4	1.2	-1.2	1.0000	0.5	0.5827	2.8	63	6
6444	PDOG1	13.800	G1	2.5	-1.3	12.8	-8.3	1.0005	2.8	0.8826	18.5	64	6
6445	PDOG2	13.800	G2	2.5	-1.3	12.8	-8.3	1.0005	2.8	0.8826	18.5	64	6
6446	ALTG1	13.800	G1	13.5	-2.4	10.9	-7.6	1.0000	13.7	0.9848	24.9	64	6
6447	ALTG2	13.800	G2	13.5	-2.4	10.9	-7.6	1.0000	13.7	0.9848	24.9	64	6
6448	ALTG3	13.800	G3	13.5	-2.4	10.9	-7.6	1.0000	13.7	0.9848	24.9	64	6
6449	MLIG1	13.800	G1	10.0	-2.3	12.8	-8.3	1.0000	10.3	0.9744	18.5	64	6
6450	MLIG2	13.800	G2	10.0	-2.3	12.8	-8.3	1.0000	10.3	0.9744	18.5	64	6
6451	MLIG3	13.800	G3	10.0	-2.3	12.8	-8.3	1.0000	10.3	0.9744	18.5	64	6
6462	RDVG1	0.6900	E1	71.8	6.0	23.6	-23.6	1.0000	72.0	0.9965	107.9	64	6
6463	PORG1	0.6900	E2	33.3	2.7	10.9	-10.9	1.0000	33.4	0.9968	50.0	64	6
6464	MARG1	0.6900	E3	12.3	1.1	4.0	-4.0	1.0000	12.3	0.9960	18.4	64	6
6465	NCHIG1	0.6900	E4	38.5	4.0	12.7	-12.7	1.0000	38.7	0.9946	57.9	64	6
6473	NCHIIG1	0.6900	E5	80.5	6.5	26.5	-26.5	1.0000	80.8	0.9967	121.1	64	6
6481	SLOR6	6.0000	G1	2.6	1.5	1.5	-1.7	0.9999	3.0*	0.8699	4.9	64	6
6481	SLOR6	6.0000	G2	2.6	1.5	1.5	-1.7	0.9999	3.0*	0.8699	4.9	64	6
6492	BONG1	13.800	G1	3.0	-1.1	4.9	-2.0	1.0000	3.2	0.9344	11.5	64	6
6493	BONG2	13.800	G2	3.0	-1.1	4.9	-2.0	1.0000	3.2	0.9344	11.5	64	6
6494	BONG3	13.800	G3	3.0	-1.1	4.9	-2.0	1.0000	3.2	0.9344	11.5	64	6
6521	JIN4.16A	4.1600	G1	8.1	0.2	1.5	-1.5	1.0000	8.1	0.9997	10.6	62	6
6522	JIN4.16A	4.1600	G2	8.1	0.2	1.5	-1.5	1.0000	8.1	0.9997	10.6	62	6
6523	JIN4.16B	4.1600	G3	8.1	0.2	1.5	-1.5	1.0000	8.1	0.9997	10.6	62	6
6524	JIN4.16B	4.1600	G4	8.1	0.2	1.5	-1.5	1.0000	8.1	0.9997	10.6	62	6
6525	JIN4.16C	4.1600	G5	8.1	0.2	1.5	-1.5	1.0000	8.1	0.9998	10.6	62	6
6526	JIN4.16C	4.1600	G6	8.1	0.2	1.5	-1.5	1.0000	8.1	0.9998	10.6	62	6
6527	JIN4.16C	4.1600	G7	6.5	0.1	1.2	-1.2	1.0000	6.5	0.9998	8.5	62	6
6605	CEP13.8	13.800	G1	4.8	-0.3	2.3	-2.3	1.0000	4.8	0.9980	5.3	60	6
6605	CEP13.8	13.800	G2	4.8	-0.3	2.3	-2.3	1.0000	4.8	0.9980	5.3	60	6
6611	COTG1	4.1600	G1	1.3	-1.0	1.4	-1.0	1.0015	1.6*	0.7922	2.9	64	6
6612	COTG2	4.1600	G2	1.3	-1.0	1.4	-1.0	1.0015	1.6*	0.7922	2.9	64	6
6616	HERRG1	4.2000	G1	0.6	-0.9	1.2	-0.9	1.0000	1.0	0.5504	2.6	64	6
6617	HERRG2	4.2000	G2	0.6	-0.9	1.2	-0.9	1.0000	1.0	0.5504	2.6	64	6
6618	HERRG3	4.2000	G3	0.1	-0.4	0.5	-0.4	1.0003	0.4*	0.1926	1.2	64	6
6651	BDT4.16	4.2000	G1	2.5	0.3	2.5	-2.5	1.0000	2.5	0.9926	5.6	64	6
6682	LPO13.8	13.800	G1	4.7	-0.6	7.8	-5.9	1.0000	4.7	0.9922	15.5	64	6
6682	LPO13.8	13.800	G2	4.7	-0.6	7.8	-5.9	1.0000	4.7	0.9922	15.5	64	6
6682	LPO13.8	13.800	G3	2.0	-0.2	1.1	-0.9	1.0000	2.0	0.9922	2.3	64	6
6684	SAL13.8	13.800	G1	4.7	-0.6	7.8	-5.9	1.0000	4.7	0.9910	15.5	64	6
6684	SAL13.8	13.800	G2	4.7	-0.6	7.8	-5.9	1.0000	4.7	0.9910	15.5	64	6
6721	SIN4.16	4.2000	G1	2.0	-1.5	2.5	-2.5	1.0000	2.5	0.8038	5.6	64	6
6721	SIN4.16	4.2000	G2	2.0	-1.5	2.5	-2.5	1.0000	2.5	0.8038	5.6	64	6
6731	SAN13.8	13.800	G1	2.2	-0.2	2.7	-2.7	1.0000	2.2	0.9962	5.8	64	6
6731	SAN13.8	13.800	G2	2.2	-0.2	2.7	-2.7	1.0000	2.2	0.9962	5.8	64	6

6766	CRU13.8	13.800	G1	5.0	-4.9	4.9	-4.9	1.0663	6.6	0.7142	12.5	63	6
6766	CRU13.8	13.800	G2	5.0	-4.9	4.9	-4.9	1.0663	6.6	0.7142	12.5	63	6
6774	BAR13.8	13.800	G1	3.0	-4.8	4.8	-4.8	1.0822	5.2	0.5340	10.8	63	6
6774	BAR13.8	13.800	G2	3.0	-4.8	4.8	-4.8	1.0822	5.2	0.5340	10.8	63	6
6821	PLAII13.8	13.800	G1	0.6	-0.0	1.8	-1.8	1.0000	0.6	0.9998	4.1	64	6
6861	BBL13.8	13.800	G1	3.0	1.0	6.4	-6.4	1.0000	3.2	0.9519	14.8	64	6
6861	BBL13.8	13.800	G2	3.0	1.0	6.4	-6.4	1.0000	3.2	0.9519	14.8	64	6
6861	BBL13.8	13.800	G3	0.9	0.3	0.8	-0.6	1.0000	1.0	0.9519	2.1	64	6
6981	BK013A	13.800	G1	52.2	3.4	30.2	-30.2	1.0000	52.4	0.9979	68.8	62	6
6982	BK013B	13.800	G2	10.0	0.6	8.6	-3.0	1.0000	10.1	0.9980	13.2	62	6
6982	BK013B	13.800	G3	25.1	1.6	21.5	-7.6	1.0000	25.1	0.9980	33.0	62	6
SUBSYSTEM TOTALS				1708.2	64.3	1152.3	-925.8				2967.5		

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:34
 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	2.3	6.0	-6.0	1.0000	4.6	0.8638	13.0			65	7	
6135	MADG2		6.9000	G2	4.0	1.9	6.0	-6.0	1.0000	4.4	0.9066	13.0			65	7	
6136	MADG3		6.9000	G3	4.0	3.6	6.0	-6.0	1.0100	5.4	0.7392	13.0			65	7	
6140	GAT6A		6.9000	G1	1.0	-0.4	2.0	-2.0	1.0100	1.1	0.9233	4.1			65	7	
6140	GAT6A		6.9000	G2	1.0	-0.4	2.0	-2.0	1.0100	1.1	0.9233	4.1			65	7	
6140	GAT6A		6.9000	G3	1.0	-0.4	2.0	-2.0	1.0100	1.1	0.9233	4.1			65	7	
6140	GAT6A		6.9000	G4	1.5	-0.6	3.0	-3.0	1.0100	1.6	0.9233	5.6			65	7	
6140	GAT6A		6.9000	G5	1.5	-0.6	3.0	-3.0	1.0100	1.6	0.9233	6.2			65	7	
6140	GAT6A		6.9000	G6	1.5	-0.6	3.0	-3.0	1.0100	1.6	0.9233	6.2			65	7	
6155	MIR13B		13.800	G7	18.0	8.0	8.0	0.0	0.9973	19.7*	0.9134	23.0			65	7	
6155	MIR13B		13.800	G8	18.0	8.0	8.0	0.0	0.9973	19.7*	0.9134	23.0			65	7	
SUBSYSTEM TOTALS					55.4	20.7	49.0	-33.0				115.5					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:35
 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	1.0054	231.24	6002		PAN115		115.00	6	1.0086	115.99
6003		PANII230		230.00	6	1.0020	230.45	6004		PANII115		115.00	6	1.0106	116.21
6011		MDN230		230.00	6	1.0010	230.24	6012		MDN115		115.00	6	1.0134	116.54
6014		PRO230		230.00	6	1.0052	231.19	6015		PRO115		115.00	6	1.0015	115.17
6018		CAC115		115.00	6	1.0076	115.88	6036		SMA115		115.00	6	1.0067	115.77
6055		MOS115B		115.00	6	1.0039	115.44	6057		TOC115		115.00	6	1.0064	115.74
6059		LM1115		115.00	6	1.0038	115.44	6060		LM2115		115.00	6	1.0039	115.45
6074		LMDIST		115.00	6	1.0039	115.45	6087		CAL115		115.00	6	1.0172	116.97
6088		LES115		115.00	6	1.0200	117.30	6092		LVA115		115.00	6	1.0172	116.97
6096		FOR230		230.00	6	1.0052	231.19	6100		BAY230		230.00	6	1.0072	231.65
6123		MIR115A		115.00	7	1.0098	116.13	6165		FLO115		115.00	6	1.0090	116.04
6170		CPA115		115.00	6	1.0091	116.04	6171		PAC230		230.00	6	1.0067	231.54
6173		STR115		115.00	6	1.0046	115.53	6178		EST230		230.00	6	1.0037	230.85
6179		GUA230		230.00	6	1.0036	230.83	6210		TIN115		115.00	6	1.0040	115.46
6211		PM115-9		115.00	6	1.0041	115.47	6245		BNGA230		230.00	6	1.0001	230.02
6260		CHA230		230.00	6	1.0182	234.19	6261		CHA115		115.00	6	1.0085	115.97
6263		ESP230		230.00	6	1.0194	234.47	6270		CAT115		115.00	6	1.0041	115.47
6280		GIR115		115.00	6	1.0102	116.17	6290		CATII115		115.00	6	1.0039	115.45
6330		BAI230		230.00	6	1.0059	231.36	6332		BAM115		115.00	6	1.0034	115.39
6340		CAN230		230.00	6	1.0074	231.71	6360		GLA230		230.00	6	1.0065	231.50
6363		ZAM230		230.00	6	1.0093	232.14	6366		EVA230		230.00	6	1.0113	232.60
6380		BOQIII230		230.00	6	1.0038	230.87	6400		FRONTCHA		230.00	6	1.0196	234.51
6401		PM230-29		230.00	6	1.0053	231.23	6440		DOM230		230.00	6	1.0026	230.60
6441		PRIM230		230.00	6	1.0024	230.55	6442		ALT230		230.00	6	1.0024	230.54
6443		PARE230		230.00	6	1.0025	230.57	6470		24DIC230		230.00	6	1.0026	230.59
6490		BON115		115.00	6	1.0085	115.97	6500		FRONTDOM		230.00	6	1.0040	230.92
6601		COP230		230.00	6	1.0027	230.63	6680		BFR230		230.00	6	1.0059	231.36
6681		LPO230		230.00	6	1.0059	231.36	6683		SAL230		230.00	6	1.0059	231.36
6730		SAN115		115.00	6	1.0034	115.39	6761		SBA115		115.00	6	1.0715	123.23
6915		SCR115		115.00	6	1.0099	116.14	6999		BAR115		115.00	6	1.0041	115.47

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	0.9928	228.34	6005		CHO230		230.00	6	0.9950	228.84
6008		LSA230		230.00	6	0.9899	227.69	6009		LSA115		115.00	6	0.9925	114.14
6019		CVI115A		115.00	6	0.9979	114.76	6024		CHI115		115.00	6	0.9945	114.37
6027		LOC115A		115.00	6	0.9966	114.61	6032		MAR115A		115.00	6	0.9952	114.45
6040		SFR115		115.00	6	0.9923	114.11	6047		CLA115		115.00	6	0.9868	113.48
6064		MES115		115.00	6	0.9961	114.55	6066		FFIELD		115.00	6	0.9968	114.63
6105		PAM230		230.00	6	0.9952	228.89	6115		LBO115		115.00	6	0.9975	114.72
6182		VEL230		230.00	6	0.9929	228.38	6230		CBA115		115.00	6	0.9943	114.34
6240		EHIG230		230.00	6	0.9921	228.18	6251		BVI115		115.00	6	0.9963	114.58
6331		BAI115		115.00	6	0.9998	114.97	6350		PM115-8		115.00	6	0.9981	114.78
6430		GENLLS		115.00	6	0.9925	114.14	6460		ECO230		230.00	6	0.9980	229.53
6760		SBA230		230.00	6	0.9902	227.74	6860		BBL230		230.00	6	0.9935	228.51
6980		BKO115		115.00	6	0.9981	114.78								

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

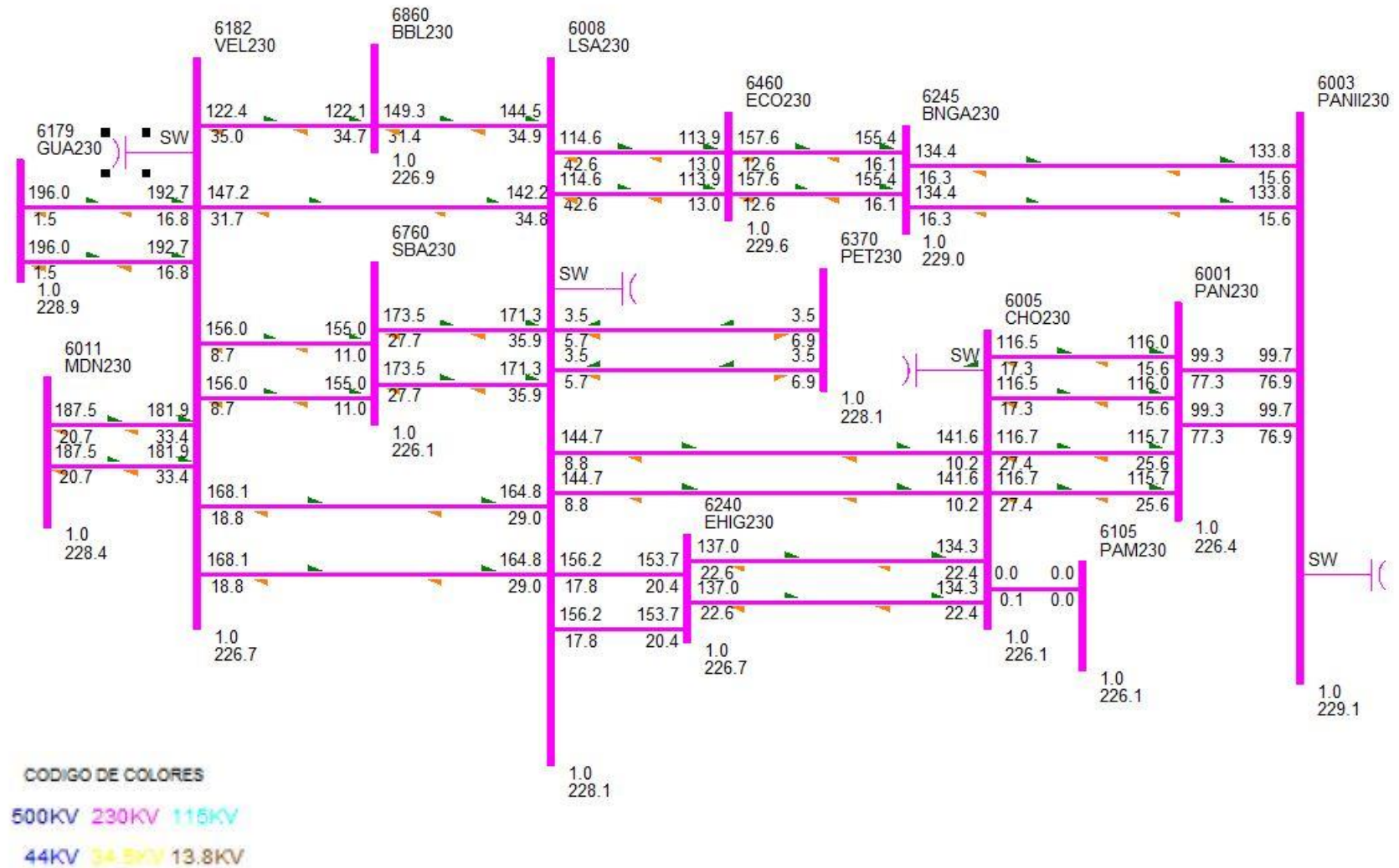
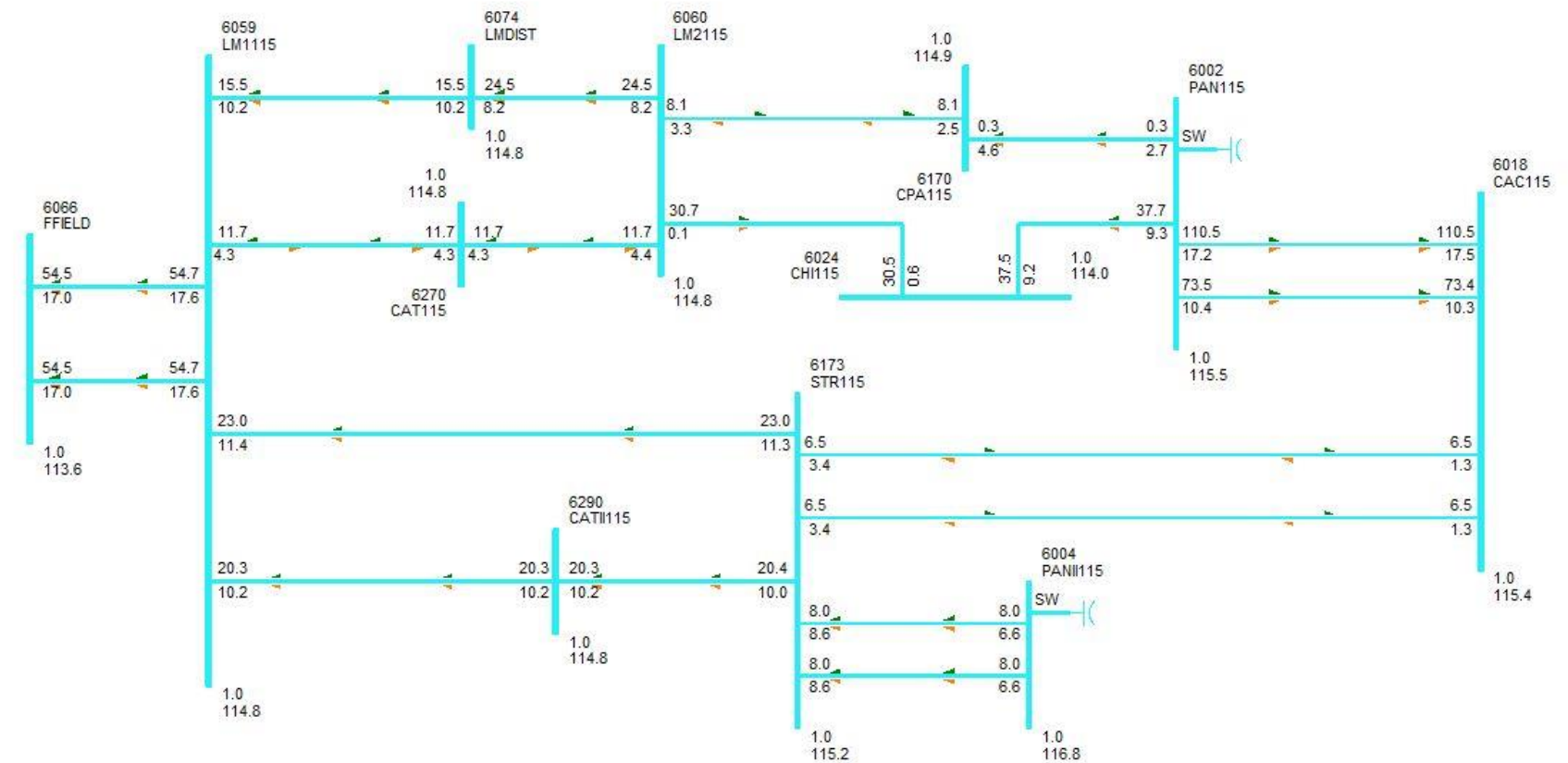


Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

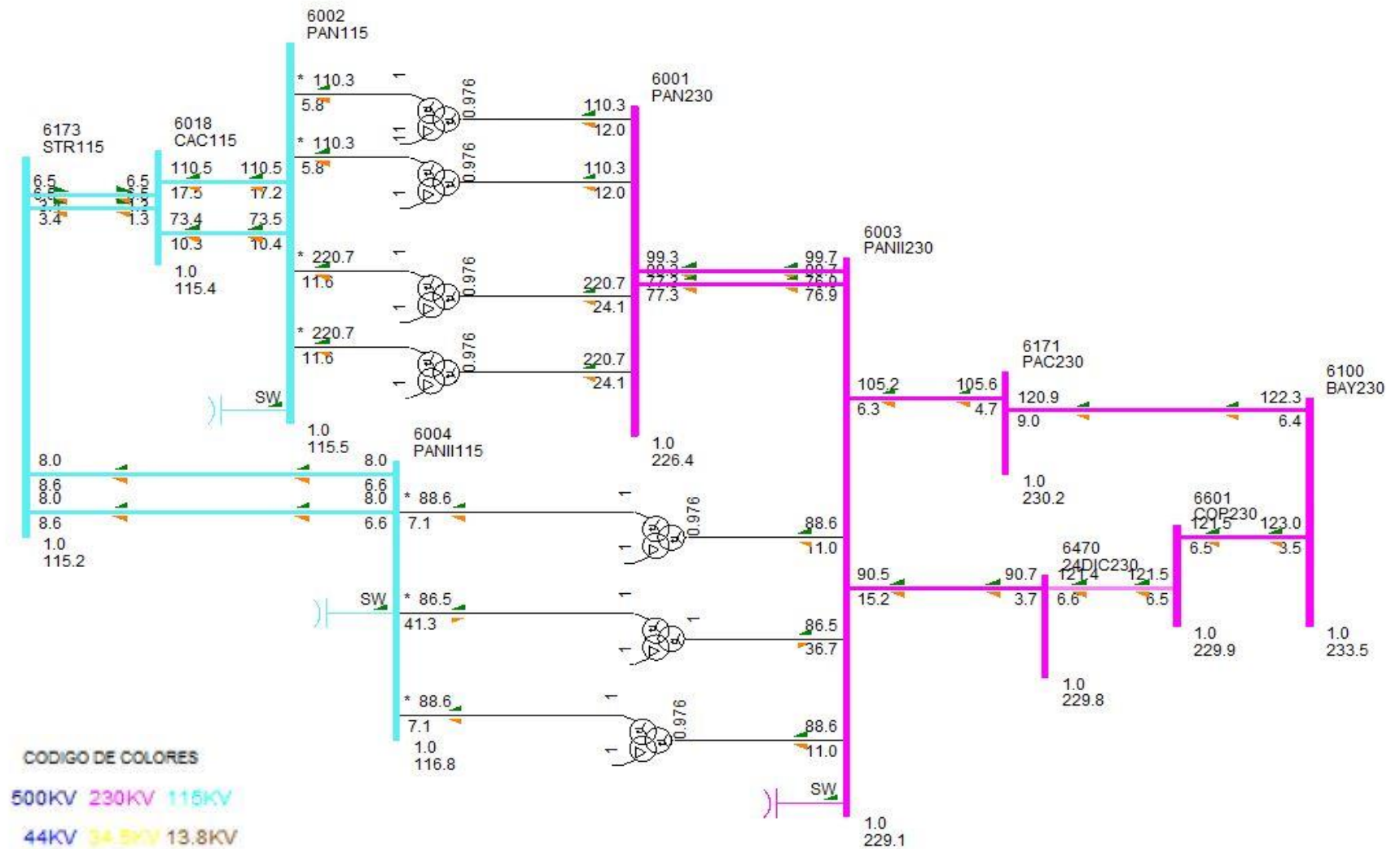
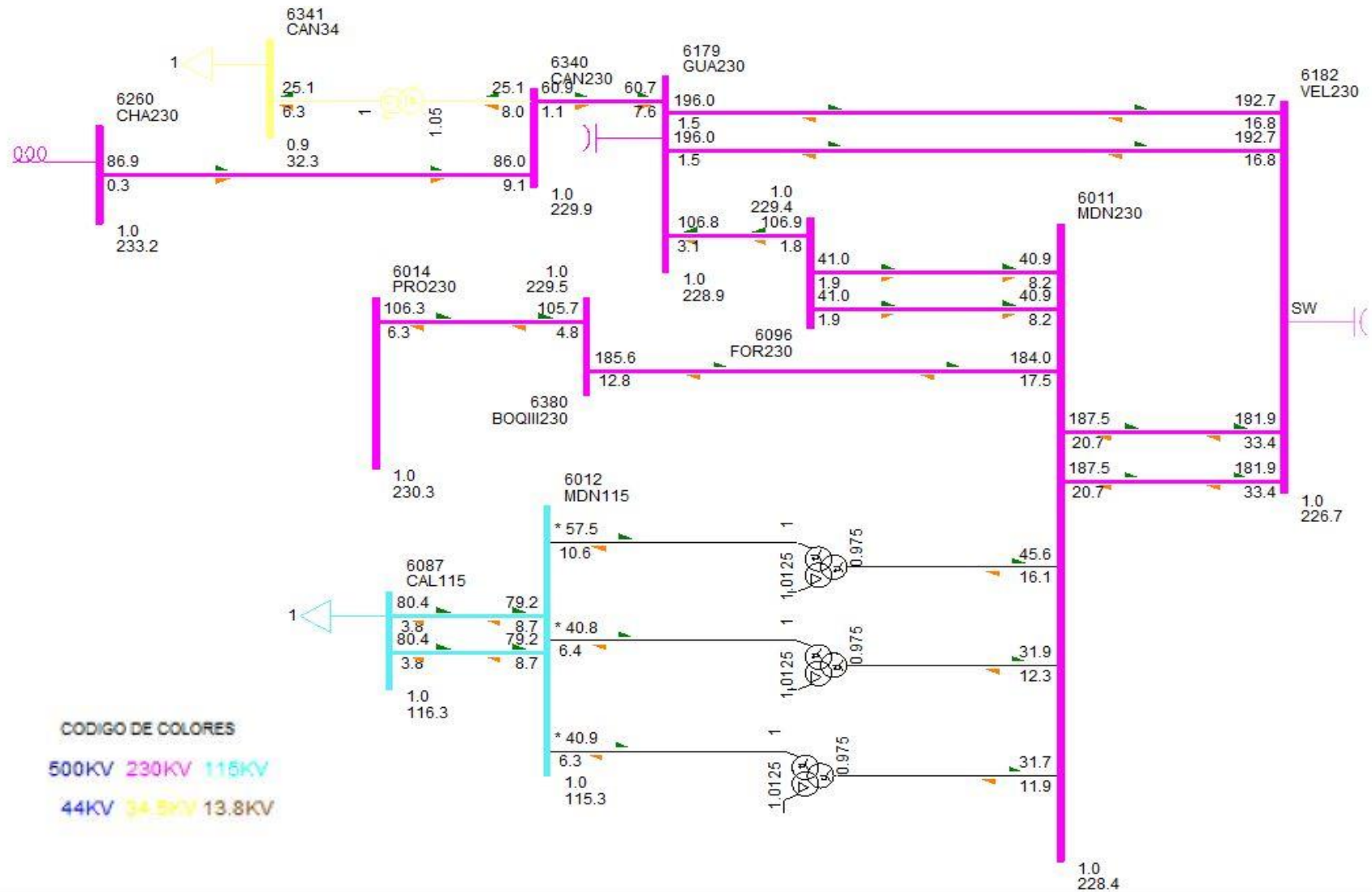


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:53
 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	1.6	15.0	0.0	1.0000	25.1	0.9980	47.0			62	6	
6072		BLMG3		13.800	V3	25.0	1.6	15.0	0.0	1.0000	25.1	0.9980	47.0			62	6	
6073		BLMG4		13.800	V4	25.0	1.6	15.0	0.0	1.0000	25.1	0.9980	47.0			62	6	
6078		BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9869	40.8*	0.9687	71.0			62	6	
6090		LESG1		13.800	E1	22.4	6.9	12.0	-5.0	1.0100	23.2	0.9559	27.0			64	6	
6091		LESG2		13.800	E2	22.4	6.9	12.0	-5.0	1.0100	23.2	0.9559	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	7.4	50.0	-50.0	1.0000	95.3	0.9970	111.0			64	6	
6101		BAYG1		13.800	B1	81.8	11.8	30.0	-25.0	1.0000	82.6	0.9897	94.0			61	6	SYST
6102		BAYG2		13.800	B2	81.8	11.8	30.0	-25.0	1.0000	82.6	0.9897	94.0			61	6	
6110		BAYG3		13.800	B3	81.8	11.2	35.0	-25.0	1.0100	81.7	0.9908	100.0			61	6	
6158		MIRG9		13.800	G9	37.4	-5.1	22.1	-20.7	1.0000	37.8	0.9907	49.2			65	6	
6159		MIRG10		13.800	G0	37.4	-5.1	22.1	-20.7	1.0000	37.8	0.9907	49.2			65	6	
6176		ESTG1		13.800	E1	57.0	12.6	29.0	-29.0	1.0100	57.8	0.9763	69.0			64	6	
6177		ESTG2		13.800	E2	57.0	12.6	29.0	-29.0	1.0100	57.8	0.9763	69.0			64	6	
6264		CHANG1		13.800	G1	78.7	4.5	50.8	-50.8	1.0100	78.0	0.9984	116.5			64	6	AREA
6265		CHANG2		13.800	G2	78.6	4.5	50.8	-50.8	1.0100	78.0	0.9983	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	4.9	-0.9	2.3	-2.3	1.0000	4.9	0.9846	5.7			64	6	
6305		ALG 13A		13.800	A2	4.9	-0.9	2.3	-2.3	1.0000	4.9	0.9846	5.7			64	6	
6306		MEN 13A		13.800	M1	8.9	4.2	4.2	-4.2	0.9848	10.0*	0.9061	10.4			64	6	
6306		MEN 13A		13.800	M2	8.9	4.2	4.2	-4.2	0.9848	10.0*	0.9061	10.4			64	6	
6307		COC 13A		34.500	G1	7.1	-3.1	6.5	-5.7	1.0075	7.7*	0.9191	8.4			64	6	
6307		COC 13A		34.500	G2	7.1	-3.1	3.3	-3.3	1.0075	7.7*	0.9191	8.4			64	6	
6308		MENII 13A		13.800	G1	3.7	0.9	1.9	0.0	1.0000	3.8	0.9679	4.1			64	6	
6308		MENII 13A		13.800	G2	3.7	0.9	1.9	0.0	1.0000	3.8	0.9679	4.1			64	6	
6333		BAMG1		13.800	G1	26.6	2.6	10.0	-10.0	1.0000	26.7	0.9952	30.0			64	6	
6334		BAMG2		13.800	G2	26.6	2.6	10.0	-10.0	1.0000	26.7	0.9952	30.0			64	6	
6335		BAIG1		13.800	G1	35.0	-1.1	14.0	-14.0	1.0000	35.0	0.9995	49.0			64	6	
6352		HCAL4.16		4.2000	G1	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9580	3.4			64	6	
6352		HCAL4.16		4.2000	G2	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9580	3.4			64	6	
6361		GLAG1		13.800	G1	12.1	3.5	7.8	-7.0	1.0060	12.5	0.9610	14.1			64	6	
6362		GLAG2		13.800	G2	12.1	3.5	7.8	-7.0	1.0060	12.5	0.9610	14.1			64	6	
6364		LORG1		13.800	G1	16.1	0.3	7.8	-7.0	1.0075	15.9	0.9999	25.0			64	6	
6365		LORG2		13.800	G2	16.1	0.3	7.8	-7.0	1.0075	15.9	0.9999	25.0			64	6	
6367		PRUG1		13.800	G1	27.9	-1.8	8.0	-8.0	1.0075	27.7	0.9980	33.0			64	6	
6368		PRUG2		13.800	G2	27.9	-1.8	8.0	-8.0	1.0075	27.7	0.9980	33.0			64	6	
6373		PRIG1		13.800	G1	105.6	30.1	92.2	-92.2	1.0000	109.8	0.9617	175.0			63	6	
6374		PRIG2		13.800	G2	105.6	30.1	92.2	-92.2	1.0000	109.8	0.9617	175.0			63	6	
6386		PEDI 13A		13.800	G1	11.9	1.2	6.2	-6.8	1.0000	11.9	0.9946	12.5			64	6	
6387		PEDI 13A		13.800	G1	6.1	-0.2	3.3	-3.3	1.0000	6.1	0.9997	7.1			64	6	
6388		MACG1		0.6900	G1	1.7	-0.2	1.0	-0.8	1.0000	1.7	0.9958	2.1			64	6	
6390		CON 4.16A		4.1600	G1	4.8	0.2	1.0	-0.8	1.0000	4.8	0.9993	6.3			64	6	
6390		CON 4.16A		4.1600	G2	4.8	0.2	1.0	-0.8	1.0000	4.8	0.9993	6.3			64	6	

6391	PAAG1	2.1400	G1	2.8	0.7	1.0	-0.8	1.0000	2.9	0.9682	3.5	64	6
6392	PAAG2	2.1400	G2	2.8	0.7	1.0	-0.8	1.0000	2.9	0.9682	3.5	64	6
6394	LPN 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9997	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9997	4.9*	0.9785	6.3	64	6
6396	RP4G1	6.6000	G1	6.2	0.6	4.6	-2.3	1.0000	6.3	0.9950	7.3	64	6
6397	RP4G2	6.6000	G2	6.2	0.6	4.6	-2.3	1.0000	6.3	0.9950	7.3	64	6
6403	CDP4.16	4.2000	G1	2.1	0.2	0.6	-0.8	1.0000	2.1	0.9967	2.5	64	6
6403	CDP4.16	4.2000	G2	2.1	0.2	0.6	-0.8	1.0000	2.1	0.9967	2.5	64	6
6420	DOL 4.16A	4.1600	G1	1.0	0.2	0.8	-0.8	1.0000	1.0	0.9704	1.3	64	6
6420	DOL 4.16A	4.1600	G2	1.0	0.2	0.8	-0.8	1.0000	1.0	0.9704	1.3	64	6
6420	DOL 4.16A	4.1600	G3	1.0	0.2	0.8	-0.8	1.0000	1.0	0.9704	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.5	0.3	0.8	-0.8	1.0000	1.5	0.9863	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.5	0.3	0.8	-0.8	1.0000	1.5	0.9863	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.5	0.3	0.8	-0.8	1.0000	1.5	0.9863	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.2	0.4	0.8	-0.8	1.0000	1.2	0.9531	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.2	0.4	0.8	-0.8	1.0000	1.2	0.9531	1.5	64	6
6423	BU1G1	4.1600	G1	2.0	-0.0	1.0	-0.4	1.0000	2.0	1.0000	2.3	64	6
6424	BU1G2	4.1600	G2	2.0	-0.0	1.0	-0.4	1.0000	2.0	1.0000	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.0	0.6	-0.5	1.0000	0.9	1.0000	1.1	64	6
6427	BUGII 4.16	4.2000	G1	3.0	0.2	1.5	-1.5	1.0000	3.0	0.9976	3.5	64	6
6429	AST4.16	4.2000	G1	3.9	1.8	1.8	-1.8	0.9995	4.3*	0.9076	4.5	64	6
6432	YEG 4.16A	4.1600	G1	2.9	1.7	2.2	-2.2	1.0015	3.3	0.8622	3.8	64	6
6432	YEG 4.16A	4.1600	G2	2.9	1.7	2.2	-2.2	1.0015	3.3	0.8622	3.8	64	6
6432	YEG 4.16A	4.1600	G3	1.0	0.6	0.8	-0.8	1.0015	1.1	0.8622	1.2	64	6
6433	EFR 4.16A	4.1600	G1	2.5	1.6	1.6	-1.6	0.9969	3.0*	0.8386	3.2	64	6
6433	EFR 4.16A	4.1600	G2	2.5	1.6	1.6	-1.6	0.9969	3.0*	0.8386	3.2	64	6
6436	LHU13.8	13.800	G1	2.4	0.3	1.2	-1.2	1.0000	2.4	0.9904	2.8	63	6
6436	LHU13.8	13.800	G2	2.4	0.3	1.2	-1.2	1.0000	2.4	0.9904	2.8	63	6
6439	CHU13.8	13.800	G1	4.2	0.5	1.2	-1.5	1.0000	4.2	0.9918	4.6	64	6
6444	PDOG1	13.800	G1	15.8	-0.4	12.8	-8.3	1.0005	15.8	0.9997	18.5	64	6
6445	PDOG2	13.800	G2	15.8	-0.4	12.8	-8.3	1.0005	15.8	0.9997	18.5	64	6
6446	ALTG1	13.800	G1	21.3	-0.6	10.9	-7.6	1.0000	21.3	0.9996	24.9	64	6
6447	ALTG2	13.800	G2	21.3	-0.6	10.9	-7.6	1.0000	21.3	0.9996	24.9	64	6
6448	ALTG3	13.800	G3	21.3	-0.6	10.9	-7.6	1.0000	21.3	0.9996	24.9	64	6
6449	MLIG1	13.800	G1	15.8	-1.0	12.8	-8.3	1.0000	15.8	0.9981	18.5	64	6
6450	MLIG2	13.800	G2	15.8	-1.0	12.8	-8.3	1.0000	15.8	0.9981	18.5	64	6
6451	MLIG3	13.800	G3	15.8	-1.0	12.8	-8.3	1.0000	15.8	0.9981	18.5	64	6
6462	RDVG1	0.6900	E1	25.6	1.5	8.4	-8.4	1.0000	25.7	0.9982	107.9	64	6
6463	PORG1	0.6900	E2	11.9	0.6	3.9	-3.9	1.0000	11.9	0.9985	50.0	64	6
6464	MARG1	0.6900	E3	4.4	0.3	1.4	-1.4	1.0000	4.4	0.9978	18.4	64	6
6465	NCHIG1	0.6900	E4	13.8	1.1	4.5	-4.5	1.0000	13.8	0.9967	57.9	64	6
6473	NCHIIG1	0.6900	E5	28.8	1.6	9.4	-9.4	1.0000	28.8	0.9985	121.1	64	6
6481	SLOR6	6.0000	G1	4.2	1.5	1.5	-1.7	0.9995	4.5*	0.9415	4.9	64	6
6481	SLOR6	6.0000	G2	4.2	1.5	1.5	-1.7	0.9995	4.5*	0.9415	4.9	64	6
6492	BONG1	13.800	G1	9.9	-0.3	4.9	-2.0	1.0000	9.9	0.9995	11.5	64	6
6493	BONG2	13.800	G2	9.9	-0.3	4.9	-2.0	1.0000	9.9	0.9995	11.5	64	6
6494	BONG3	13.800	G3	9.9	-0.3	4.9	-2.0	1.0000	9.9	0.9995	11.5	64	6
6521	JIN4.16A	4.1600	G1	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9988	10.6	62	6
6522	JIN4.16A	4.1600	G2	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9988	10.6	62	6
6523	JIN4.16B	4.1600	G3	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9988	10.6	62	6
6524	JIN4.16B	4.1600	G4	8.1	0.4	1.5	-1.5	1.0000	8.1	0.9988	10.6	62	6
6525	JIN4.16C	4.1600	G5	8.1	0.1	1.5	-1.5	1.0000	8.1	0.9998	10.6	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
6611	COTG1	4.1600	G1	2.4	-1.0	1.4	-1.0	1.0014	2.6*	0.9267	2.9	64	6
6612	COTG2	4.1600	G2	2.4	-1.0	1.4	-1.0	1.0014	2.6*	0.9267	2.9	64	6
6616	HERRG1	4.2000	G1	2.1	-0.9	1.2	-0.9	1.0021	2.3*	0.9187	2.6	64	6
6617	HERRG2	4.2000	G2	2.1	-0.9	1.2	-0.9	1.0021	2.3*	0.9187	2.6	64	6
6618	HERRG3	4.2000	G3	0.9	-0.4	0.5	-0.4	1.0024	1.0*	0.9100	1.2	64	6
6682	LPO13.8	13.800	G1	13.3	0.3	7.8	-5.9	1.0000	13.3	0.9997	15.5	64	6
6682	LPO13.8	13.800	G2	13.3	0.3	7.8	-5.9	1.0000	13.3	0.9997	15.5	64	6
6682	LPO13.8	13.800	G3	2.0	0.0	1.1	-0.9	1.0000	2.0	0.9997	2.3	64	6
6684	SAL13.8	13.800	G1	13.3	0.4	7.8	-5.9	1.0000	13.3	0.9996	15.5	64	6
6684	SAL13.8	13.800	G2	13.3	0.4	7.8	-5.9	1.0000	13.3	0.9996	15.5	64	6
6711	TIZ4.16	4.2000	G1	4.3	0.9	2.2	-2.2	1.0000	4.4	0.9790	5.0	64	6
6721	SIN4.16	4.2000	G1	4.8	-1.1	2.5	-2.5	1.0000	4.9	0.9752	5.6	64	6
6721	SIN4.16	4.2000	G2	4.8	-1.1	2.5	-2.5	1.0000	4.9	0.9752	5.6	64	6
6731	SAN13.8	13.800	G1	4.9	0.3	2.7	-2.7	1.0000	4.9	0.9975	5.8	64	6
6731	SAN13.8	13.800	G2	4.9	0.3	2.7	-2.7	1.0000	4.9	0.9975	5.8	64	6
6736	SANII13.8	13.800	G1	4.7	0.1	1.6	-1.6	1.0000	4.7	0.9999	5.2	64	6
6736	SANII13.8	13.800	G2	4.7	0.1	1.6	-1.6	1.0000	4.7	0.9999	5.2	64	6
6766	CRU13.8	13.800	G1	9.8	-4.9	4.9	-4.9	1.0258	10.7*	0.8950	12.5	63	6
6766	CRU13.8	13.800	G2	9.8	-4.9	4.9	-4.9	1.0258	10.7*	0.8950	12.5	63	6
6774	BAR13.8	13.800	G1	9.2	-4.8	4.8	-4.8	1.0033	10.3*	0.8892	10.8	63	6
6774	BAR13.8	13.800	G2	9.2	-4.8	4.8	-4.8	1.0033	10.3*	0.8892	10.8	63	6
6821	PLAII13.8	13.800	G1	3.5	-0.0	1.8	-1.8	1.0000	3.5	0.9999	4.1	64	6
6861	BBL13.8	13.800	G1	12.7	2.6	6.4	-6.4	1.0000	12.9	0.9797	14.8	64	6
6861	BBL13.8	13.800	G2	12.7	2.6	6.4	-6.4	1.0000	12.9	0.9797	14.8	64	6
6861	BBL13.8	13.800	G3	1.8	0.4	0.8	-0.6	1.0000	1.8	0.9797	2.1	64	6
6935	LTR13.8	13.800	G1	0.9	0.2	0.3	-0.3	1.0000	0.9	0.9855	1.0	63	6
6940	RPI13.8	13.800	G1	4.3	0.3	2.2	-2.2	1.0000	4.3	0.9979	5.0	62	6
6940	RPI13.8	13.800	G2	4.3	0.3	2.2	-2.2	1.0000	4.3	0.9979	5.0	62	6
SUBSYSTEM TOTALS				1967.0	172.1	1050.8	-880.0				2829.7		

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:53
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	11.4	3.1	6.0	-6.0	1.0000	11.8	0.9641	13.0			65	7	
6135		MADG2		6.9000	G2	11.4	2.6	6.0	-6.0	1.0000	11.7	0.9745	13.0			65	7	
6136		MADG3		6.9000	G3	11.4	4.4	6.0	-6.0	1.0100	12.1	0.9326	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-0.1	2.0	-2.0	1.0100	2.8	0.9990	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-0.1	2.0	-2.0	1.0100	2.8	0.9990	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-0.1	2.0	-2.0	1.0100	2.8	0.9990	4.1			65	7	
6140		GAT6A		6.9000	G4	4.3	-0.2	3.0	-3.0	1.0100	4.2	0.9990	5.6			65	7	
6140		GAT6A		6.9000	G5	4.3	-0.2	3.0	-3.0	1.0100	4.2	0.9990	6.2			65	7	
6140		GAT6A		6.9000	G6	4.3	-0.2	3.0	-3.0	1.0100	4.2	0.9990	6.2			65	7	
SUBSYSTEM TOTALS						55.6	9.2	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 19:52
 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	1.0016	230.37	6002		PAN115		115.00	6	1.0041	115.47
6004		PANII115		115.00	6	1.0159	116.83	6012		MDN115		115.00	6	1.0028	115.32
6014		PRO230		230.00	6	1.0012	230.27	6018		CAC115		115.00	6	1.0034	115.39
6019		CVI115A		115.00	6	1.0030	115.34	6036		SMA115		115.00	6	1.0023	115.27
6057		TOC115		115.00	6	1.0128	116.47	6087		CAL115		115.00	6	1.0113	116.30
6088		LES115		115.00	6	1.0152	116.75	6092		LVA115		115.00	6	1.0118	116.36
6100		BAY230		230.00	6	1.0152	233.49	6115		LBO115		115.00	6	1.0026	115.30
6123		MIR115A		115.00	7	1.0040	115.46	6165		FLO115		115.00	6	1.0039	115.45
6171		PAC230		230.00	6	1.0007	230.17	6173		STR115		115.00	6	1.0014	115.16
6260		CHA230		230.00	6	1.0138	233.17	6261		CHA115		115.00	6	1.0048	115.55
6263		ESP230		230.00	6	1.0154	233.54	6330		BAI230		230.00	6	1.0026	230.60
6360		GLA230		230.00	6	1.0013	230.30	6363		ZAM230		230.00	6	1.0074	231.70
6366		EVA230		230.00	6	1.0107	232.46	6372		PRI230		230.00	6	1.0110	232.54
6400		FRONTCHA		230.00	6	1.0151	233.48	6440		DOM230		230.00	6	1.0005	230.13
6441		PRIM230		230.00	6	1.0013	230.30	6442		ALT230		230.00	6	1.0011	230.25
6443		PARE230		230.00	6	1.0009	230.20	6490		BON115		115.00	6	1.0048	115.55
6500		FRONTDOM		230.00	6	1.0015	230.34	6680		BFR230		230.00	6	1.0027	230.62
6681		LPO230		230.00	6	1.0027	230.63	6683		SAL230		230.00	6	1.0027	230.62
6761		SBA115		115.00	6	1.0525	121.04								

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	0.9844	226.42	6003		PANII230		230.00	6	0.9960	229.07
6005		CHO230		230.00	6	0.9830	226.10	6008		LSA230		230.00	6	0.9917	228.09
6009		LSA115		115.00	6	0.9949	114.42	6011		MDN230		230.00	6	0.9929	228.37
6015		PRO115		115.00	6	0.9975	114.72	6024		CHI115		115.00	6	0.9910	113.97
6027		LOC115A		115.00	6	0.9956	114.49	6032		MAR115A		115.00	6	0.9946	114.37
6040		SFR115		115.00	6	0.9928	114.17	6047		CLA115		115.00	6	0.9834	113.09
6055		MOS115B		115.00	6	0.9995	114.94	6059		LM1115		115.00	6	0.9979	114.76
6060		LM2115		115.00	6	0.9980	114.77	6064		MES115		115.00	6	0.9876	113.58
6066		FFIELD		115.00	6	0.9882	113.65	6074		IMDIST		115.00	6	0.9980	114.77
6096		FOR230		230.00	6	0.9973	229.38	6105		PAM230		230.00	6	0.9831	226.10
6170		CPA115		115.00	6	0.9988	114.86	6178		EST230		230.00	6	0.9952	228.90
6179		GUA230		230.00	6	0.9952	228.91	6182		VEL230		230.00	6	0.9857	226.71
6210		TIN115		115.00	6	0.9998	114.98	6211		PM115-9		115.00	6	0.9999	114.98
6230		CBA115		115.00	6	0.9941	114.32	6240		EHIG230		230.00	6	0.9859	226.75
6245		BNGA230		230.00	6	0.9957	229.01	6251		BVI115		115.00	6	0.9954	114.48
6270		CAT115		115.00	6	0.9980	114.77	6280		GIR115		115.00	6	0.9988	114.86
6290		CATII115		115.00	6	0.9983	114.81	6331		BAI115		115.00	6	0.9905	113.91
6332		BAM115		115.00	6	0.9974	114.70	6340		CAN230		230.00	6	0.9997	229.92
6350		PM115-8		115.00	6	0.9967	114.62	6370		PET230		230.00	6	0.9917	228.10
6380		BOQIII230		230.00	6	0.9976	229.46	6401		PM230-29		230.00	6	0.9972	229.34
6430		GENLLS		115.00	6	0.9949	114.42	6460		ECO230		230.00	6	0.9983	229.60
6470		24DIC230		230.00	6	0.9992	229.81	6601		COP230		230.00	6	0.9996	229.90
6730		SAN115		115.00	6	0.9975	114.71	6760		SBA230		230.00	6	0.9831	226.10
6860		BBL230		230.00	6	0.9867	226.94	6915		SCR115		115.00	6	0.9993	114.92
6980		BKO115		115.00	6	0.9883	113.65	6999		BAR115		115.00	6	0.9979	114.76

Año 2018

Demanda Máxima de Verano

Diagrama del Sistema Principal de Transmisión

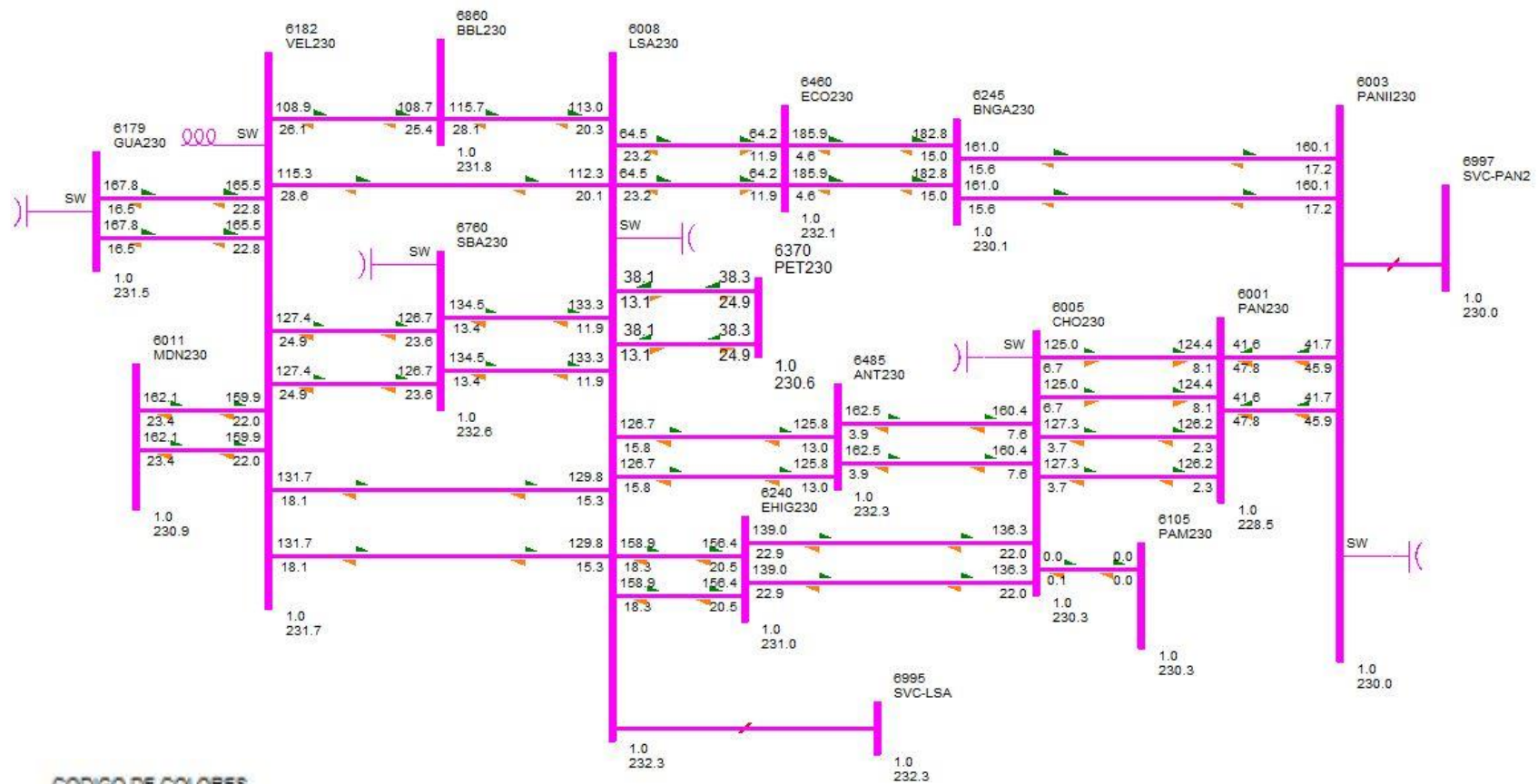
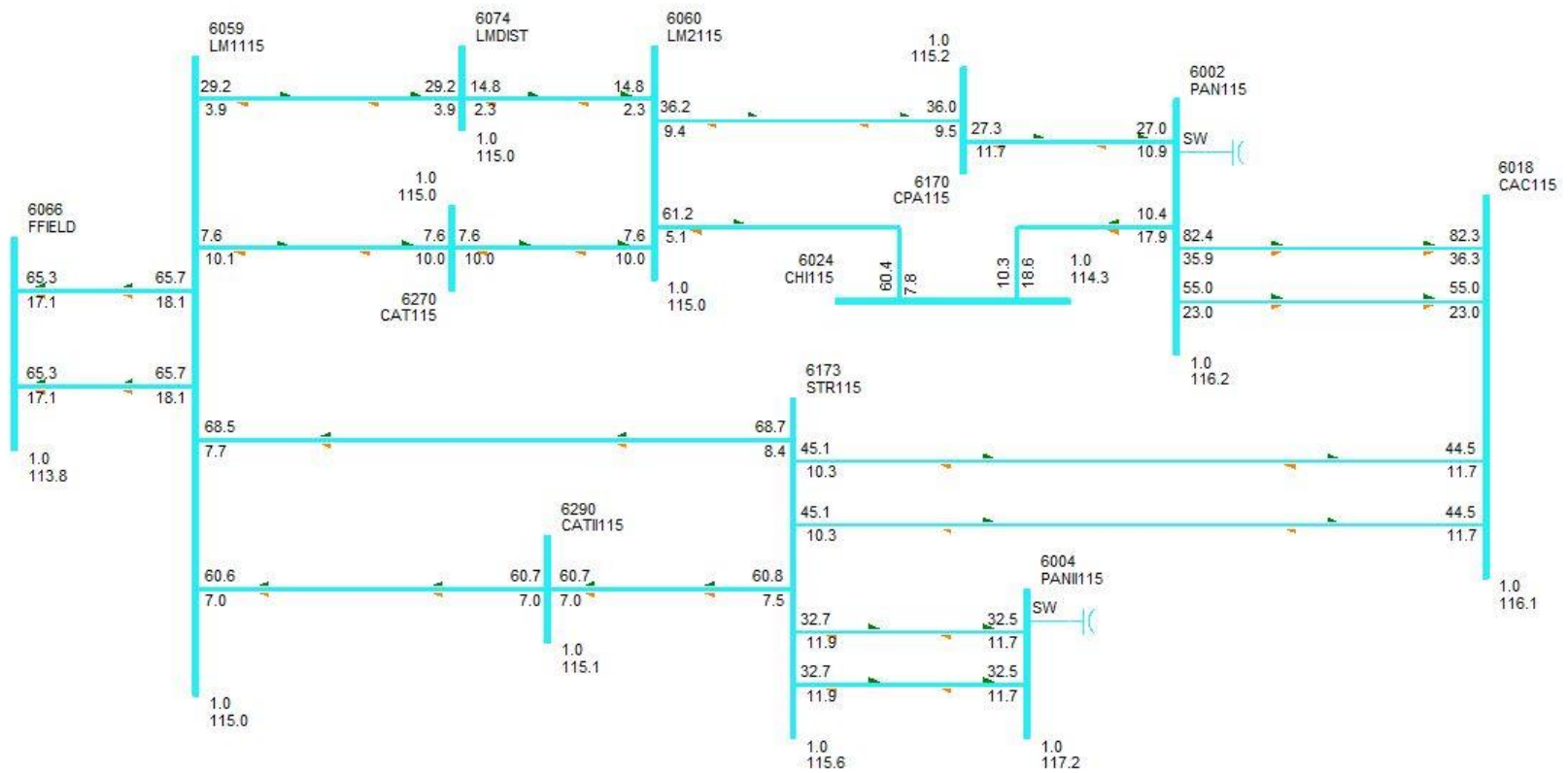


Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV
44KV 34.5KV 13.8KV

Diagrama de Panamá Este

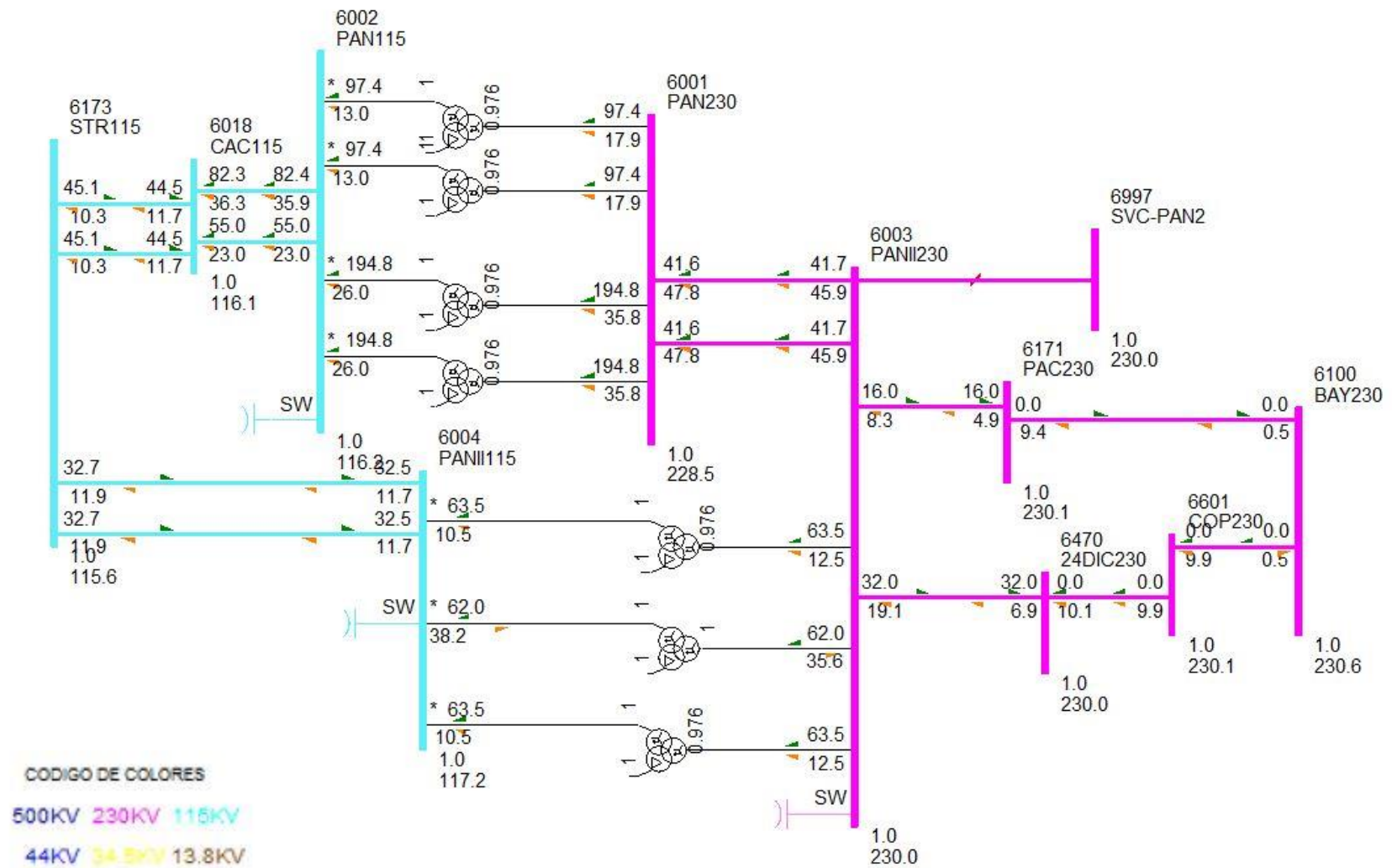
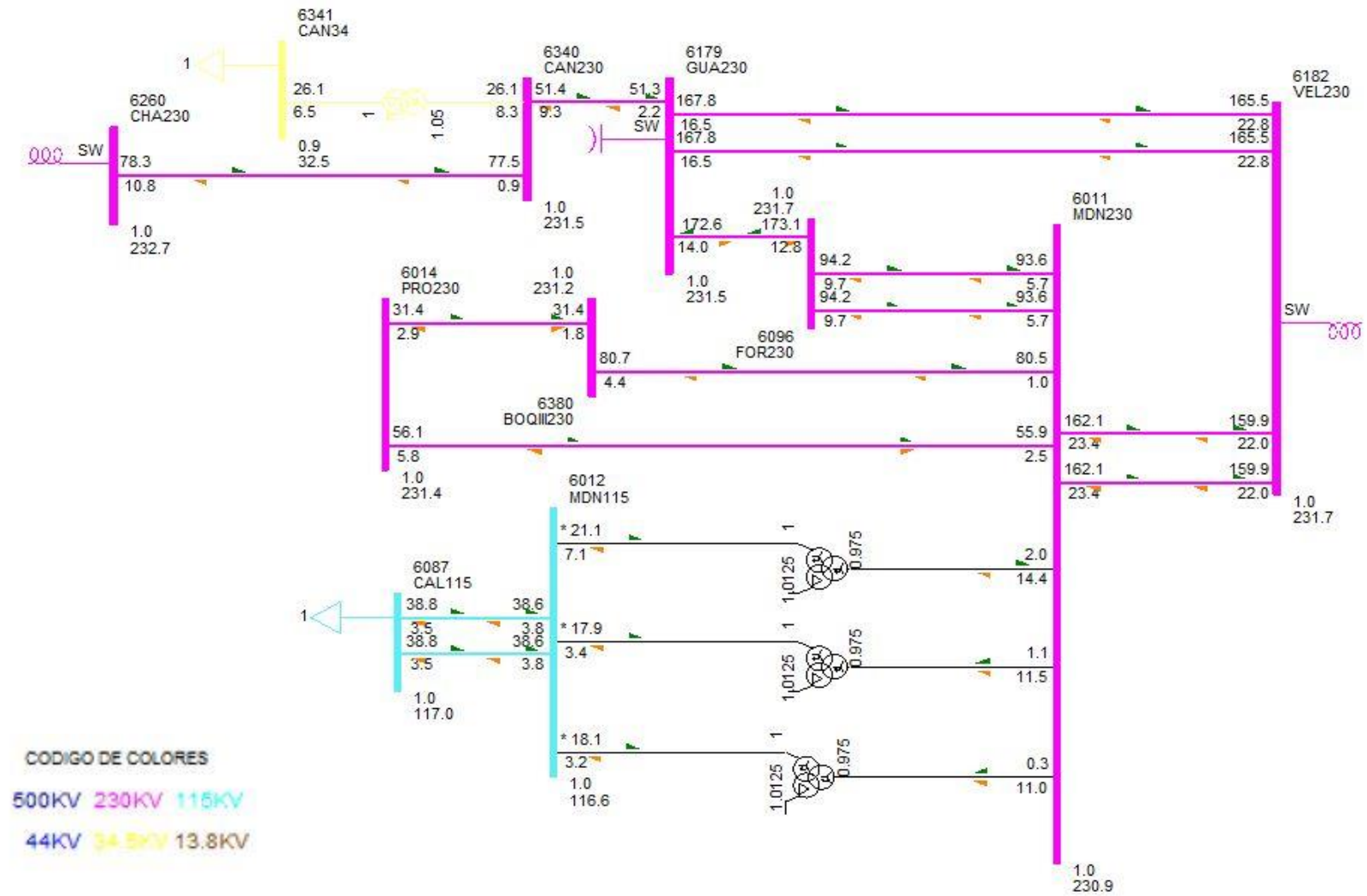


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 21:03
 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	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	0.6	15.0	0.0	1.0000	25.0	0.9997	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	14.2	4.9	12.0	-5.0	1.0100	14.9	0.9441	27.0			64	6	
6091	LESG2	13.800	E2	14.2	4.9	12.0	-5.0	1.0100	14.9	0.9441	27.0			64	6	
6094	LVAG1	13.800	L1	13.0	-1.9	12.0	-5.0	1.0100	13.0	0.9890	27.0			64	6	
6095	LVAG2	13.800	L2	13.0	-1.9	12.0	-5.0	1.0100	13.0	0.9890	27.0			64	6	
6097	FORG1	13.800	F1	95.0	-1.6	50.0	-50.0	1.0000	95.0	0.9999	111.0			64	6	
6098	FORG2	13.800	F2	95.0	-1.6	50.0	-50.0	1.0000	95.0	0.9999	111.0			64	6	
6099	FORG3	13.800	F3	95.0	-1.6	50.0	-50.0	1.0000	95.0	0.9999	111.0			64	6	
6158	MIRG9	13.800	G9	37.0	-11.0	22.1	-20.7	1.0000	38.6	0.9587	49.2			65	6	
6159	MIRG10	13.800	G0	37.0	-11.0	22.1	-20.7	1.0000	38.6	0.9587	49.2			65	6	
6176	ESTG1	13.800	E1	37.0	4.8	29.0	-29.0	1.0100	36.9	0.9918	69.0			64	6	
6177	ESTG2	13.800	E2	37.0	4.8	29.0	-29.0	1.0100	36.9	0.9918	69.0			64	6	
6264	CHANG1	13.800	G1	74.7	3.7	50.8	-50.8	1.0100	74.0	0.9988	116.5			64	6	SYST
6265	CHANG2	13.800	G2	77.2	4.0	50.8	-50.8	1.0100	76.6	0.9986	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	-1.0	2.3	-2.3	1.0000	1.4	0.7094	5.7			64	6	
6305	ALG 13A	13.800	A2	1.0	-1.0	2.3	-2.3	1.0000	1.4	0.7094	5.7			64	6	
6306	MEN 13A	13.800	M1	3.0	3.6	4.2	-4.2	0.9850	4.7	0.6423	10.4			64	6	
6306	MEN 13A	13.800	M2	3.0	3.6	4.2	-4.2	0.9850	4.7	0.6423	10.4			64	6	
6307	COC 13A	34.500	G1	3.0	-4.7	6.5	-5.7	1.0075	5.6*	0.5351	8.4			64	6	
6307	COC 13A	34.500	G2	3.0	-3.3	3.3	-3.3	1.0075	4.4*	0.6703	8.4			64	6	
6308	MENII 13A	13.800	G1	1.3	0.0	1.9	0.0	1.0007	1.3	1.0000	4.1			64	6	
6308	MENII 13A	13.800	G2	1.3	0.0	1.9	0.0	1.0007	1.3	1.0000	4.1			64	6	
6333	BAMG1	13.800	G1	16.0	0.1	10.0	-10.0	1.0000	16.0	1.0000	30.0			64	6	
6334	BAMG2	13.800	G2	16.0	0.1	10.0	-10.0	1.0000	16.0	1.0000	30.0			64	6	
6335	BAIG1	13.800	G1	27.0	-4.4	14.0	-14.0	1.0000	27.4	0.9872	49.0			64	6	
6336	BAIG2	13.800	G2	27.0	-4.4	14.0	-14.0	1.0000	27.4	0.9872	49.0			64	6	
6352	HCAL4.16	4.2000	G1	1.0	-1.3	1.5	-1.5	1.0080	1.6	0.6109	3.4			64	6	
6352	HCAL4.16	4.2000	G2	1.0	-1.3	1.5	-1.5	1.0080	1.6	0.6109	3.4			64	6	
6361	GLAG1	13.800	G1	4.0	-1.5	7.8	-7.0	1.0060	4.2	0.9371	14.1			64	6	
6362	GLAG2	13.800	G2	4.0	-1.5	7.8	-7.0	1.0060	4.2	0.9371	14.1			64	6	
6364	LORG1	13.800	G1	5.0	-1.7	7.8	-7.0	1.0075	5.2	0.9453	25.0			64	6	
6365	LORG2	13.800	G2	5.0	-1.7	7.8	-7.0	1.0075	5.2	0.9453	25.0			64	6	
6367	PRUG1	13.800	G1	10.0	-2.5	8.0	-8.0	1.0075	10.2	0.9712	33.0			64	6	
6368	PRUG2	13.800	G2	10.0	-2.5	8.0	-8.0	1.0075	10.2	0.9712	33.0			64	6	
6373	PRIG1	13.800	G1	141.0	19.0	92.2	-92.2	1.0000	142.3	0.9910	175.0			63	6	
6374	PRIG2	13.800	G2	141.0	19.0	92.2	-92.2	1.0000	142.3	0.9910	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	3.5	-0.4	3.3	-3.3	1.0000	3.5	0.9937	7.1	64	6
6387	PEDII 13A	13.800	G2	3.5	-0.4	3.3	-3.3	1.0000	3.5	0.9937	7.1	64	6
6388	MACG1	0.6900	G1	0.5	-0.1	1.0	-0.8	1.0000	0.5	0.9907	2.1	64	6
6389	MACG2	0.6900	G2	0.5	-0.1	1.0	-0.8	1.0000	0.5	0.9907	2.1	64	6
6390	CON 4.16A	4.1600	G1	2.5	0.0	1.0	-0.8	1.0000	2.5	1.0000	6.3	64	6
6390	CON 4.16A	4.1600	G2	2.5	0.0	1.0	-0.8	1.0000	2.5	1.0000	6.3	64	6
6391	PAAG1	2.1400	G1	0.5	-0.6	1.0	-0.8	1.0000	0.8	0.6210	3.5	64	6
6392	PAAG2	2.1400	G2	0.5	-0.6	1.0	-0.8	1.0000	0.8	0.6210	3.5	64	6
6394	LPN 4.16A	4.1600	G1	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9997	6.3	64	6
6394	LPN 4.16A	4.1600	G2	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9997	6.3	64	6
6395	LPS 4.16A	4.1600	G1	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9997	6.3	64	6
6395	LPS 4.16A	4.1600	G2	2.5	0.1	1.0	-0.8	1.0000	2.5	0.9997	6.3	64	6
6396	RP4G1	6.6000	G1	1.0	0.1	4.6	-2.3	1.0000	1.0	0.9961	7.3	64	6
6397	RP4G2	6.6000	G2	1.0	0.1	4.6	-2.3	1.0000	1.0	0.9961	7.3	64	6
6403	CDP4.16	4.2000	G1	1.1	-0.0	0.6	-0.8	1.0000	1.2	0.9996	2.5	64	6
6403	CDP4.16	4.2000	G2	1.1	-0.0	0.6	-0.8	1.0000	1.2	0.9996	2.5	64	6
6420	DOL 4.16A	4.1600	G1	0.2	-0.2	0.8	-0.8	1.0000	0.3	0.7617	1.3	64	6
6420	DOL 4.16A	4.1600	G2	0.2	-0.2	0.8	-0.8	1.0000	0.3	0.7617	1.3	64	6
6420	DOL 4.16A	4.1600	G3	0.2	-0.2	0.8	-0.8	1.0000	0.3	0.7617	1.3	64	6
6421	LP1 4.16A	4.1600	G1	0.8	-0.2	0.8	-0.8	1.0000	0.8	0.9644	1.8	64	6
6421	LP1 4.16A	4.1600	G2	0.8	-0.2	0.8	-0.8	1.0000	0.8	0.9644	1.8	64	6
6421	LP1 4.16A	4.1600	G3	0.8	-0.2	0.8	-0.8	1.0000	0.8	0.9644	1.8	64	6
6422	MMO 4.16A	4.1600	G1	0.5	-0.3	0.8	-0.8	1.0000	0.6	0.8373	1.5	64	6
6422	MMO 4.16A	4.1600	G2	0.5	-0.3	0.8	-0.8	1.0000	0.6	0.8373	1.5	64	6
6423	BU1G1	4.1600	G1	1.1	-0.1	1.0	-0.4	1.0000	1.1	0.9967	2.3	64	6
6424	BU1G2	4.1600	G2	1.1	-0.1	1.0	-0.4	1.0000	1.1	0.9967	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	-0.0	0.6	-0.5	1.0000	0.9	0.9994	1.1	64	6
6427	BUGII 4.16	4.2000	G1	1.0	-0.1	1.5	-1.5	1.0000	1.0	0.9986	3.5	64	6
6427	BUGII 4.16	4.2000	G2	1.0	-0.1	1.5	-1.5	1.0000	1.0	0.9986	3.5	64	6
6427	BUGII 4.16	4.2000	G3	0.5	-0.0	0.8	-0.8	1.0000	0.5	0.9986	1.9	64	6
6429	AST4.16	4.2000	G1	2.0	0.5	1.8	-1.8	1.0000	2.1	0.9706	4.5	64	6
6432	YEG 4.16A	4.1600	G1	0.6	-2.0	2.2	-2.2	1.0015	2.1	0.2827	3.8	64	6
6432	YEG 4.16A	4.1600	G2	0.6	-2.0	2.2	-2.2	1.0015	2.1	0.2827	3.8	64	6
6432	YEG 4.16A	4.1600	G3	0.6	-0.8	0.8	-0.8	1.0015	1.0*	0.6247	1.2	64	6
6433	EFR 4.16A	4.1600	G1	1.5	-0.6	1.6	-1.6	1.0090	1.6	0.9332	3.2	64	6
6433	EFR 4.16A	4.1600	G2	1.5	-0.6	1.6	-1.6	1.0090	1.6	0.9332	3.2	64	6
6435	ODA13	13.800	G1	1.0	-0.5	1.6	-1.6	1.0000	1.1	0.8847	3.6	63	6
6435	ODA13	13.800	G2	1.0	-0.5	1.6	-1.6	1.0000	1.1	0.8847	3.6	63	6
6436	LHU13.8	13.800	G1	2.4	-0.7	1.2	-1.2	1.0000	2.5	0.9563	2.8	63	6
6436	LHU13.8	13.800	G2	1.0	-0.3	1.2	-1.2	1.0000	1.0	0.9563	2.8	63	6
6439	CHU13.8	13.800	G1	1.5	-0.1	1.2	-1.5	1.0000	1.5	0.9982	4.6	64	6
6439	CHU13.8	13.800	G2	1.5	-0.1	1.2	-1.5	1.0000	1.5	0.9982	4.6	64	6
6444	PDOG1	13.800	G1	3.0	-1.9	12.8	-8.3	1.0005	3.5	0.8449	18.5	64	6
6445	PDOG2	13.800	G2	3.0	-1.9	12.8	-8.3	1.0005	3.5	0.8449	18.5	64	6
6446	ALTG1	13.800	G1	7.6	-3.1	10.9	-7.6	1.0000	8.2	0.9250	24.9	64	6
6447	ALTG2	13.800	G2	7.6	-3.1	10.9	-7.6	1.0000	8.2	0.9250	24.9	64	6
6448	ALTG3	13.800	G3	7.6	-3.1	10.9	-7.6	1.0000	8.2	0.9250	24.9	64	6
6449	MLIG1	13.800	G1	3.0	-2.6	12.8	-8.3	1.0000	3.9	0.7615	18.5	64	6
6450	MLIG2	13.800	G2	3.0	-2.6	12.8	-8.3	1.0000	3.9	0.7615	18.5	64	6
6451	MLIG3	13.800	G3	3.0	-2.6	12.8	-8.3	1.0000	3.9	0.7615	18.5	64	6
6462	RDVG1	0.6900	E1	71.8	0.2	23.6	-23.6	1.0000	71.8	1.0000	107.9	64	6
6463	PORG1	0.6900	E2	33.2	0.3	10.9	-10.9	1.0000	33.3	0.9999	50.0	64	6
6464	MARG1	0.6900	E3	12.2	-0.1	4.0	-4.0	1.0000	12.3	1.0000	18.4	64	6

6465	NCHIG1	0.6900	E4	38.5	-0.6	12.7	-12.7	1.0000	38.5	0.9999	57.9	64	6			
6473	NCHIG1	0.6900	E5	80.5	0.7	26.5	-26.5	1.0000	80.5	1.0000	121.1	64	6			
6481	SLOR6	6.0000	G1	1.0	1.5	1.5	-1.7	1.0005	1.8	0.5547	4.9	64	6			
6481	SLOR6	6.0000	G2	1.0	1.5	1.5	-1.7	1.0005	1.8	0.5547	4.9	64	6			
6488	TOAG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0326	74.9*	0.9500	110.5	63	6			
6492	BONG1	13.800	G1	3.0	-0.6	4.9	-2.0	1.0000	3.1	0.9834	11.5	64	6			
6493	BONG2	13.800	G2	3.0	-0.6	4.9	-2.0	1.0000	3.1	0.9834	11.5	64	6			
6494	BONG3	13.800	G3	3.0	-0.6	4.9	-2.0	1.0000	3.1	0.9834	11.5	64	6			
6605	CEP13.8	13.800	G1	4.8	-0.4	2.3	-2.3	1.0000	4.8	0.9966	5.3	60	6			
6605	CEP13.8	13.800	G2	4.8	-0.4	2.3	-2.3	1.0000	4.8	0.9966	5.3	60	6			
6608	COLG1	2.1000	G1	1.8	-1.1	2.0	-1.3	0.9329	2.3*	0.8561	3.9	0.0000	0.2200	1.0000	64	6
6609	COLG2	2.1000	G2	1.8	-1.4	1.8	-1.4	1.0037	2.3*	0.7957	3.9	64	6			
6611	COTG1	4.1600	G1	1.2	-1.0	1.4	-1.0	1.0018	1.6*	0.7922	2.9	64	6			
6612	COTG2	4.1600	G2	1.2	-1.0	1.4	-1.0	1.0018	1.6*	0.7922	2.9	64	6			
6616	HERRG1	4.2000	G1	1.0	-0.9	1.2	-0.9	1.0015	1.4*	0.7363	2.6	64	6			
6617	HERRG2	4.2000	G2	1.0	-0.9	1.2	-0.9	1.0015	1.4*	0.7363	2.6	64	6			
6618	HERRG3	4.2000	G3	0.5	-0.4	0.5	-0.4	1.0018	0.7*	0.7636	1.2	64	6			
6620	MTR13.8	13.800	P1	50.8	-0.2	27.0	-33.0	1.0000	50.8	1.0000	65.1	62	6			
6621	MTR13.8	13.800	P2	50.8	-0.2	27.0	-33.0	1.0000	50.8	1.0000	65.1	62	6			
6622	MTR13.8	13.800	P3	50.8	-0.2	27.0	-33.0	1.0000	50.8	1.0000	65.1	62	6			
6623	MTR13.8	13.800	P4	50.8	-0.2	27.0	-33.0	1.0000	50.8	1.0000	65.1	62	6			
6624	MTR13.8	13.800	P5	48.0	-0.5	27.0	-33.0	1.0000	48.0	0.9999	65.1	62	6			
6627	MTR13.8	13.800	P8	33.9	-1.6	18.0	-22.0	1.0000	33.9	0.9989	43.4	62	6			
6651	BDT4.16	4.2000	G1	1.7	0.4	2.5	-2.5	1.0000	1.7	0.9724	5.6	64	6			
6682	LPO13.8	13.800	G1	4.7	-0.7	7.8	-5.9	1.0000	4.7	0.9890	15.5	64	6			
6682	LPO13.8	13.800	G2	4.7	-0.7	7.8	-5.9	1.0000	4.7	0.9890	15.5	64	6			
6682	LPO13.8	13.800	G3	1.5	-0.2	1.1	-0.9	1.0000	1.5	0.9890	2.3	64	6			
6684	SAL13.8	13.800	G1	4.7	-0.7	7.8	-5.9	1.0000	4.7	0.9887	15.5	64	6			
6684	SAL13.8	13.800	G2	4.7	-0.7	7.8	-5.9	1.0000	4.7	0.9887	15.5	64	6			
6711	TIZ4.16	4.2000	G1	2.5	0.2	2.2	-2.2	1.0000	2.5	0.9954	5.0	64	6			
6721	SIN4.16	4.2000	G1	2.5	-1.4	2.5	-2.5	1.0000	2.9	0.8656	5.6	64	6			
6721	SIN4.16	4.2000	G2	2.5	-1.4	2.5	-2.5	1.0000	2.9	0.8656	5.6	64	6			
6731	SAN13.8	13.800	G1	2.2	-0.2	2.7	-2.7	1.0000	2.2	0.9948	5.8	64	6			
6731	SAN13.8	13.800	G2	2.2	-0.2	2.7	-2.7	1.0000	2.2	0.9948	5.8	64	6			
6736	SANII13.8	13.800	G1	3.0	-0.3	1.6	-1.6	1.0000	3.0	0.9956	5.2	64	6			
6736	SANII13.8	13.800	G2	3.0	-0.3	1.6	-1.6	1.0000	3.0	0.9956	5.2	64	6			
6766	CRU13.8	13.800	G1	5.0	-4.6	4.9	-4.9	1.0000	6.8*	0.7367	12.5	63	6			
6766	CRU13.8	13.800	G2	5.0	-4.6	4.9	-4.9	1.0000	6.8*	0.7367	12.5	63	6			
6774	BAR13.8	13.800	G1	3.0	0.9	4.8	-4.8	1.0000	3.1	0.9601	10.8	63	6			
6774	BAR13.8	13.800	G2	3.0	0.9	4.8	-4.8	1.0000	3.1	0.9601	10.8	63	6			
6821	PLAII13.8	13.800	G1	1.0	-0.1	1.8	-1.8	1.0000	1.0	0.9946	4.1	64	6			
6841	BUR13.8	13.800	G1	11.0	-2.3	15.4	-15.4	1.0000	11.2	0.9781	35.0	64	6			
6841	BUR13.8	13.800	G2	11.0	-2.3	15.4	-15.4	1.0000	11.2	0.9781	35.0	64	6			
6861	BBL13.8	13.800	G1	3.0	-1.1	6.4	-6.4	1.0000	3.2	0.9395	14.8	64	6			
6861	BBL13.8	13.800	G2	3.0	-1.1	6.4	-6.4	1.0000	3.2	0.9395	14.8	64	6			
6861	BBL13.8	13.800	G3	1.0	-0.4	0.8	-0.6	1.0000	1.1	0.9395	2.1	64	6			
6935	LTR13.8	13.800	G1	0.5	-0.3	0.3	-0.3	1.0000	0.6	0.8838	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			
6996	SVC-LSA	13.200	C1	0.0	1.6	120.0	-30.0	1.0112	1.6	0.0000	150.0	63	6			
6998	SVC-PAN2	13.200	C1	0.0	-1.6	120.0	-30.0	0.9988	1.6	0.0000	150.0	61	6			
SUBSYSTEM TOTALS				1995.8	-15.4	1585.5	-1239.4				3674.0					

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 21:03
 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	4.2	6.0	-6.0	1.0000	5.8	0.6922	13.0			65	7	
6135		MADG2		6.9000	G2	4.0	3.3	6.0	-6.0	1.0000	5.2	0.7699	13.0			65	7	
6136		MADG3		6.9000	G3	4.0	5.1	6.0	-6.0	1.0100	6.4	0.6161	13.0			65	7	
6140		GAT6A		6.9000	G1	1.0	0.0	2.0	-2.0	1.0100	1.0	0.9998	4.1			65	7	
6140		GAT6A		6.9000	G2	1.0	0.0	2.0	-2.0	1.0100	1.0	0.9998	4.1			65	7	
6140		GAT6A		6.9000	G3	1.0	0.0	2.0	-2.0	1.0100	1.0	0.9998	4.1			65	7	
6140		GAT6A		6.9000	G4	1.5	0.0	3.0	-3.0	1.0100	1.5	0.9998	5.6			65	7	
6140		GAT6A		6.9000	G5	1.5	0.0	3.0	-3.0	1.0100	1.5	0.9998	6.2			65	7	
6140		GAT6A		6.9000	G6	1.5	0.0	3.0	-3.0	1.0100	1.5	0.9998	6.2			65	7	
SUBSYSTEM TOTALS						19.5	12.7	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 21:04
 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	FRONT	PRO		230.00	6	1.0064	231.47	6002	PAN	115		115.00	6	1.0101	116.16
6004	PAN	I115		115.00	6	1.0188	117.16	6005	CHO	230		230.00	6	1.0011	230.25
6008	LSA	230		230.00	6	1.0100	232.30	6009	LSA	115		115.00	6	1.0097	116.11
6011	MDN	230		230.00	6	1.0037	230.86	6012	MDN	115		115.00	6	1.0136	116.56
6014	PRO	230		230.00	6	1.0060	231.37	6015	PRO	115		115.00	6	1.0035	115.40
6018	CAC	115		115.00	6	1.0092	116.06	6019	CVI	115A		115.00	6	1.0060	115.69
6027	LOC	115A		115.00	6	1.0006	115.06	6036	SMA	115		115.00	6	1.0079	115.91
6055	MOS	115B		115.00	6	1.0052	115.60	6057	TOC	115		115.00	6	1.0155	116.78
6059	LM	115		115.00	6	1.0002	115.02	6060	LM	2115		115.00	6	1.0002	115.02
6074	LMD	IST		115.00	6	1.0002	115.02	6087	CAL	115		115.00	6	1.0171	116.97
6088	LES	115		115.00	6	1.0200	117.30	6092	LVA	115		115.00	6	1.0171	116.97
6096	FOR	230		230.00	6	1.0072	231.66	6100	BAY	230		230.00	6	1.0027	230.62
6105	PAM	230		230.00	6	1.0011	230.25	6115	LBO	115		115.00	6	1.0056	115.64
6123	MIR	115A		115.00	7	1.0081	115.93	6165	FLO	115		115.00	6	1.0088	116.01
6170	CPA	115		115.00	6	1.0016	115.18	6171	PAC	230		230.00	6	1.0006	230.13
6173	STR	115		115.00	6	1.0048	115.56	6178	EST	230		230.00	6	1.0064	231.47
6179	GUA	230		230.00	6	1.0064	231.46	6182	VEL	230		230.00	6	1.0075	231.72
6210	TIN	115		115.00	6	1.0055	115.64	6211	PM	115-9		115.00	6	1.0056	115.64
6240	EHIG	230		230.00	6	1.0042	230.96	6245	BNGA	230		230.00	6	1.0005	230.12
6251	BVI	115		115.00	6	1.0004	115.05	6260	CHA	230		230.00	6	1.0119	232.74
6261	CHA	115		115.00	6	1.0042	115.49	6263	ESP	230		230.00	6	1.0159	233.65
6270	CAT	115		115.00	6	1.0002	115.02	6280	GIR	115		115.00	6	1.0016	115.18
6290	CAT	I115		115.00	6	1.0007	115.08	6330	BAI	230		230.00	6	1.0066	231.51
6331	BAI	115		115.00	6	1.0006	115.07	6332	BAM	115		115.00	6	1.0039	115.45
6340	CAN	230		230.00	6	1.0064	231.46	6350	PM	115-8		115.00	6	1.0018	115.21
6360	GLA	230		230.00	6	1.0081	231.86	6363	ZAM	230		230.00	6	1.0099	232.28
6366	EVA	230		230.00	6	1.0110	232.53	6370	PET	230		230.00	6	1.0028	230.64
6372	PRI	230		230.00	6	1.0178	234.10	6380	BOQ	III230		230.00	6	1.0052	231.20
6400	FRONT	CHA		230.00	6	1.0133	233.05	6401	PM	230-29		230.00	6	1.0067	231.54
6430	GEN	LLS		115.00	6	1.0097	116.11	6434	ODA	115		115.00	6	1.0096	116.11
6440	DOM	230		230.00	6	1.0036	230.82	6441	PRIM	230		230.00	6	1.0032	230.73
6442	ALT	230		230.00	6	1.0026	230.59	6443	PARE	230		230.00	6	1.0031	230.72
6460	ECO	230		230.00	6	1.0092	232.11	6470	24DIC	230		230.00	6	1.0002	230.04
6485	ANT	230		230.00	6	1.0101	232.33	6490	BON	115		115.00	6	1.0042	115.49
6500	FRONT	DOM		230.00	6	1.0048	231.11	6601	COP	230		230.00	6	1.0003	230.07
6680	BFR	230		230.00	6	1.0066	231.51	6681	LPO	230		230.00	6	1.0066	231.51
6683	SAL	230		230.00	6	1.0066	231.51	6730	SAN	115		115.00	6	1.0039	115.45
6760	SBA	230		230.00	6	1.0112	232.59	6840	BUR	230		230.00	6	1.0060	231.37
6860	BBL	230		230.00	6	1.0079	231.81	6915	SCR	115		115.00	6	1.0100	116.15
6995	SVC	LSA		230.00	6	1.0100	232.30	6999	BAR	115		115.00	6	1.0002	115.02

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	PAN	230		230.00	6	0.9935	228.50	6024	CHI	115		115.00	6	0.9942	114.33
6032	MAR	115A		115.00	6	0.9995	114.94	6040	SFR	115		115.00	6	0.9971	114.67
6047	CLA	115		115.00	6	0.9863	113.42	6064	MES	115		115.00	6	0.9888	113.72
6066	FF	IELD		115.00	6	0.9895	113.80	6230	CBA	115		115.00	6	0.9988	114.86
6761	SBA	115		115.00	6	0.9980	114.78	6980	BKO	115		115.00	6	0.9896	113.80

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

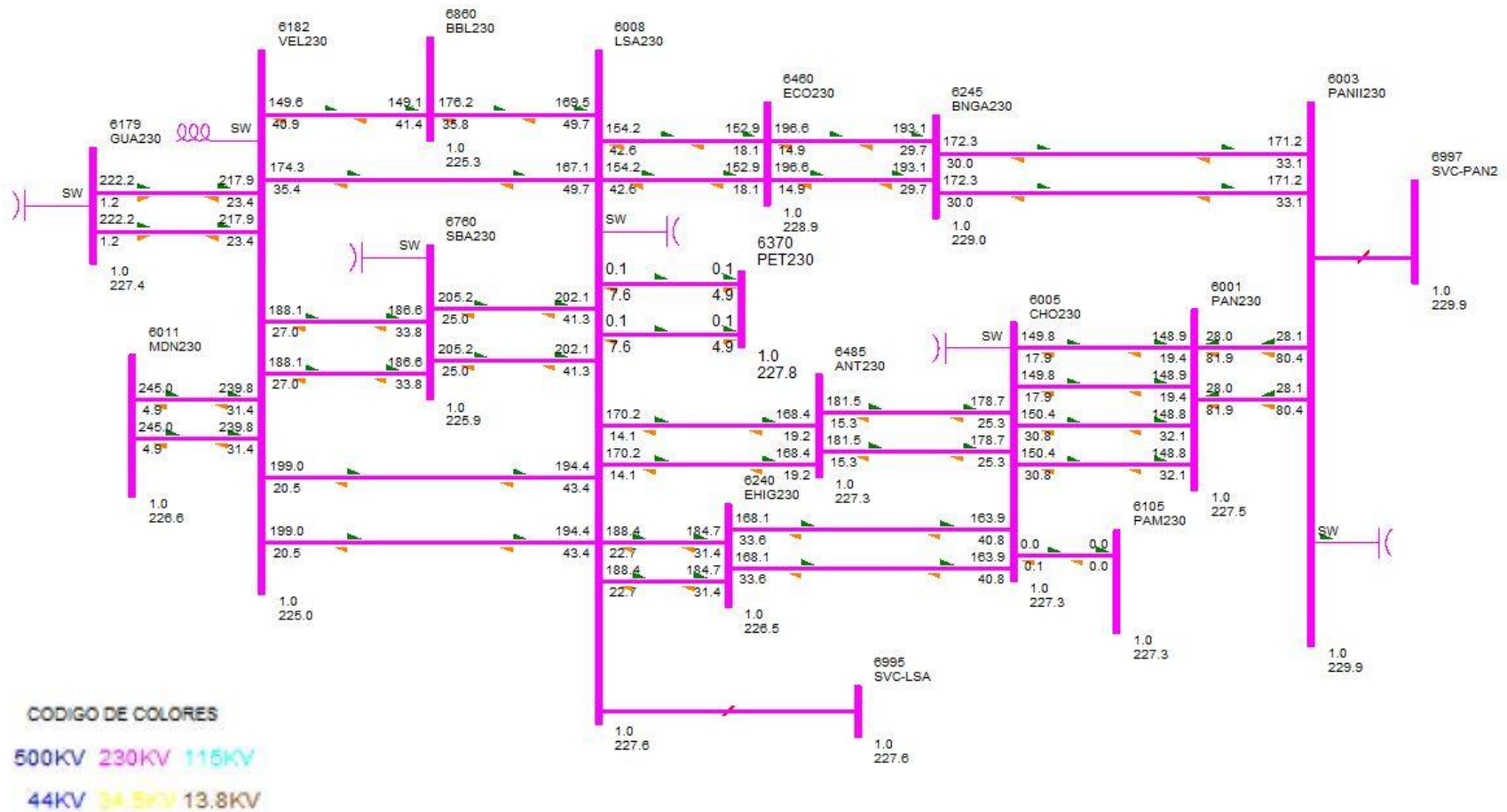
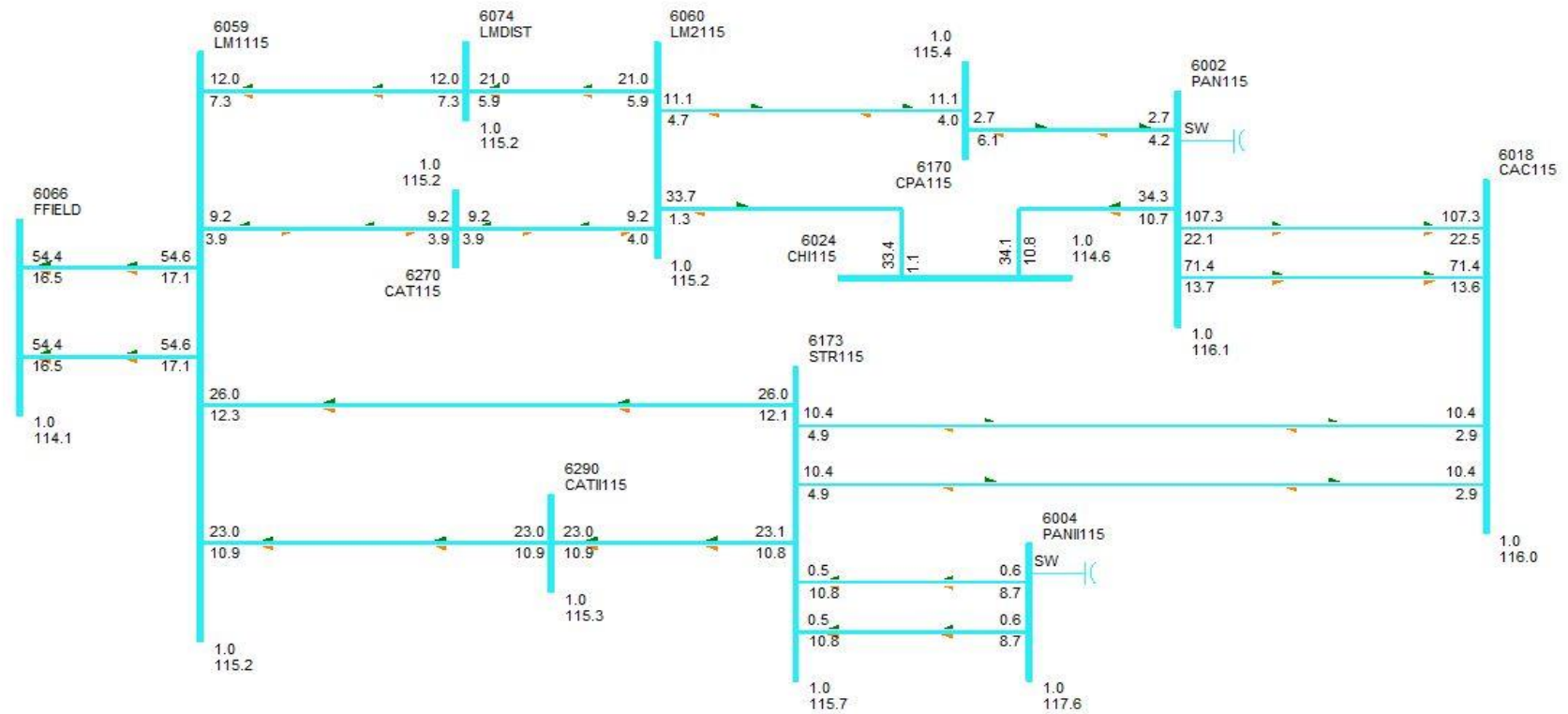


Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

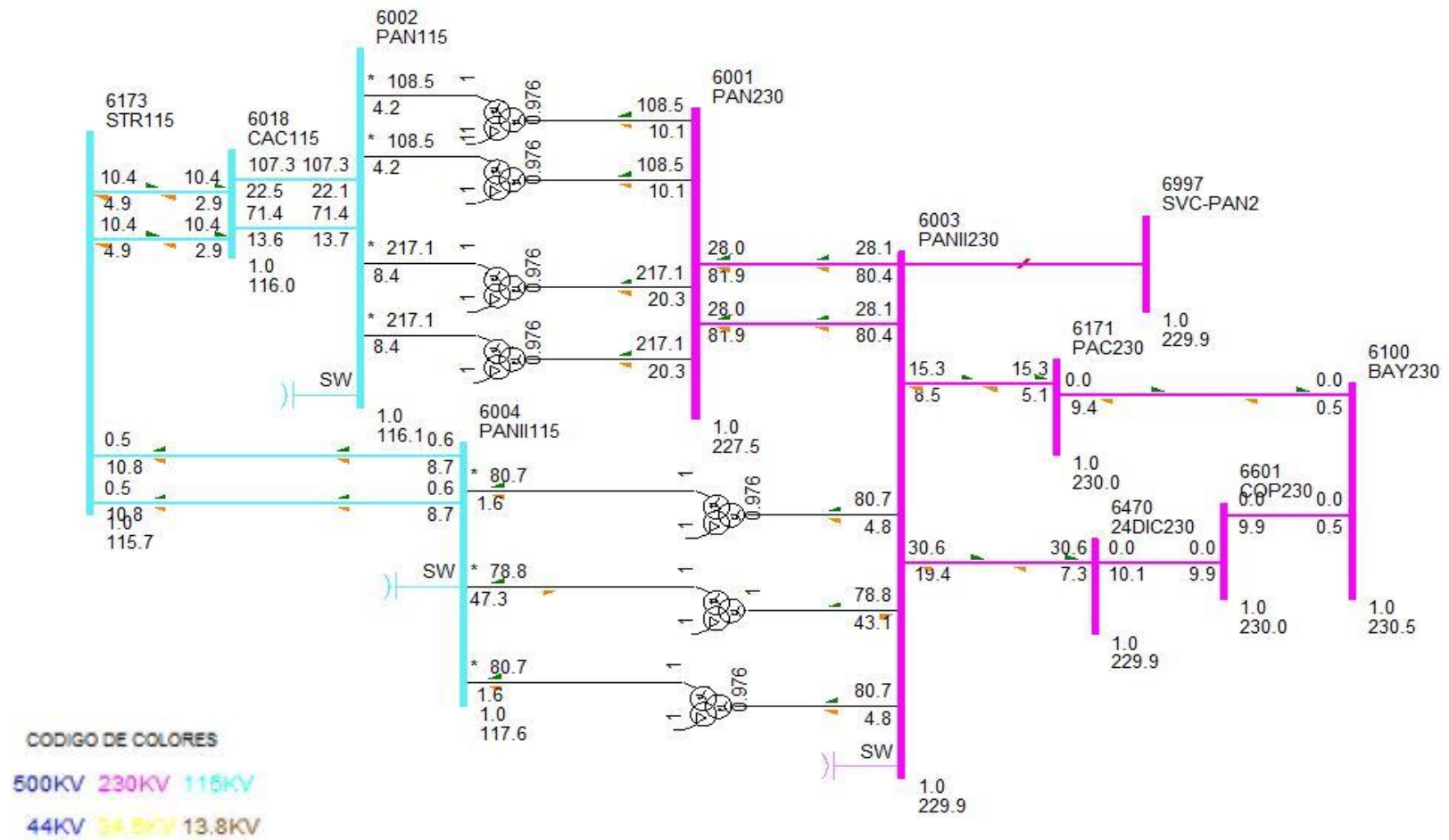
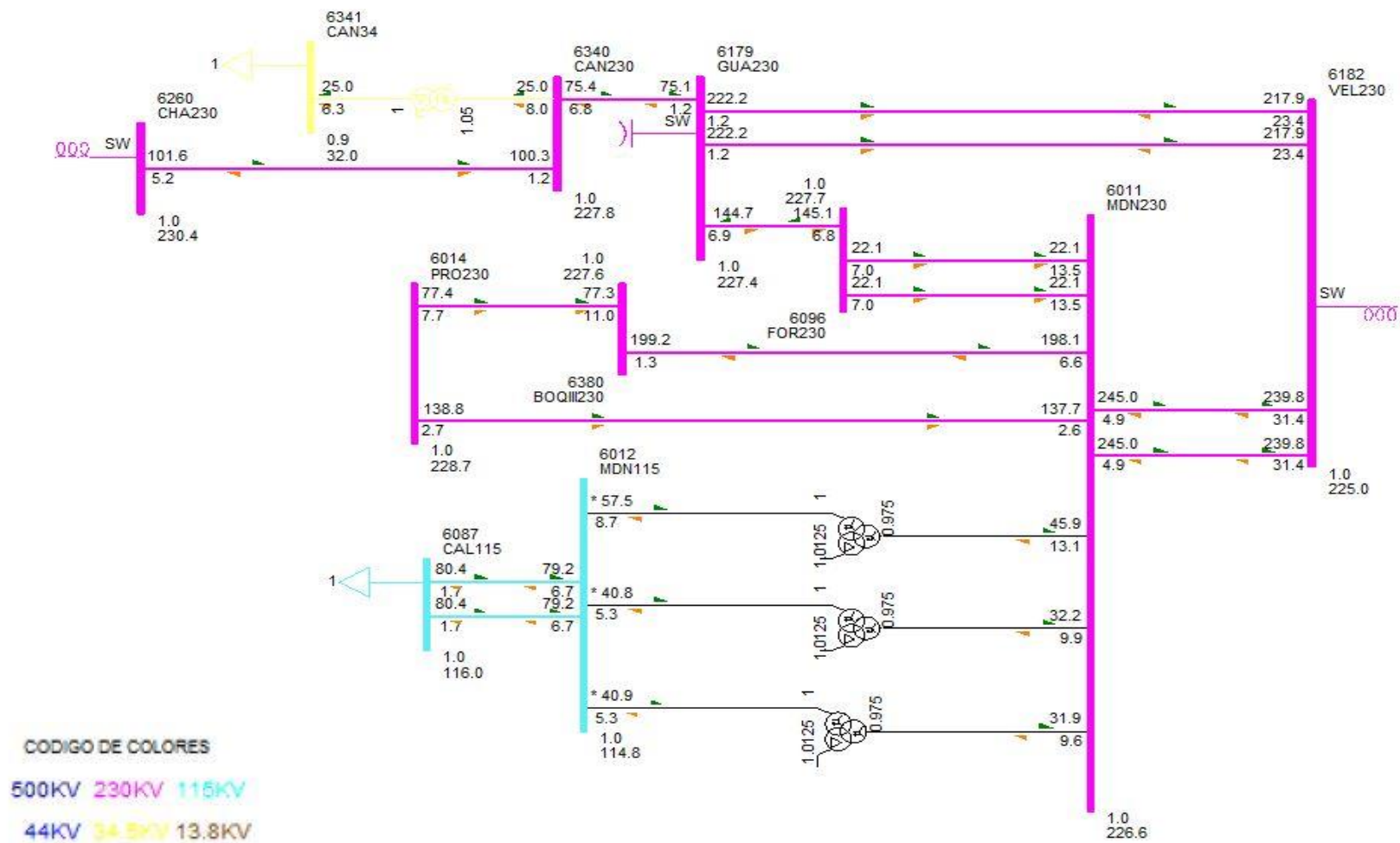


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:49
 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	0.0	15.0	0.0	1.0005	25.0	1.0000	47.0			62	6	
6072	BLMG3		13.800	V3	25.0	0.0	15.0	0.0	1.0005	25.0	1.0000	47.0			62	6	
6073	BLMG4		13.800	V4	25.0	0.0	15.0	0.0	1.0007	25.0	1.0000	47.0			62	6	
6078	BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9908	40.6*	0.9687	71.0			62	6	
6090	LESG1		13.800	E1	22.4	7.7	12.0	-5.0	1.0100	23.5	0.9464	27.0			64	6	
6091	LESG2		13.800	E2	22.4	7.7	12.0	-5.0	1.0100	23.5	0.9464	27.0			64	6	
6094	LVAG1		13.800	L1	26.0	1.4	12.0	-5.0	1.0100	25.8	0.9986	27.0			64	6	
6095	LVAG2		13.800	L2	26.0	1.4	12.0	-5.0	1.0100	25.8	0.9986	27.0			64	6	
6097	FORG1		13.800	F1	80.0	12.5	50.0	-50.0	1.0000	81.0	0.9880	111.0			64	6	
6158	MIRG9		13.800	G9	37.0	-11.1	22.1	-20.7	1.0000	38.7	0.9579	49.2			65	6	
6159	MIRG10		13.800	G0	37.0	-11.1	22.1	-20.7	1.0000	38.7	0.9579	49.2			65	6	
6176	ESTG1		13.800	E1	57.0	13.8	29.0	-29.0	1.0100	58.1	0.9721	69.0			64	6	
6177	ESTG2		13.800	E2	57.0	13.8	29.0	-29.0	1.0100	58.1	0.9721	69.0			64	6	
6264	CHANG1		13.800	G1	91.1	12.6	50.8	-50.8	1.0100	91.0	0.9905	116.5			64	6	SYST
6265	CHANG2		13.800	G2	96.9	13.2	50.8	-50.8	1.0100	96.9	0.9908	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	-0.8	2.3	-2.3	1.0000	4.9	0.9856	5.7			64	6	
6305	ALG 13A		13.800	A2	4.8	-0.8	2.3	-2.3	1.0000	4.9	0.9856	5.7			64	6	
6306	MEN 13A		13.800	M1	8.9	4.2	4.2	-4.2	0.9842	10.0*	0.9060	10.4			64	6	
6306	MEN 13A		13.800	M2	8.9	4.2	4.2	-4.2	0.9842	10.0*	0.9060	10.4			64	6	
6307	COC 13A		34.500	G1	7.1	-2.9	6.5	-5.7	1.0075	7.6	0.9270	8.4			64	6	
6307	COC 13A		34.500	G2	7.1	-2.9	3.3	-3.3	1.0075	7.6*	0.9270	8.4			64	6	
6308	MENII 13A		13.800	G1	3.7	1.1	1.9	0.0	1.0000	3.8	0.9551	4.1			64	6	
6308	MENII 13A		13.800	G2	3.7	1.1	1.9	0.0	1.0000	3.8	0.9551	4.1			64	6	
6333	BAMG1		13.800	G1	26.6	3.0	10.0	-10.0	1.0000	26.8	0.9936	30.0			64	6	
6334	BAMG2		13.800	G2	26.6	3.0	10.0	-10.0	1.0000	26.8	0.9936	30.0			64	6	
6335	BAIG1		13.800	G1	41.9	3.1	14.0	-14.0	1.0000	42.0	0.9973	49.0			64	6	
6336	BAIG2		13.800	G2	41.9	3.1	14.0	-14.0	1.0000	42.0	0.9973	49.0			64	6	
6352	HCAL4.16		4.2000	G1	2.9	-0.8	1.5	-1.5	1.0080	3.0	0.9633	3.4			64	6	
6352	HCAL4.16		4.2000	G2	2.9	-0.8	1.5	-1.5	1.0080	3.0	0.9633	3.4			64	6	
6361	GLAG1		13.800	G1	12.1	7.6	7.8	-7.0	1.0060	14.2*	0.8463	14.1			64	6	
6362	GLAG2		13.800	G2	12.1	7.6	7.8	-7.0	1.0060	14.2*	0.8463	14.1			64	6	
6364	LORG1		13.800	G1	16.1	3.9	7.8	-7.0	1.0075	16.4	0.9712	25.0			64	6	
6365	LORG2		13.800	G2	16.1	3.9	7.8	-7.0	1.0075	16.4	0.9712	25.0			64	6	
6367	PRUG1		13.800	G1	27.9	1.7	8.0	-8.0	1.0075	27.7	0.9981	33.0			64	6	
6368	PRUG2		13.800	G2	27.9	1.7	8.0	-8.0	1.0075	27.7	0.9981	33.0			64	6	
6373	PRIG1		13.800	G1	102.0	31.5	92.2	-92.2	1.0000	106.8	0.9554	175.0			63	6	
6374	PRIG2		13.800	G2	102.0	31.5	92.2	-92.2	1.0000	106.8	0.9554	175.0			63	6	
6386	PEDI 13A		13.800	G1	11.9	2.0	6.2	-6.8	1.0000	12.0	0.9868	12.5			64	6	
6386	PEDI 13A		13.800	G2	11.9	2.0	6.2	-6.8	1.0000	12.0	0.9868	12.5			64	6	
6387	PEDII 13A		13.800	G1	6.1	0.2	3.3	-3.3	1.0000	6.1	0.9996	7.1			64	6	
6387	PEDII 13A		13.800	G2	6.1	0.2	3.3	-3.3	1.0000	6.1	0.9996	7.1			64	6	

6388	MACG1	0.6900	G1	1.7	-0.0	1.0	-0.8	1.0000	1.7	1.0000	2.1	64	6
6389	MACG2	0.6900	G2	1.7	-0.0	1.0	-0.8	1.0000	1.7	1.0000	2.1	64	6
6390	CON 4.16A	4.1600	G1	4.8	0.2	1.0	-0.8	1.0000	4.8	0.9988	6.3	64	6
6390	CON 4.16A	4.1600	G2	4.8	0.2	1.0	-0.8	1.0000	4.8	0.9988	6.3	64	6
6391	PAAG1	2.1400	G1	2.8	1.0	1.0	-0.8	0.9996	3.0*	0.9427	3.5	64	6
6392	PAAG2	2.1400	G2	2.8	1.0	1.0	-0.8	0.9996	3.0*	0.9427	3.5	64	6
6394	LPN 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9970	4.9*	0.9785	6.3	64	6
6394	LPN 4.16A	4.1600	G2	4.8	1.0	1.0	-0.8	0.9970	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G1	4.8	1.0	1.0	-0.8	0.9970	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600	G2	4.8	1.0	1.0	-0.8	0.9970	4.9*	0.9785	6.3	64	6
6396	RP4G1	6.6000	G1	6.2	0.8	4.6	-2.3	1.0000	6.3	0.9909	7.3	64	6
6397	RP4G2	6.6000	G2	6.2	0.8	4.6	-2.3	1.0000	6.3	0.9909	7.3	64	6
6403	CDP4.16	4.2000	G1	2.1	0.4	0.6	-0.8	1.0000	2.2	0.9867	2.5	64	6
6403	CDP4.16	4.2000	G2	2.1	0.4	0.6	-0.8	1.0000	2.2	0.9867	2.5	64	6
6420	DOL 4.16A	4.1600	G1	1.0	0.5	0.8	-0.8	1.0000	1.1	0.8859	1.3	64	6
6420	DOL 4.16A	4.1600	G2	1.0	0.5	0.8	-0.8	1.0000	1.1	0.8859	1.3	64	6
6420	DOL 4.16A	4.1600	G3	1.0	0.5	0.8	-0.8	1.0000	1.1	0.8859	1.3	64	6
6421	LP1 4.16A	4.1600	G1	1.5	0.5	0.8	-0.8	1.0000	1.6	0.9434	1.8	64	6
6421	LP1 4.16A	4.1600	G2	1.5	0.5	0.8	-0.8	1.0000	1.6	0.9434	1.8	64	6
6421	LP1 4.16A	4.1600	G3	1.5	0.5	0.8	-0.8	1.0000	1.6	0.9434	1.8	64	6
6422	MMO 4.16A	4.1600	G1	1.2	0.8	0.8	-0.8	1.0000	1.4	0.8310	1.5	64	6
6422	MMO 4.16A	4.1600	G2	1.2	0.8	0.8	-0.8	1.0000	1.4	0.8310	1.5	64	6
6423	BU1G1	4.1600	G1	2.0	0.0	1.0	-0.4	1.0000	2.0	1.0000	2.3	64	6
6424	BU1G2	4.1600	G2	2.0	0.0	1.0	-0.4	1.0000	2.0	1.0000	2.3	64	6
6425	BU1G3	0.6900	G3	0.9	0.0	0.6	-0.5	1.0000	0.9	1.0000	1.1	64	6
6427	BUGII 4.16	4.2000	G1	3.0	0.2	1.5	-1.5	1.0000	3.0	0.9979	3.5	64	6
6427	BUGII 4.16	4.2000	G2	3.0	0.2	1.5	-1.5	1.0000	3.0	0.9979	3.5	64	6
6427	BUGII 4.16	4.2000	G3	1.7	0.1	0.8	-0.8	1.0000	1.7	0.9979	1.9	64	6
6429	AST4.16	4.2000	G1	3.9	1.8	1.8	-1.8	0.9932	4.3*	0.9074	4.5	64	6
6432	YEG 4.16A	4.1600	G1	2.9	1.8	2.2	-2.2	1.0015	3.4	0.8455	3.8	64	6
6432	YEG 4.16A	4.1600	G2	2.9	1.8	2.2	-2.2	1.0015	3.4	0.8455	3.8	64	6
6432	YEG 4.16A	4.1600	G3	1.0	0.6	0.8	-0.8	1.0015	1.1	0.8455	1.2	64	6
6433	EFR 4.16A	4.1600	G1	2.5	1.6	1.6	-1.6	0.9964	3.0*	0.8383	3.2	64	6
6433	EFR 4.16A	4.1600	G2	2.5	1.6	1.6	-1.6	0.9964	3.0*	0.8383	3.2	64	6
6435	ODA13	13.800	G1	3.1	0.4	1.6	-1.6	1.0000	3.1	0.9922	3.6	63	6
6435	ODA13	13.800	G2	3.1	0.4	1.6	-1.6	1.0000	3.1	0.9922	3.6	63	6
6436	LHU13.8	13.800	G1	2.4	0.4	1.2	-1.2	1.0000	2.4	0.9886	2.8	63	6
6436	LHU13.8	13.800	G2	2.4	0.4	1.2	-1.2	1.0000	2.4	0.9886	2.8	63	6
6439	CHU13.8	13.800	G1	4.2	0.3	1.2	-1.5	1.0000	4.2	0.9978	4.6	64	6
6439	CHU13.8	13.800	G2	4.2	0.3	1.2	-1.5	1.0000	4.2	0.9978	4.6	64	6
6444	PDOG1	13.800	G1	15.8	1.0	12.8	-8.3	1.0005	15.8	0.9978	18.5	64	6
6445	PDOG2	13.800	G2	15.8	1.0	12.8	-8.3	1.0005	15.8	0.9978	18.5	64	6
6446	ALTG1	13.800	G1	21.3	1.5	10.9	-7.6	1.0000	21.4	0.9977	24.9	64	6
6447	ALTG2	13.800	G2	21.3	1.5	10.9	-7.6	1.0000	21.4	0.9977	24.9	64	6
6448	ALTG3	13.800	G3	21.3	1.5	10.9	-7.6	1.0000	21.4	0.9977	24.9	64	6
6449	MLIG1	13.800	G1	15.8	1.0	12.8	-8.3	1.0000	15.8	0.9981	18.5	64	6
6450	MLIG2	13.800	G2	15.8	1.0	12.8	-8.3	1.0000	15.8	0.9981	18.5	64	6
6451	MLIG3	13.800	G3	15.8	1.0	12.8	-8.3	1.0000	15.8	0.9981	18.5	64	6
6462	RDVG1	0.6900	E1	25.6	3.1	8.4	-8.4	1.0000	25.8	0.9925	107.9	64	6
6463	PORG1	0.6900	E2	11.9	1.3	3.9	-3.9	1.0000	11.9	0.9941	50.0	64	6
6464	MARG1	0.6900	E3	4.4	0.6	1.4	-1.4	1.0000	4.4	0.9902	18.4	64	6
6465	NCHIG1	0.6900	E4	13.8	2.4	4.5	-4.5	1.0000	14.0	0.9849	57.9	64	6
6473	NCHIIG1	0.6900	E5	28.8	3.2	9.4	-9.4	1.0000	28.9	0.9938	121.1	64	6

6481	SLOR6	6.0000	G1	4.2	1.5	1.5	-1.7	0.9989	4.4*	0.9412	4.9	64	6			
6481	SLOR6	6.0000	G2	4.2	1.5	1.5	-1.7	0.9989	4.4*	0.9412	4.9	64	6			
6488	TOAG1	0.7000	G1	26.2	8.6	8.6	8.6	0.9972	27.7*	0.9500	110.5	63	6			
6492	BONG1	13.800	G1	9.9	0.8	4.9	-2.0	1.0000	9.9	0.9968	11.5	64	6			
6493	BONG2	13.800	G2	9.9	0.8	4.9	-2.0	1.0000	9.9	0.9968	11.5	64	6			
6494	BONG3	13.800	G3	9.9	0.8	4.9	-2.0	1.0000	9.9	0.9968	11.5	64	6			
6605	CEP13.8	13.800	G1	4.8	-0.4	2.3	-2.3	1.0000	4.8	0.9967	5.3	60	6			
6605	CEP13.8	13.800	G2	4.8	-0.4	2.3	-2.3	1.0000	4.8	0.9967	5.3	60	6			
6608	COLG1	2.1000	G1	3.2	-0.7	2.0	-1.3	0.9419	3.5	0.9773	3.9	0.0000	0.2200	1.0000	64	6
6609	COLG2	2.1000	G2	3.2	-1.4	1.8	-1.4	1.0013	3.5*	0.9194	3.9	64	6			
6611	COTG1	4.1600	G1	2.4	-0.7	1.4	-1.0	1.0000	2.5	0.9621	2.9	64	6			
6612	COTG2	4.1600	G2	2.4	-0.7	1.4	-1.0	1.0000	2.5	0.9621	2.9	64	6			
6616	HERRG1	4.2000	G1	2.1	-0.9	1.2	-0.9	1.0016	2.3*	0.9187	2.6	64	6			
6617	HERRG2	4.2000	G2	2.1	-0.9	1.2	-0.9	1.0016	2.3*	0.9187	2.6	64	6			
6618	HERRG3	4.2000	G3	0.9	-0.4	0.5	-0.4	1.0020	1.0*	0.9100	1.2	64	6			
6620	MTR13.8	13.800	P1	35.0	-2.0	27.0	-33.0	1.0000	35.1	0.9984	65.1	62	6			
6627	MTR13.8	13.800	P8	33.9	-2.1	18.0	-22.0	1.0000	34.0	0.9981	43.4	62	6			
6651	BDT4.16	4.2000	G1	4.8	2.2	2.5	-2.5	1.0000	5.2	0.9095	5.6	64	6			
6682	LPO13.8	13.800	G1	13.3	1.0	7.8	-5.9	1.0000	13.3	0.9970	15.5	64	6			
6682	LPO13.8	13.800	G2	13.3	1.0	7.8	-5.9	1.0000	13.3	0.9970	15.5	64	6			
6682	LPO13.8	13.800	G3	2.0	0.2	1.1	-0.9	1.0000	2.0	0.9970	2.3	64	6			
6684	SAL13.8	13.800	G1	13.3	1.1	7.8	-5.9	1.0000	13.3	0.9968	15.5	64	6			
6684	SAL13.8	13.800	G2	13.3	1.1	7.8	-5.9	1.0000	13.3	0.9968	15.5	64	6			
6711	TIZ4.16	4.2000	G1	4.3	1.2	2.2	-2.2	1.0000	4.5	0.9606	5.0	64	6			
6721	SIN4.16	4.2000	G1	4.8	-1.0	2.5	-2.5	1.0000	4.9	0.9770	5.6	64	6			
6721	SIN4.16	4.2000	G2	4.8	-1.0	2.5	-2.5	1.0000	4.9	0.9770	5.6	64	6			
6731	SAN13.8	13.800	G1	4.9	0.5	2.7	-2.7	1.0000	4.9	0.9945	5.8	64	6			
6731	SAN13.8	13.800	G2	4.9	0.5	2.7	-2.7	1.0000	4.9	0.9945	5.8	64	6			
6736	SANII13.8	13.800	G1	4.7	0.4	1.6	-1.6	1.0000	4.7	0.9966	5.2	64	6			
6736	SANII13.8	13.800	G2	4.7	0.4	1.6	-1.6	1.0000	4.7	0.9966	5.2	64	6			
6766	CRU13.8	13.800	G1	9.8	-3.7	4.9	-4.9	1.0000	10.5	0.9371	12.5	63	6			
6766	CRU13.8	13.800	G2	9.8	-3.7	4.9	-4.9	1.0000	10.5	0.9371	12.5	63	6			
6774	BAR13.8	13.800	G1	9.2	3.7	4.8	-4.8	1.0000	10.0	0.9279	10.8	63	6			
6774	BAR13.8	13.800	G2	9.2	3.7	4.8	-4.8	1.0000	10.0	0.9279	10.8	63	6			
6791	SMA82G1	13.800	G1	13.5	6.9	6.9	-6.9	1.0009	15.1	0.8892	15.8	63	6			
6792	SMA82G2	13.800	G2	13.5	6.9	6.9	-6.9	1.0009	15.1	0.8892	15.8	63	6			
6821	PLAII13.8	13.800	G1	3.5	0.0	1.8	-1.8	1.0000	3.5	0.9999	4.1	64	6			
6841	BUR13.8	13.800	G1	29.9	2.9	15.4	-15.4	1.0000	30.1	0.9953	35.0	64	6			
6841	BUR13.8	13.800	G2	29.9	2.9	15.4	-15.4	1.0000	30.1	0.9953	35.0	64	6			
6861	BBL13.8	13.800	G1	12.7	3.7	6.4	-6.4	1.0000	13.2	0.9598	14.8	64	6			
6861	BBL13.8	13.800	G2	12.7	3.7	6.4	-6.4	1.0000	13.2	0.9598	14.8	64	6			
6861	BBL13.8	13.800	G3	1.8	0.5	0.8	-0.6	1.0000	1.9	0.9598	2.1	64	6			
6935	LTR13.8	13.800	G1	0.9	0.2	0.3	-0.3	1.0000	0.9	0.9829	1.0	63	6			
6940	RPI13.8	13.800	G1	4.3	-0.1	2.2	-2.2	1.0000	4.3	0.9999	5.0	62	6			
6940	RPI13.8	13.800	G2	4.3	-0.1	2.2	-2.2	1.0000	4.3	0.9999	5.0	62	6			
6996	SVC-LSA	13.200	C1	0.0	94.5	120.0	-30.0	1.0547	89.6	0.0000	150.0	63	6			
6998	SVC-PAN2	13.200	C1	0.0	47.2	120.0	-30.0	1.0327	45.8	0.0000	150.0	61	6			
SUBSYSTEM TOTALS				1974.9	406.7	1325.9	-986.9				3223.1					

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	2.9	6.0	-6.0	1.0000	11.7	0.9679	13.0			65	7	
6135		MADG2		6.9000	G2	11.3	2.5	6.0	-6.0	1.0000	11.6	0.9771	13.0			65	7	
6136		MADG3		6.9000	G3	11.3	4.2	6.0	-6.0	1.0100	11.9	0.9361	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-0.1	2.0	-2.0	1.0100	2.8	0.9988	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-0.1	2.0	-2.0	1.0100	2.8	0.9988	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-0.1	2.0	-2.0	1.0100	2.8	0.9988	4.1			65	7	
6140		GAT6A		6.9000	G4	4.2	-0.2	3.0	-3.0	1.0100	4.2	0.9988	5.6			65	7	
6140		GAT6A		6.9000	G5	4.2	-0.2	3.0	-3.0	1.0100	4.2	0.9988	6.2			65	7	
6140		GAT6A		6.9000	G6	4.2	-0.2	3.0	-3.0	1.0100	4.2	0.9988	6.2			65	7	
SUBSYSTEM TOTALS						55.0	8.6	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:50
 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)
6002	PAN115			115.00	6	1.0099	116.13	6004	PANII115			115.00	6	1.0224	117.57
6018	CAC115			115.00	6	1.0091	116.04	6019	CVI115A			115.00	6	1.0096	116.10
6027	LOC115A			115.00	6	1.0017	115.19	6032	MAR115A			115.00	6	1.0006	115.07
6036	SMA115			115.00	6	1.0079	115.91	6055	MOS115B			115.00	6	1.0054	115.62
6057	TOC115			115.00	6	1.0193	117.22	6059	LM1115			115.00	6	1.0020	115.23
6060	LM2115			115.00	6	1.0021	115.24	6074	LMDIST			115.00	6	1.0020	115.24
6087	CAL115			115.00	6	1.0085	115.97	6088	LES115			115.00	6	1.0127	116.46
6092	LVA115			115.00	6	1.0091	116.05	6100	BAY230			230.00	6	1.0022	230.50
6115	LBO115			115.00	6	1.0092	116.06	6123	MIR115A			115.00	7	1.0082	115.94
6165	FLO115			115.00	6	1.0088	116.01	6170	CPA115			115.00	6	1.0033	115.38
6171	PAC230			230.00	6	1.0000	230.01	6173	STR115			115.00	6	1.0058	115.66
6210	TIN115			115.00	6	1.0057	115.65	6211	PM115-9			115.00	6	1.0057	115.66
6230	CBA115			115.00	6	1.0003	115.03	6251	BVI115			115.00	6	1.0015	115.17
6260	CHA230			230.00	6	1.0018	230.41	6263	ESP230			230.00	6	1.0066	231.53
6270	CAT115			115.00	6	1.0020	115.24	6280	GIR115			115.00	6	1.0033	115.38
6290	CATII115			115.00	6	1.0024	115.28	6350	PM115-8			115.00	6	1.0028	115.32
6363	ZAM230			230.00	6	1.0023	230.52	6366	EVA230			230.00	6	1.0058	231.34
6372	PRI230			230.00	6	1.0102	232.34	6400	FRONTCHA			230.00	6	1.0032	230.73
6999	BAR115			115.00	6	1.0020	115.23								

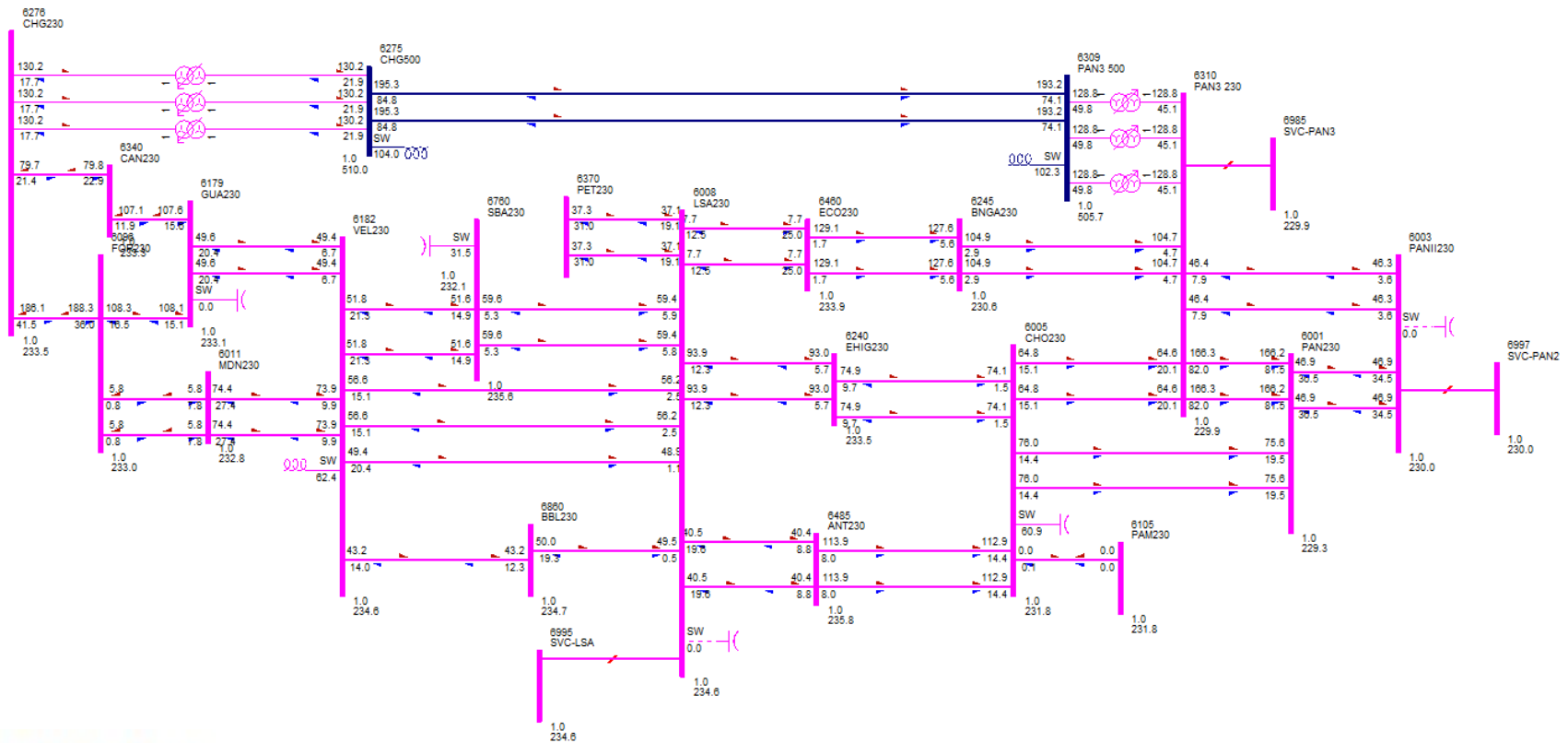
BUSES WITH VOLTAGE LESS THAN 1.0000:

BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6000	FRONTPRO			230.00	6	0.9953	228.92	6001	PAN230			230.00	6	0.9892	227.51
6003	PANII230			230.00	6	0.9994	229.86	6005	CHO230			230.00	6	0.9883	227.31
6008	LSA230			230.00	6	0.9895	227.58	6009	LSA115			115.00	6	0.9944	114.36
6011	MDN230			230.00	6	0.9852	226.59	6012	MDN115			115.00	6	0.9979	114.76
6014	PRO230			230.00	6	0.9941	228.65	6015	PRO115			115.00	6	0.9917	114.05
6024	CHI115			115.00	6	0.9962	114.56	6040	SFR115			115.00	6	0.9991	114.89
6047	CLA115			115.00	6	0.9887	113.70	6064	MES115			115.00	6	0.9919	114.07
6066	FFIELD			115.00	6	0.9925	114.14	6096	FOR230			230.00	6	0.9901	227.73
6105	PAM230			230.00	6	0.9883	227.31	6178	EST230			230.00	6	0.9888	227.42
6179	GUA230			230.00	6	0.9888	227.42	6182	VEL230			230.00	6	0.9785	225.05
6240	EHIG230			230.00	6	0.9846	226.46	6245	BNGA230			230.00	6	0.9955	228.97
6261	CHA115			115.00	6	0.9969	114.64	6330	BAI230			230.00	6	0.9975	229.42
6331	BAI115			115.00	6	0.9869	113.49	6332	BAM115			115.00	6	0.9948	114.40
6340	CAN230			230.00	6	0.9905	227.83	6360	GLA230			230.00	6	0.9956	228.98
6370	PET230			230.00	6	0.9903	227.78	6380	BOQIII230			230.00	6	0.9897	227.62
6401	PM230-29			230.00	6	0.9897	227.63	6430	GENLLS			115.00	6	0.9944	114.36
6434	ODA115			115.00	6	0.9946	114.38	6440	DOM230			230.00	6	0.9981	229.55
6441	PRIM230			230.00	6	0.9993	229.84	6442	ALT230			230.00	6	0.9991	229.80
6443	PARE230			230.00	6	0.9988	229.72	6460	ECO230			230.00	6	0.9951	228.88
6470	24DIC230			230.00	6	0.9997	229.92	6485	ANT230			230.00	6	0.9882	227.29
6490	BON115			115.00	6	0.9969	114.64	6500	FRONTDOM			230.00	6	0.9980	229.54
6601	COP230			230.00	6	0.9998	229.95	6680	BFR230			230.00	6	0.9972	229.37
6681	LPO230			230.00	6	0.9974	229.39	6683	SAL230			230.00	6	0.9973	229.38
6730	SAN115			115.00	6	0.9950	114.42	6760	SBA230			230.00	6	0.9822	225.90
6761	SBA115			115.00	6	0.9681	111.33	6790	SMA82			230.00	6	0.9914	228.02
6840	BUR230			230.00	6	0.9956	228.99	6860	BBL230			230.00	6	0.9796	225.30
6915	SCR115			115.00	6	0.9945	114.37	6980	BKO115			115.00	6	0.9926	114.14
6995	SVC-LSA			230.00	6	0.9895	227.58	6997	SVC-PAN2			230.00	6	0.9994	229.86

Año 2019

Demanda Máxima de Verano

Diagrama del Sistema Principal de Transmisión

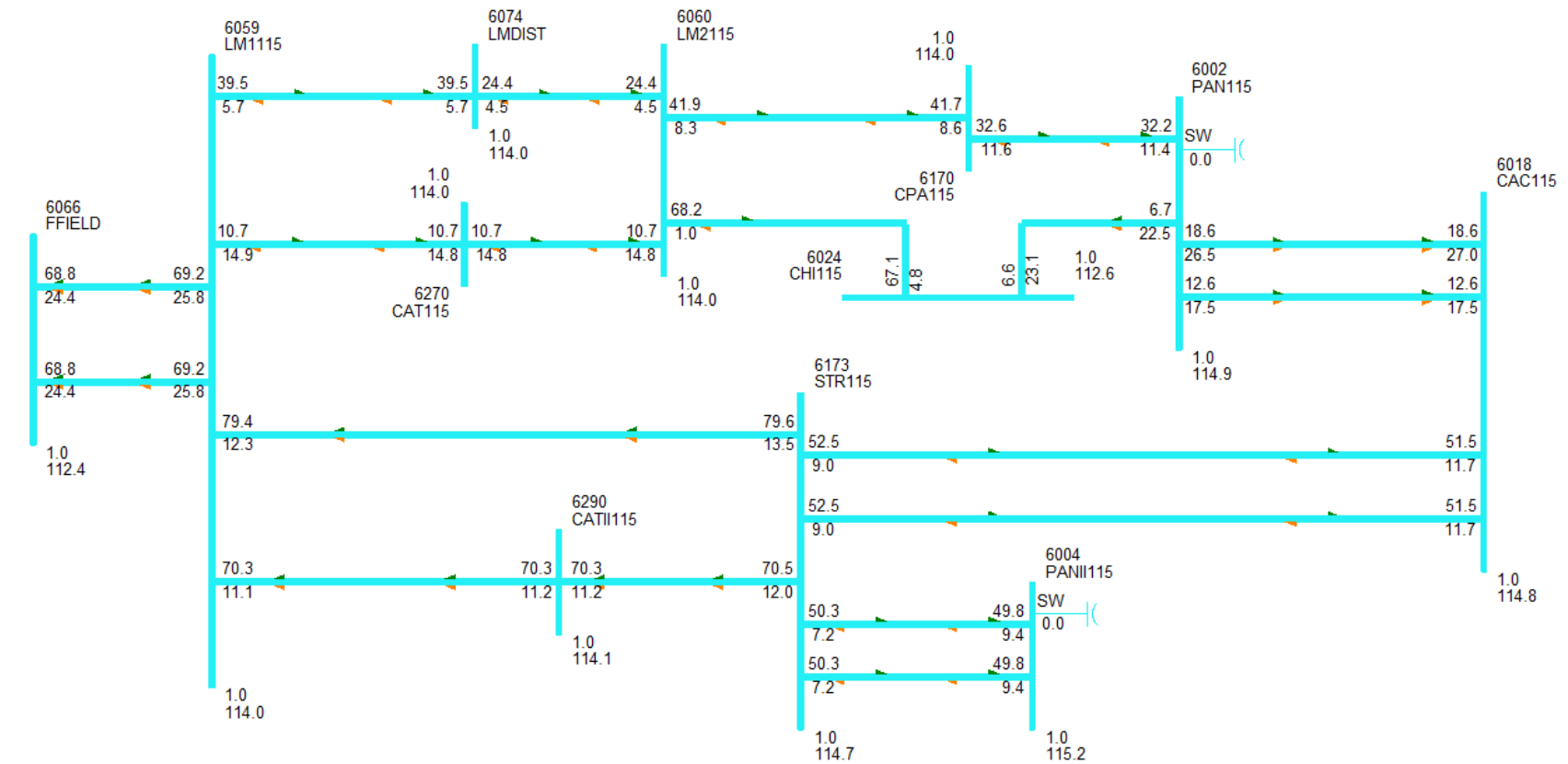


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV
44KV 34.5KV 13.8KV

Diagrama de Panamá Este

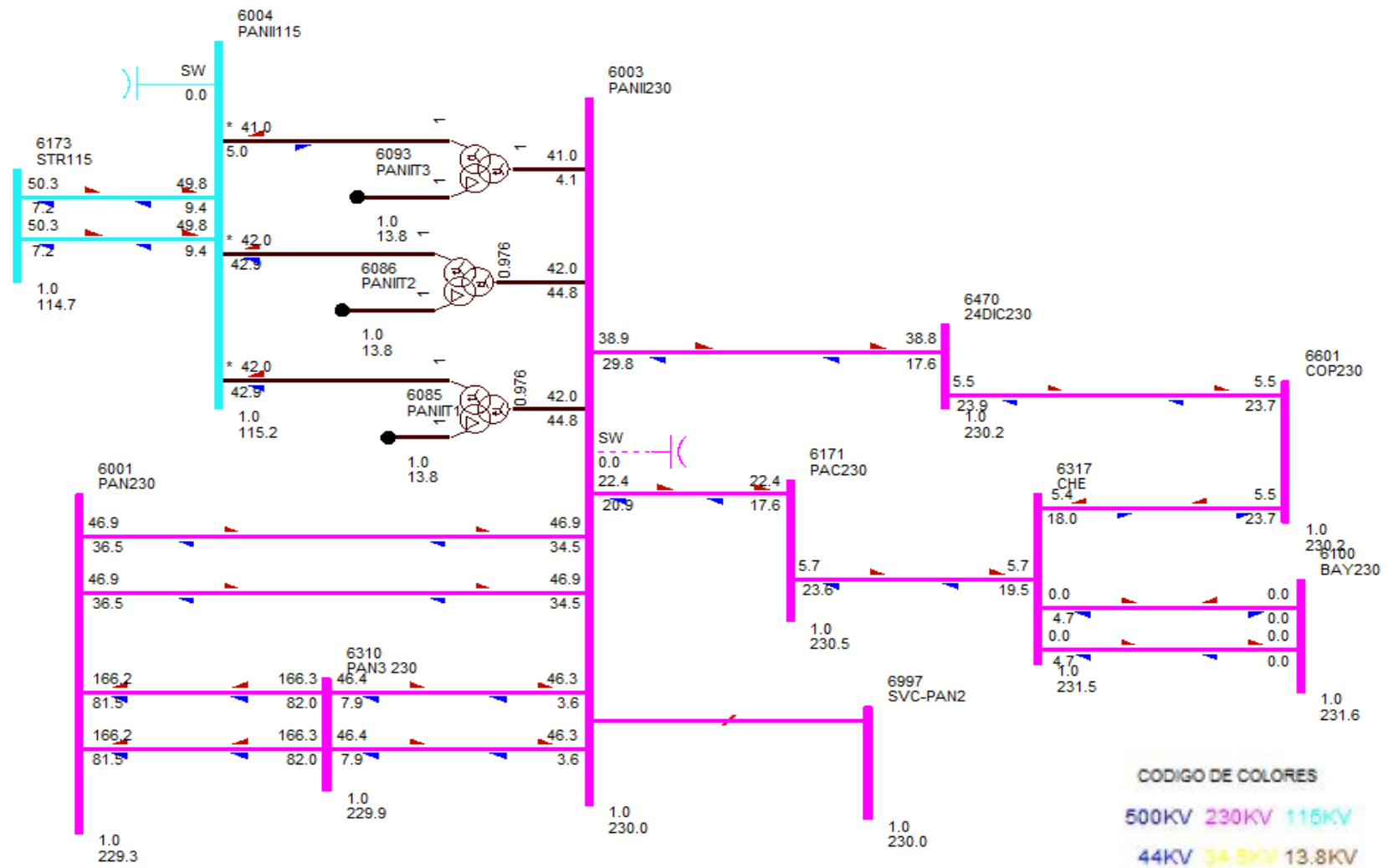
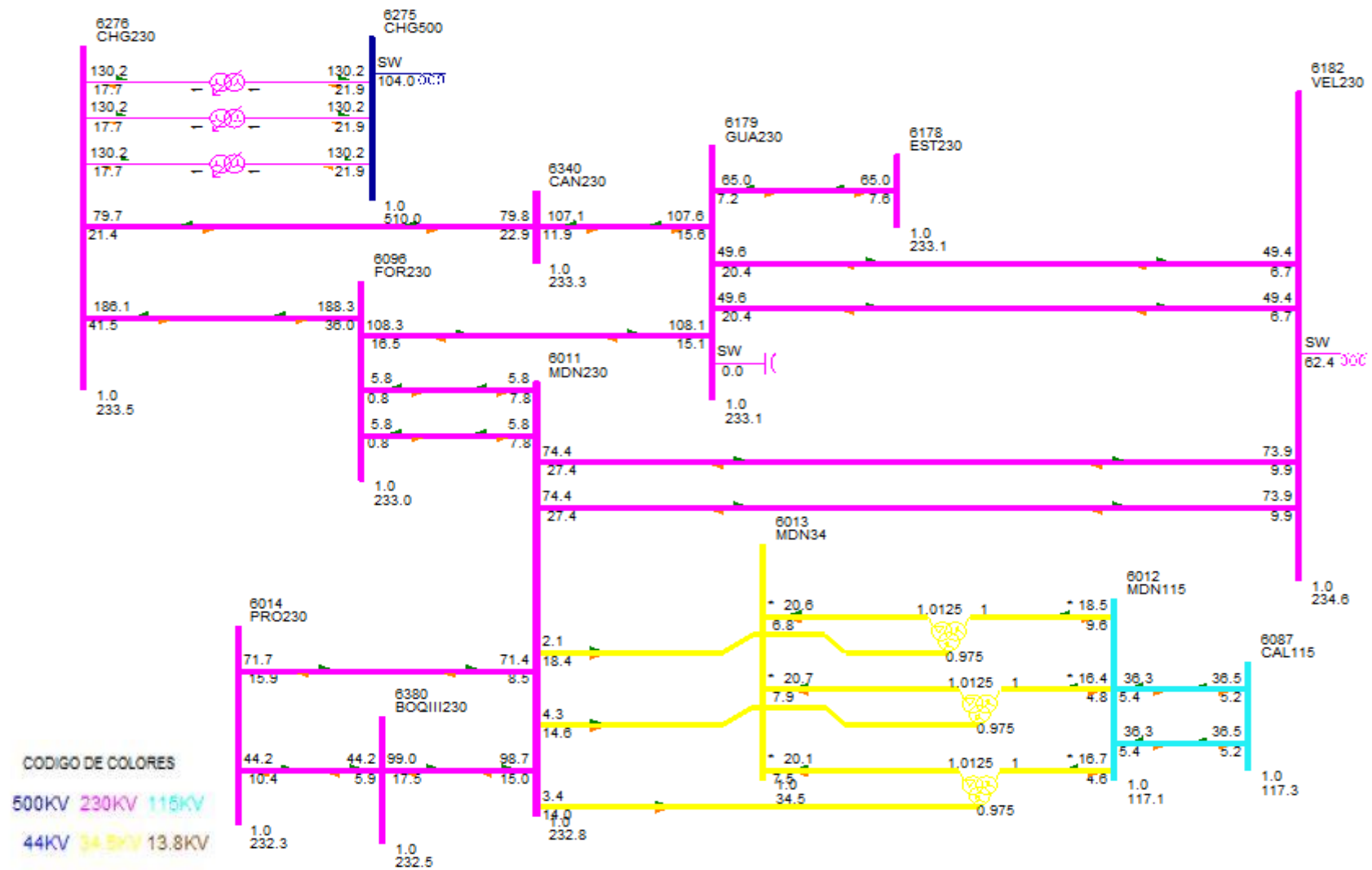


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:19
 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	4.6	15.0	0.0	1.0000	25.4	0.9836	47.0			62	6	
6072	BLMG3		13.800	V3	25.0	4.6	15.0	0.0	1.0000	25.4	0.9836	47.0			62	6	
6073	BLMG4		13.800	V4	25.0	4.8	15.0	0.0	1.0000	25.4	0.9824	47.0			62	6	
6078	BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9805	41.1*	0.9687	71.0			62	6	
6090	LESG1		13.800	E1	12.0	4.2	12.0	-5.0	1.0100	12.6	0.9435	27.0			64	6	
6091	LESG2		13.800	E2	12.0	4.2	12.0	-5.0	1.0100	12.6	0.9435	27.0			64	6	
6094	LVAG1		13.800	L1	13.0	-2.7	12.0	-5.0	1.0100	13.1	0.9792	27.0			64	6	
6095	LVAG2		13.800	L2	13.0	-2.7	12.0	-5.0	1.0100	13.1	0.9792	27.0			64	6	
6097	FORG1		13.800	F1	95.0	-7.1	50.0	-50.0	1.0000	95.3	0.9972	111.0			64	6	
6098	FORG2		13.800	F2	95.0	-7.1	50.0	-50.0	1.0000	95.3	0.9972	111.0			64	6	
6099	FORG3		13.800	F3	95.0	-7.1	50.0	-50.0	1.0000	95.3	0.9972	111.0			64	6	
6158	MIRG9		13.800	G9	37.4	1.7	22.1	-20.7	1.0000	37.4	0.9990	49.2			65	6	
6159	MIRG10		13.800	G0	37.4	1.7	22.1	-20.7	1.0000	37.4	0.9990	49.2			65	6	
6176	ESTG1		13.800	E1	32.5	2.6	29.0	-29.0	1.0100	32.3	0.9969	69.0			64	6	
6177	ESTG2		13.800	E2	32.5	2.6	29.0	-29.0	1.0100	32.3	0.9969	69.0			64	6	
6264	CHANG1		13.800	G1	61.4	-2.3	50.8	-50.8	1.0100	60.8	0.9993	116.5			64	6	SYST
6265	CHANG2		13.800	G2	60.0	-2.2	50.8	-50.8	1.0100	59.4	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	1.0	-1.0	2.3	-2.3	1.0000	1.4	0.7067	5.7			64	6	
6305	ALG 13A		13.800	A2	1.0	-1.0	2.3	-2.3	1.0000	1.4	0.7067	5.7			64	6	
6306	MEN 13A		13.800	M1	2.0	3.7	4.2	-4.2	0.9850	4.3	0.4767	10.4			64	6	
6306	MEN 13A		13.800	M2	2.0	3.7	4.2	-4.2	0.9850	4.3	0.4767	10.4			64	6	
6307	COC 13A		34.500	G1	2.5	-4.7	6.5	-5.7	1.0075	5.3	0.4690	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	0.0	1.9	0.0	1.0009	1.3	1.0000	4.1			64	6	
6308	MENII 13A		13.800	G2	1.3	0.0	1.9	0.0	1.0009	1.3	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	-6.7	14.0	-14.0	1.0000	26.9	0.9683	49.0			64	6	
6336	BAIG2		13.800	G2	26.0	-6.7	14.0	-14.0	1.0000	26.9	0.9683	49.0			64	6	
6352	HCAL4.16		4.2000	G1	0.8	-1.3	1.5	-1.5	1.0080	1.5	0.5326	3.4			64	6	
6352	HCAL4.16		4.2000	G2	0.8	-1.3	1.5	-1.5	1.0080	1.5	0.5326	3.4			64	6	
6361	GLAG1		13.800	G1	4.0	-6.1	7.8	-7.0	1.0060	7.2	0.5490	14.1			64	6	
6362	GLAG2		13.800	G2	4.0	-6.1	7.8	-7.0	1.0060	7.2	0.5490	14.1			64	6	
6364	LORG1		13.800	G1	4.0	-5.7	7.8	-7.0	1.0075	6.9	0.5756	25.0			64	6	
6365	LORG2		13.800	G2	4.0	-5.7	7.8	-7.0	1.0075	6.9	0.5756	25.0			64	6	
6367	PRUG1		13.800	G1	9.0	-6.1	8.0	-8.0	1.0075	10.8	0.8263	33.0			64	6	
6368	PRUG2		13.800	G2	9.0	-6.1	8.0	-8.0	1.0075	10.8	0.8263	33.0			64	6	
6373	PRIG1		13.800	G1	140.0	12.2	92.2	-92.2	1.0000	140.5	0.9962	175.0			63	6	
6374	PRIG2		13.800	G2	140.0	12.2	92.2	-92.2	1.0000	140.5	0.9962	175.0			63	6	
6386	PEDI 13A		13.800	G1	2.0	0.2	6.2	-6.8	1.0000	2.0	0.9955	12.5			64	6	
6386	PEDI 13A		13.800	G2	2.0	0.2	6.2	-6.8	1.0000	2.0	0.9955	12.5			64	6	
6387	PEDII 13A		13.800	G1	4.0	-0.6	3.3	-3.3	1.0000	4.0	0.9898	7.1			64	6	
6387	PEDII 13A		13.800	G2	4.0	-0.6	3.3	-3.3	1.0000	4.0	0.9898	7.1			64	6	
6388	MACG1		0.6900	G1	0.6	-0.8	1.0	-0.8	1.0038	1.0*	0.5665	2.1			64	6	

6389	MACG2	0.6900	G2	0.6	-0.8	1.0	-0.8	1.0038	1.0*	0.5665	2.1	64	6
6390	CON 4.16A	4.1600	G1	3.0	-0.3	1.0	-0.8	1.0000	3.0	0.9952	6.3	64	6
6390	CON 4.16A	4.1600	G2	3.0	-0.3	1.0	-0.8	1.0000	3.0	0.9952	6.3	64	6
6391	PAAG1	2.1400	G1	0.5	0.0	1.0	-0.8	1.0000	0.5	0.9997	3.5	64	6
6392	PAAG2	2.1400	G2	0.5	0.0	1.0	-0.8	1.0000	0.5	0.9997	3.5	64	6
6394	LPN 4.16A	4.1600	G1	2.6	-0.2	1.0	-0.8	1.0000	2.6	0.9982	6.3	64	6
6394	LPN 4.16A	4.1600	G2	2.6	-0.2	1.0	-0.8	1.0000	2.6	0.9982	6.3	64	6
6395	LPS 4.16A	4.1600	G1	2.6	-0.2	1.0	-0.8	1.0000	2.6	0.9982	6.3	64	6
6395	LPS 4.16A	4.1600	G2	2.6	-0.2	1.0	-0.8	1.0000	2.6	0.9982	6.3	64	6
6396	RP4G1	6.6000	G1	0.7	0.0	4.6	-2.3	1.0000	0.7	0.9998	7.3	64	6
6397	RP4G2	6.6000	G2	0.7	0.0	4.6	-2.3	1.0000	0.7	0.9998	7.3	64	6
6403	CDP4.16	4.2000	G1	1.1	-0.1	0.6	-0.8	1.0000	1.1	0.9959	2.5	64	6
6403	CDP4.16	4.2000	G2	1.1	-0.1	0.6	-0.8	1.0000	1.1	0.9959	2.5	64	6
6420	DOL 4.16A	4.1600	G1	0.3	0.0	0.8	-0.8	1.0000	0.3	0.9999	1.3	64	6
6420	DOL 4.16A	4.1600	G2	0.3	0.0	0.8	-0.8	1.0000	0.3	0.9999	1.3	64	6
6420	DOL 4.16A	4.1600	G3	0.3	0.0	0.8	-0.8	1.0000	0.3	0.9999	1.3	64	6
6421	LP1 4.16A	4.1600	G1	0.8	0.0	0.8	-0.8	1.0000	0.8	1.0000	1.8	64	6
6421	LP1 4.16A	4.1600	G2	0.8	0.0	0.8	-0.8	1.0000	0.8	1.0000	1.8	64	6
6421	LP1 4.16A	4.1600	G3	0.8	0.0	0.8	-0.8	1.0000	0.8	1.0000	1.8	64	6
6422	MMO 4.16A	4.1600	G1	0.6	0.0	0.8	-0.8	1.0000	0.6	0.9999	1.5	64	6
6422	MMO 4.16A	4.1600	G2	0.6	0.0	0.8	-0.8	1.0000	0.6	0.9999	1.5	64	6
6423	BU1G1	4.1600	G1	1.0	-0.1	1.0	-0.4	1.0000	1.0	0.9968	2.3	64	6
6424	BU1G2	4.1600	G2	1.0	-0.1	1.0	-0.4	1.0000	1.0	0.9968	2.3	64	6
6425	BU1G3	0.6900	G3	0.6	-0.0	0.6	-0.5	1.0000	0.6	0.9975	1.1	64	6
6427	BUGII 4.16	4.2000	G1	0.8	-0.1	1.5	-1.5	1.0000	0.8	0.9977	3.5	64	6
6427	BUGII 4.16	4.2000	G2	0.8	-0.1	1.5	-1.5	1.0000	0.8	0.9977	3.5	64	6
6427	BUGII 4.16	4.2000	G3	0.8	-0.1	0.8	-0.8	1.0000	0.8	0.9977	1.9	64	6
6429	AST4.16	4.2000	G1	3.0	0.1	1.8	-1.8	1.0000	3.0	0.9991	4.5	64	6
6432	YEG 4.16A	4.1600	G1	1.0	-2.2	2.2	-2.2	1.0049	2.5*	0.4061	3.8	64	6
6432	YEG 4.16A	4.1600	G2	1.0	-2.2	2.2	-2.2	1.0049	2.5*	0.4061	3.8	64	6
6432	YEG 4.16A	4.1600	G3	1.0	-0.8	0.8	-0.8	1.0049	1.2*	0.8000	1.2	64	6
6433	EFR 4.16A	4.1600	G1	1.5	-1.6	1.6	-1.6	1.0118	2.2*	0.6727	3.2	64	6
6433	EFR 4.16A	4.1600	G2	1.5	-1.6	1.6	-1.6	1.0118	2.2*	0.6727	3.2	64	6
6435	ODA13	13.800	G1	0.6	-0.8	1.6	-1.6	1.0000	1.0	0.6219	3.6	63	6
6435	ODA13	13.800	G2	0.6	-0.8	1.6	-1.6	1.0000	1.0	0.6219	3.6	63	6
6436	LHU13.8	13.800	G1	0.3	-0.8	1.2	-1.2	1.0000	0.8	0.3659	2.8	63	6
6436	LHU13.8	13.800	G2	0.3	-0.8	1.2	-1.2	1.0000	0.8	0.3659	2.8	63	6
6439	CHU13.8	13.800	G1	1.5	-0.2	1.2	-1.5	1.0000	1.5	0.9910	4.6	64	6
6439	CHU13.8	13.800	G2	1.6	-0.2	1.2	-1.5	1.0000	1.6	0.9910	4.6	64	6
6444	PDOG1	13.800	G1	2.7	-3.3	12.8	-8.3	1.0005	4.3	0.6345	18.5	64	6
6445	PDOG2	13.800	G2	2.7	-3.3	12.8	-8.3	1.0005	4.3	0.6345	18.5	64	6
6446	ALTG1	13.800	G1	8.0	-5.1	10.9	-7.6	1.0000	9.5	0.8414	24.9	64	6
6447	ALTG2	13.800	G2	8.0	-5.1	10.9	-7.6	1.0000	9.5	0.8414	24.9	64	6
6448	ALTG3	13.800	G3	8.0	-5.1	10.9	-7.6	1.0000	9.5	0.8414	24.9	64	6
6449	MLIG1	13.800	G1	3.5	-4.4	12.8	-8.3	1.0000	5.6	0.6251	18.5	64	6
6450	MLIG2	13.800	G2	3.5	-4.4	12.8	-8.3	1.0000	5.6	0.6251	18.5	64	6
6451	MLIG3	13.800	G3	3.5	-4.4	12.8	-8.3	1.0000	5.6	0.6251	18.5	64	6
6462	RDVG1	0.6900	E1	71.2	-3.7	23.4	-23.4	1.0000	71.3	0.9986	107.9	64	6
6463	PORG1	0.6900	E2	33.2	-1.2	10.9	-10.9	1.0000	33.3	0.9993	50.0	64	6
6464	MARG1	0.6900	E3	12.2	-0.8	4.0	-4.0	1.0000	12.3	0.9976	18.4	64	6
6465	NCHIG1	0.6900	E4	38.5	-3.8	12.7	-12.7	1.0000	38.7	0.9952	57.9	64	6
6473	NCHIIG1	0.6900	E5	80.5	-3.2	26.5	-26.5	1.0000	80.6	0.9992	121.1	64	6
6481	SLOR6	6.0000	G1	0.2	1.5	1.5	-1.7	1.0000	1.5*	0.1451	4.9	64	6

6481	SLOR6	6.0000	G2	0.2	1.5	1.5	-1.7	1.0000	1.5*	0.1451	4.9	64	6
6484	ANTG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0512	73.6*	0.9500	110.5	64	6
6488	TOAG1	0.7000	G1	73.5	24.2	24.2	24.2	1.0512	73.6*	0.9500	110.5	63	6
6492	BONG1	13.800	G1	3.1	-1.3	4.9	-2.0	1.0000	3.4	0.9248	11.5	64	6
6493	BONG2	13.800	G2	3.1	-1.3	4.9	-2.0	1.0000	3.4	0.9248	11.5	64	6
6494	BONG3	13.800	G3	3.1	-1.3	4.9	-2.0	1.0000	3.4	0.9248	11.5	64	6
6605	CEP13.8	13.800	G1	4.8	0.5	2.3	-2.3	1.0000	4.8	0.9941	5.3	60	6
6605	CEP13.8	13.800	G2	4.8	0.5	2.3	-2.3	1.0000	4.8	0.9941	5.3	60	6
6608	COLG1	2.1000	G1	1.7	-1.1	2.0	-1.3	0.9342	2.2*	0.8381	3.9 0.0000 0.2200 1.0000	64	6
6609	COLG2	2.1000	G2	1.7	-1.4	1.8	-1.4	1.0055	2.2*	0.7786	3.9	64	6
6611	COTG1	4.1600	G1	1.0	-1.0	1.4	-1.0	1.0034	1.4*	0.7203	2.9	64	6
6612	COTG2	4.1600	G2	1.0	-1.0	1.4	-1.0	1.0034	1.4*	0.7203	2.9	64	6
6616	HERRG1	4.2000	G1	0.6	-0.9	1.2	-0.9	1.0005	1.1*	0.5775	2.6	64	6
6617	HERRG2	4.2000	G2	0.6	-0.9	1.2	-0.9	1.0005	1.1*	0.5775	2.6	64	6
6618	HERRG3	4.2000	G3	0.2	-0.4	0.5	-0.4	1.0008	0.5*	0.4276	1.2	64	6
6620	MTR13.8	13.800	P1	50.8	3.7	27.0	-33.0	1.0000	50.9	0.9974	65.1	62	6
6621	MTR13.8	13.800	P2	50.8	3.7	27.0	-33.0	1.0000	50.9	0.9974	65.1	62	6
6622	MTR13.8	13.800	P3	50.8	3.7	27.0	-33.0	1.0000	50.9	0.9974	65.1	62	6
6623	MTR13.8	13.800	P4	50.8	3.7	27.0	-33.0	1.0000	50.9	0.9974	65.1	62	6
6624	MTR13.8	13.800	P5	50.8	3.7	27.0	-33.0	1.0000	50.9	0.9974	65.1	62	6
6625	MTR13.8	13.800	P6	50.8	3.7	27.0	-33.0	1.0000	50.9	0.9974	65.1	62	6
6626	MTR13.8	13.800	P7	50.8	3.7	27.0	-33.0	1.0000	51.0	0.9973	65.1	62	6
6651	BDT4.16	4.2000	G1	1.5	0.1	2.5	-2.5	1.0000	1.5	0.9959	5.6	64	6
6682	LPO13.8	13.800	G1	4.7	-1.0	7.8	-5.9	1.0000	4.8	0.9762	15.5	64	6
6682	LPO13.8	13.800	G2	4.7	-1.0	7.8	-5.9	1.0000	4.8	0.9762	15.5	64	6
6682	LPO13.8	13.800	G3	1.9	-0.4	1.1	-0.9	1.0000	1.9	0.9762	2.3	64	6
6684	SAL13.8	13.800	G1	4.7	-1.1	7.8	-5.9	1.0000	4.8	0.9735	15.5	64	6
6684	SAL13.8	13.800	G2	4.7	-1.1	7.8	-5.9	1.0000	4.8	0.9735	15.5	64	6
6711	TIZ4.16	4.2000	G1	2.1	0.1	2.2	-2.2	1.0000	2.1	0.9990	5.0	64	6
6721	SIN4.16	4.2000	G1	3.0	-1.5	2.5	-2.5	1.0000	3.3	0.8992	5.6	64	6
6721	SIN4.16	4.2000	G2	3.0	-1.5	2.5	-2.5	1.0000	3.3	0.8992	5.6	64	6
6731	SAN13.8	13.800	G1	2.5	-0.3	2.7	-2.7	1.0000	2.5	0.9915	5.8	64	6
6731	SAN13.8	13.800	G2	2.5	-0.3	2.7	-2.7	1.0000	2.5	0.9915	5.8	64	6
6736	SANII13.8	13.800	G1	3.0	-0.4	1.6	-1.6	1.0000	3.0	0.9906	5.2	64	6
6736	SANII13.8	13.800	G2	3.0	-0.4	1.6	-1.6	1.0000	3.0	0.9906	5.2	64	6
6766	CRU13.8	13.800	G1	5.1	-4.9	4.9	-4.9	1.0005	7.1*	0.7211	12.5	63	6
6766	CRU13.8	13.800	G2	5.1	-4.9	4.9	-4.9	1.0005	7.1*	0.7211	12.5	63	6
6774	BAR13.8	13.800	G1	3.1	0.3	4.8	-4.8	1.0000	3.1	0.9958	10.8	63	6
6774	BAR13.8	13.800	G2	3.1	0.3	4.8	-4.8	1.0000	3.1	0.9958	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	1.1	-0.0	1.8	-1.8	1.0000	1.1	0.9992	4.1	64	6
6841	BUR13.8	13.800	G1	11.5	-3.8	15.4	-15.4	1.0000	12.1	0.9486	35.0	64	6
6841	BUR13.8	13.800	G2	11.5	-3.8	15.4	-15.4	1.0000	12.1	0.9486	35.0	64	6
6851	POT4.16	4.2000	G1	2.0	-1.1	2.0	-2.0	1.0000	2.3	0.8736	4.6	64	6
6861	BBL13.8	13.800	G1	3.0	-3.0	6.4	-6.4	1.0000	4.3	0.7032	14.8	64	6
6861	BBL13.8	13.800	G2	3.0	-3.0	6.4	-6.4	1.0000	4.3	0.7032	14.8	64	6
6861	BBL13.8	13.800	G3	0.8	-0.6	0.8	-0.6	1.0000	1.0	0.7856	2.1	64	6
6935	LTR13.8	13.800	G1	0.6	-0.3	0.3	-0.3	1.0023	0.7*	0.8871	1.0	63	6
6940	RPI13.8	13.800	G1	2.0	0.7	2.2	-2.2	1.0000	2.1	0.9370	5.0	62	6
6940	RPI13.8	13.800	G2	2.0	0.7	2.2	-2.2	1.0000	2.1	0.9370	5.0	62	6
6986	SVC-PAN3	13.200	C1	0.0	-0.2	150.0	-30.0	1.0000	0.2	0.0000	180.0	60	6
6996	SVC-LSA	13.200	C1	0.0	32.6	120.0	-30.0	1.0427	31.2	0.0000	150.0	63	6

6998 SVC-PAN2	13.200 C1	0.0	77.4	120.0	-30.0	1.0534	73.5	0.0000	150.0		
SUBSYSTEM TOTALS		2097.0	47.9	1811.4	-1304.9				4087.4		

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PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:19
 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	5.1	6.0	-6.0	1.0000	6.4	0.6204	13.0			65	7	
6135		MADG2		6.9000	G2	4.0	4.0	6.0	-6.0	1.0000	5.7	0.7056	13.0			65	7	
6136		MADG3		6.9000	G3	4.0	5.8	6.0	-6.0	1.0100	7.0	0.5662	13.0			65	7	
6140		GAT6A		6.9000	G1	1.0	0.2	2.0	-2.0	1.0100	1.0	0.9867	4.1			65	7	
6140		GAT6A		6.9000	G2	1.0	0.2	2.0	-2.0	1.0100	1.0	0.9867	4.1			65	7	
6140		GAT6A		6.9000	G3	1.0	0.2	2.0	-2.0	1.0100	1.0	0.9867	4.1			65	7	
6140		GAT6A		6.9000	G4	1.5	0.2	3.0	-3.0	1.0100	1.5	0.9867	5.6			65	7	
6140		GAT6A		6.9000	G5	1.5	0.2	3.0	-3.0	1.0100	1.5	0.9867	6.2			65	7	
6140		GAT6A		6.9000	G6	1.5	0.2	3.0	-3.0	1.0100	1.5	0.9867	6.2			65	7	
SUBSYSTEM TOTALS						19.5	16.1	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:20
 SISTEMA INTERCONECTADO NACIONAL - ESC. DE DEMANDA MÁXIMA
 PLAN DE EXPANSIÓN 2015 - ÉPOCA SECA

BUSES WITH VOLTAGE GREATER THAN 1.0000:

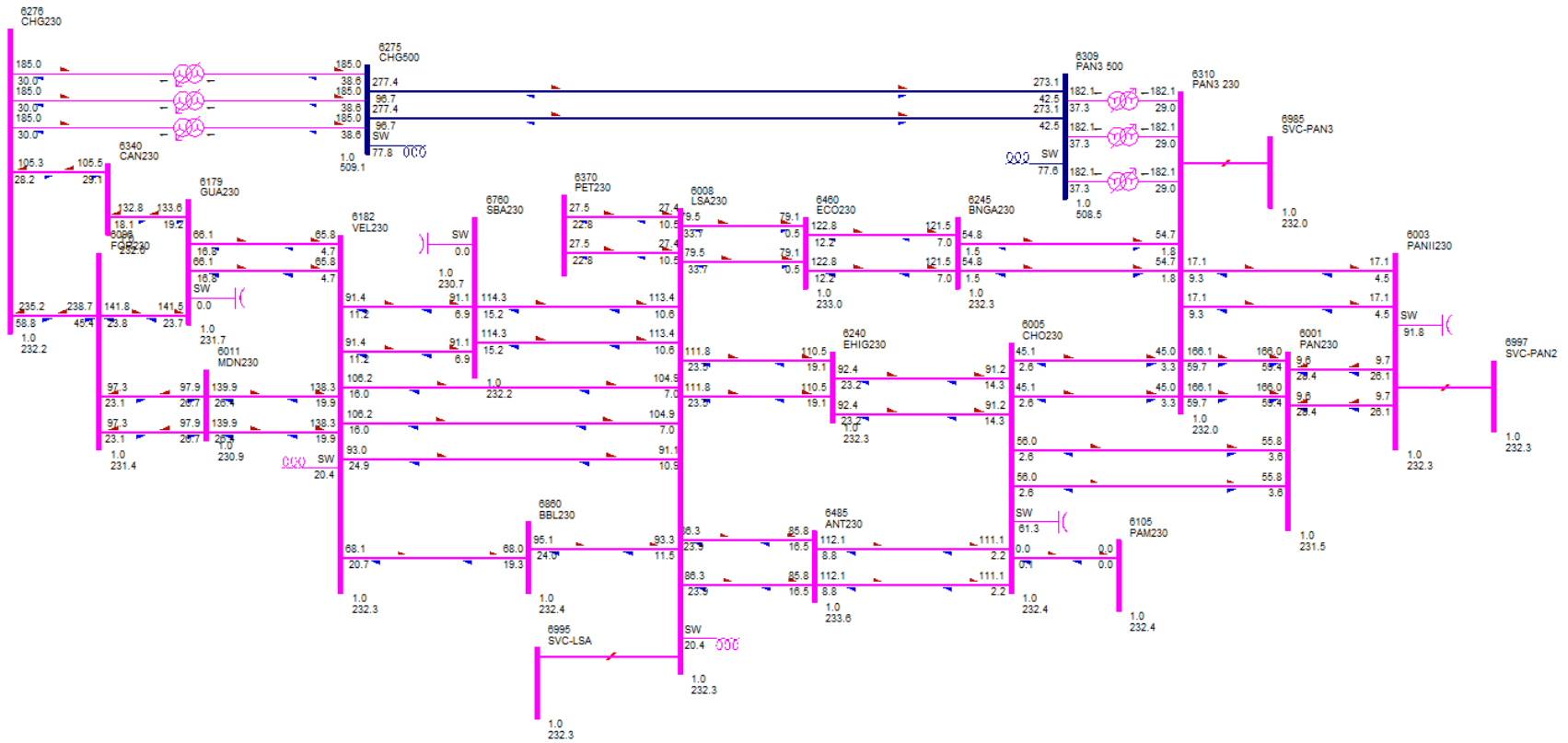
BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)	BUS#	X--	NAME	--X	BASKV	AREA	V(PU)	V(KV)
6000		FRONTPRO		230.00	6	1.0100	232.31	6004		PANII115		115.00	6	1.0025	115.29
6005		CHO230		230.00	6	1.0055	231.27	6008		LSA230		230.00	6	1.0200	234.60
6009		LSA115		115.00	6	1.0137	116.58	6011		MDN230		230.00	6	1.0121	232.78
6012		MDN115		115.00	6	1.0181	117.08	6014		PRO230		230.00	6	1.0099	232.27
6015		PRO115		115.00	6	1.0065	115.75	6087		CAL115		115.00	6	1.0196	117.25
6088		LES115		115.00	6	1.0221	117.54	6092		LVA115		115.00	6	1.0195	117.25
6096		FOR230		230.00	6	1.0132	233.04	6100		BAY230		230.00	6	1.0073	231.67
6105		PAM230		230.00	6	1.0055	231.27	6171		PAC230		230.00	6	1.0025	230.58
6178		EST230		230.00	6	1.0137	233.16	6179		GUA230		230.00	6	1.0137	233.16
6182		VEL230		230.00	6	1.0199	234.57	6240		EHIG230		230.00	6	1.0143	233.29
6245		BNGA230		230.00	6	1.0022	230.52	6260		CHA230		230.00	6	1.0216	234.97
6261		CHA115		115.00	6	1.0094	116.08	6263		ESP230		230.00	6	1.0221	235.08
6275		CHG500		500.00	6	1.0205	510.25	6276		CHG230		230.00	6	1.0156	233.59
6309		PAN3 500		500.00	6	1.0120	506.01	6310		PAN3 230		230.00	6	1.0001	230.03
6314		SAB500		500.00	6	1.0141	507.06	6315		MET230		230.00	6	1.0234	235.38
6317		CHE		230.00	6	1.0067	231.55	6318		SAB230		230.00	6	1.0141	233.25
6330		BAI230		230.00	6	1.0097	232.22	6331		BAI115		115.00	6	1.0031	115.36
6332		BAM115		115.00	6	1.0056	115.64	6340		CAN230		230.00	6	1.0147	233.37
6360		GLA230		230.00	6	1.0145	233.33	6363		ZAM230		230.00	6	1.0154	233.54
6366		EVA230		230.00	6	1.0161	233.70	6370		PET230		230.00	6	1.0090	232.06
6372		PRI230		230.00	6	1.0213	234.89	6380		BOQIII230		230.00	6	1.0107	232.46
6400		FRONTCHA		230.00	6	1.0230	235.29	6401		PM230-29		230.00	6	1.0142	233.28
6430		GENLLS		115.00	6	1.0137	116.58	6434		ODA115		115.00	6	1.0137	116.57
6440		DOM230		230.00	6	1.0060	231.37	6441		PRIM230		230.00	6	1.0051	231.18
6442		ALT230		230.00	6	1.0044	231.01	6443		PARE230		230.00	6	1.0052	231.19
6460		ECO230		230.00	6	1.0167	233.85	6470		24DIC230		230.00	6	1.0009	230.20
6485		ANT230		230.00	6	1.0241	235.55	6490		BON115		115.00	6	1.0094	116.08
6500		FRONTDOM		230.00	6	1.0077	231.77	6601		COP230		230.00	6	1.0012	230.27
6680		BFR230		230.00	6	1.0098	232.25	6681		LPO230		230.00	6	1.0098	232.24
6683		SAL230		230.00	6	1.0098	232.24	6730		SAN115		115.00	6	1.0056	115.65
6760		SBA230		230.00	6	1.0243	235.59	6761		SBA115		115.00	6	1.0085	115.98
6790		SMA82		230.00	6	1.0201	234.63	6840		BUR230		230.00	6	1.0096	232.20
6860		BBL230		230.00	6	1.0203	234.67	6915		SCR115		115.00	6	1.0138	116.59
6985		SVC-PAN3		230.00	6	1.0001	230.03	6990		REACTOR1		500.00	6	1.0205	510.25
6991		REACTOR2		500.00	6	1.0120	506.01	6992		REACTOR3		500.00	6	1.0205	510.25
6993		REACTOR4		500.00	6	1.0120	506.01	6995		SVC-LSA		230.00	6	1.0200	234.60
56050		RCL230A		230.00	5	1.0092	232.11	56052		RCL230B		230.00	5	1.0092	232.11
58350		CAH230		230.00	5	1.0247	235.69								

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	0.9975	229.43	6002		PAN115		115.00	6	0.9993	114.92
6018		CAC115		115.00	6	0.9988	114.86	6019		CVI115A		115.00	6	0.9883	113.65
6024		CHI115		115.00	6	0.9800	112.69	6027		LOC115A		115.00	6	0.9888	113.71
6032		MAR115A		115.00	6	0.9890	113.73	6036		SMA115		115.00	6	0.9949	114.41
6040		SFR115		115.00	6	0.9827	113.01	6047		CLA115		115.00	6	0.9702	111.58
6055		MOS115B		115.00	6	0.9882	113.64	6057		TOC115		115.00	6	0.9980	114.77
6059		LM1115		115.00	6	0.9913	114.00	6060		LM2115		115.00	6	0.9914	114.01
6064		MES115		115.00	6	0.9770	112.35	6066		FFIELD		115.00	6	0.9779	112.46
6074		LMDIST		115.00	6	0.9913	114.00	6115		LBO115		115.00	6	0.9878	113.59
6123		MIR115A		115.00	7	0.9992	114.90	6165		FLO115		115.00	6	0.9991	114.90
6170		CPA115		115.00	6	0.9916	114.04	6173		STR115		115.00	6	0.9976	114.72
6210		TIN115		115.00	6	0.9945	114.37	6211		PM115-9		115.00	6	0.9923	114.12
6225		CDE115		115.00	6	0.9867	113.47	6230		CBA115		115.00	6	0.9858	113.37
6250		BVI230		230.00	6	0.9970	229.31	6251		BVI115		115.00	6	0.9904	113.89
6270		CAT115		115.00	6	0.9913	114.00	6280		GIR115		115.00	6	0.9916	114.04
6290		CATII115		115.00	6	0.9920	114.08	6311		PAN3 115		115.00	6	0.9989	114.87
6350		PM115-8		115.00	6	0.9916	114.04	6980		BKO115		115.00	6	0.9779	112.46
6999		BAR115		115.00	6	0.9913	114.00								

Demanda Máxima de Invierno

Diagrama del Sistema Principal de Transmisión

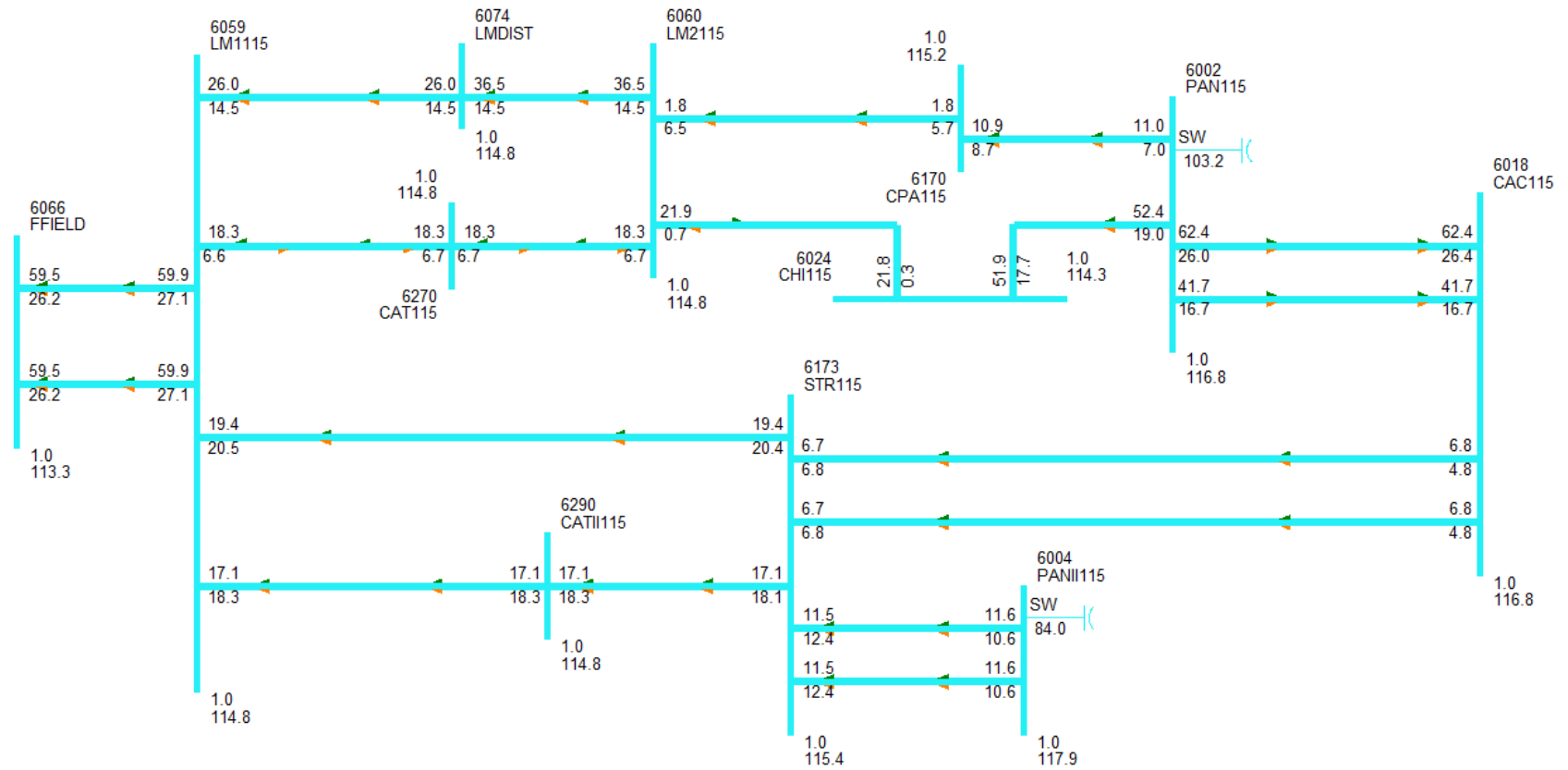


CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Atlántico



CODIGO DE COLORES

500KV 230KV 115KV

44KV 34.5KV 13.8KV

Diagrama de Panamá Este

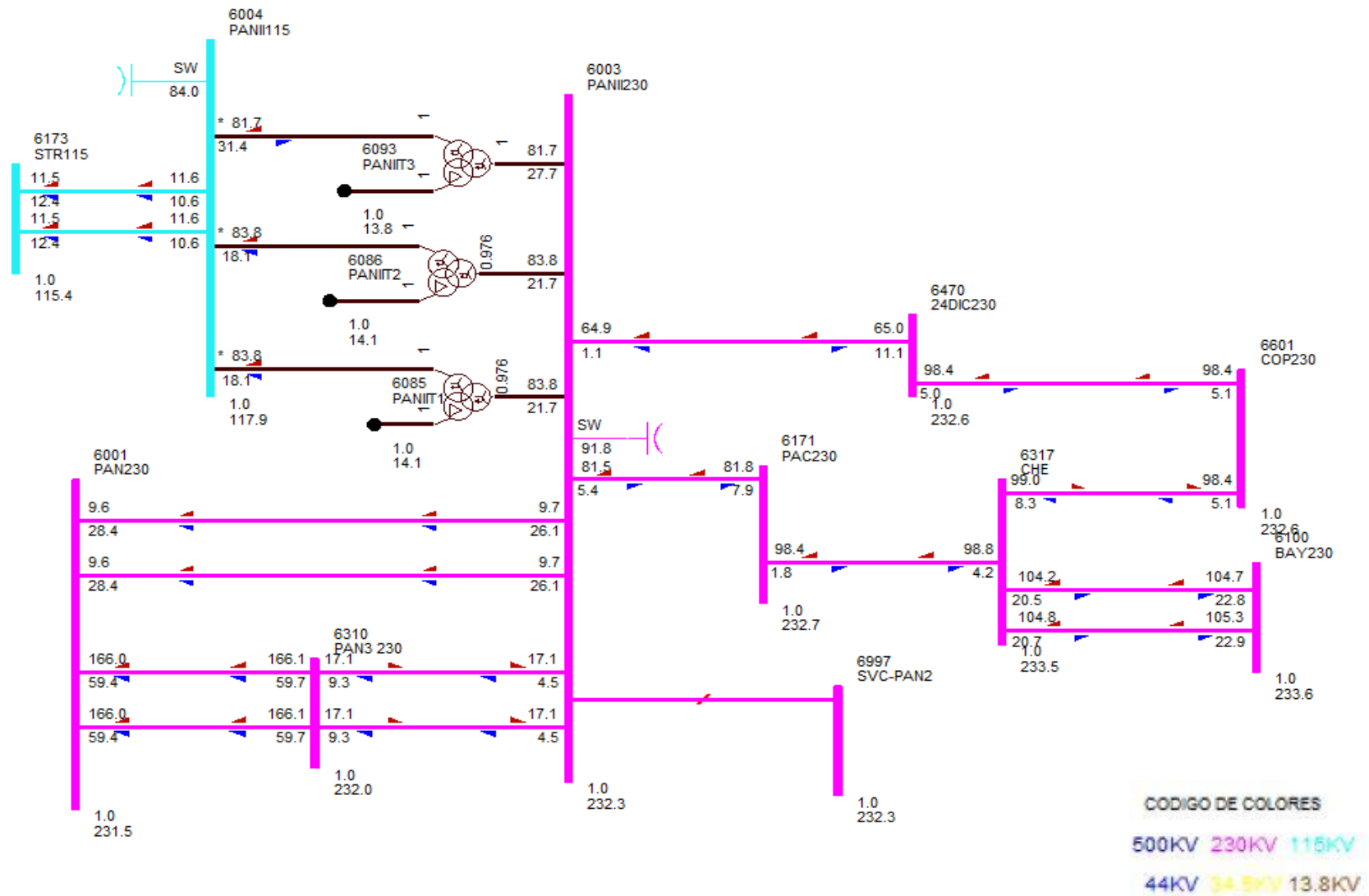
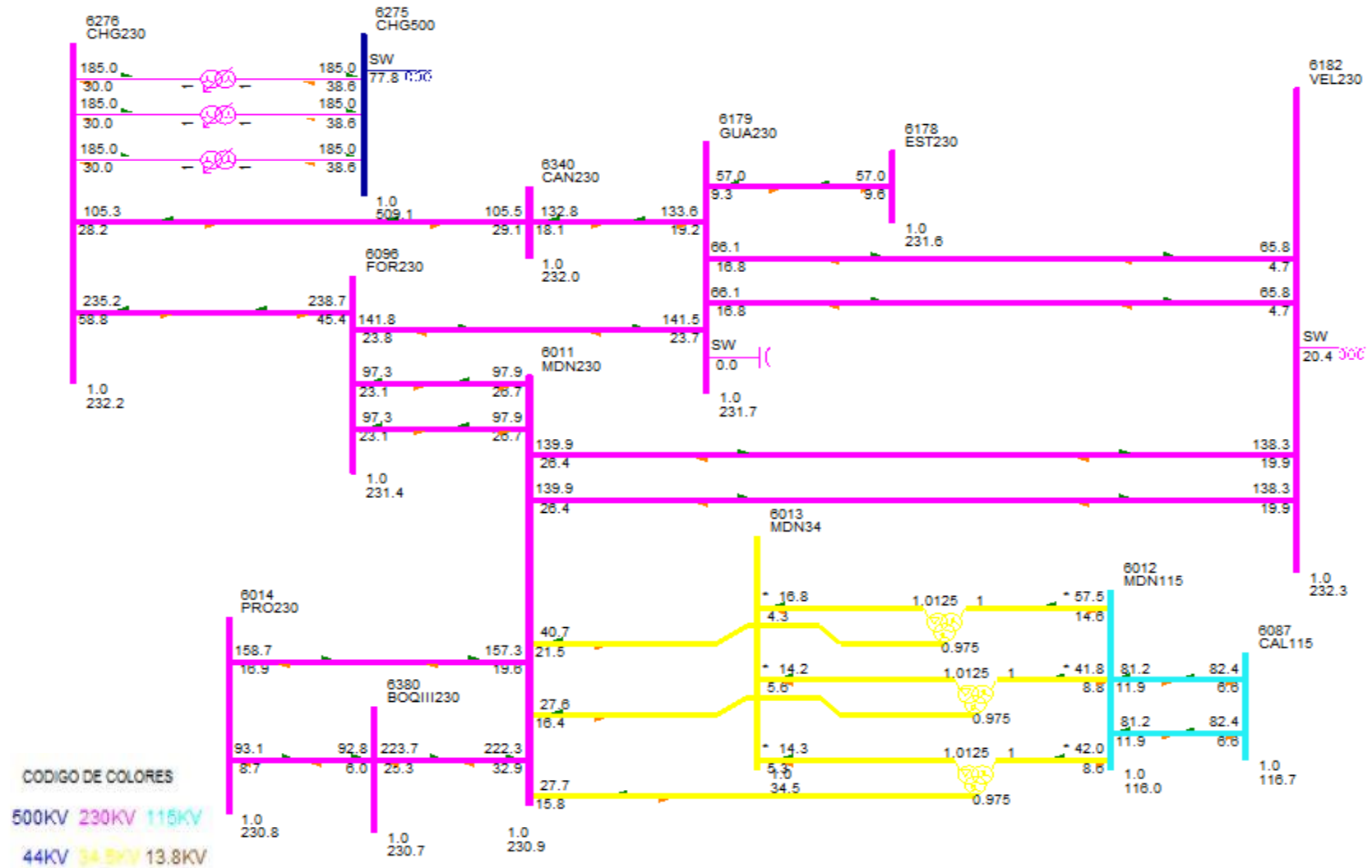


Diagrama de Panamá Oeste



Despacho de generación

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:23
 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	1.6	15.0	0.0	1.0000	25.0	0.9980	47.0			62	6	
6072	BLMG3		13.800	V3	25.0	1.6	15.0	0.0	1.0000	25.0	0.9980	47.0			62	6	
6073	BLMG4		13.800	V4	25.0	1.6	15.0	0.0	1.0000	25.1	0.9980	47.0			62	6	
6078	BLMG9		13.800	V9	39.0	10.0	10.0	0.0	0.9869	40.8*	0.9687	71.0			62	6	
6090	LESG1		13.800	E1	22.4	6.0	12.0	-5.0	1.0100	23.0	0.9660	27.0			64	6	
6091	LESG2		13.800	E2	22.4	6.0	12.0	-5.0	1.0100	23.0	0.9660	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	62.0	-3.4	50.0	-50.0	1.0000	62.1	0.9985	111.0			64	6	
6098	FORG2		13.800	F2	62.0	-3.4	50.0	-50.0	1.0000	62.1	0.9985	111.0			64	6	
6099	FORG3		13.800	F3	62.0	-3.4	50.0	-50.0	1.0000	62.1	0.9985	111.0			64	6	
6101	BAYG1		13.800	B1	70.0	-5.0	30.0	-25.0	0.9800	71.6	0.9975	94.0			61	6	
6102	BAYG2		13.800	B2	70.0	-5.0	30.0	-25.0	0.9800	71.6	0.9975	94.0			61	6	
6110	BAYG3		13.800	B3	70.0	-16.6	35.0	-25.0	0.9800	73.4	0.9729	100.0			61	6	
6176	ESTG1		13.800	E1	57.0	10.5	29.0	-29.0	1.0100	57.4	0.9834	69.0			64	6	
6264	CHANG1		13.800	G1	96.9	4.3	50.8	-50.8	1.0100	96.1	0.9990	116.5			64	6	SYST
6265	CHANG2		13.800	G2	96.0	4.0	50.8	-50.8	1.0100	95.1	0.9991	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	0.9848	5.7			64	6	
6305	ALG 13A		13.800	A2	4.8	-0.9	2.3	-2.3	1.0000	4.9	0.9848	5.7			64	6	
6306	MEN 13A		13.800	M1	8.9	4.2	4.2	-4.2	0.9847	10.0*	0.9061	10.4			64	6	
6306	MEN 13A		13.800	M2	8.9	4.2	4.2	-4.2	0.9847	10.0*	0.9061	10.4			64	6	
6307	COC 13A		34.500	G1	7.1	-3.0	6.5	-5.7	1.0075	7.7*	0.9204	8.4			64	6	
6307	COC 13A		34.500	G2	7.1	-3.0	3.3	-3.3	1.0075	7.7*	0.9204	8.4			64	6	
6308	MENII 13A		13.800	G1	3.7	1.0	1.9	0.0	1.0000	3.8	0.9660	4.1			64	6	
6308	MENII 13A		13.800	G2	3.7	1.0	1.9	0.0	1.0000	3.8	0.9660	4.1			64	6	
6333	BAMG1		13.800	G1	26.6	2.4	10.0	-10.0	1.0000	26.7	0.9959	30.0			64	6	
6334	BAMG2		13.800	G2	26.6	2.4	10.0	-10.0	1.0000	26.7	0.9959	30.0			64	6	
6335	BAIG1		13.800	G1	41.9	-2.5	14.0	-14.0	1.0000	42.0	0.9982	49.0			64	6	
6336	BAIG2		13.800	G2	41.9	-2.5	14.0	-14.0	1.0000	42.0	0.9982	49.0			64	6	
6352	HCAL4.16		4.2000	G1	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9589	3.4			64	6	
6352	HCAL4.16		4.2000	G2	2.9	-0.9	1.5	-1.5	1.0080	3.0	0.9589	3.4			64	6	
6361	GLAG1		13.800	G1	12.1	-3.0	7.8	-7.0	1.0060	12.3	0.9711	14.1			64	6	
6362	GLAG2		13.800	G2	5.0	-3.0	7.8	-7.0	1.0060	5.8	0.8558	14.1			64	6	
6364	LORG1		13.800	G1	16.0	-4.0	7.8	-7.0	1.0075	16.4	0.9699	25.0			64	6	
6365	LORG2		13.800	G2	7.0	-4.1	7.8	-7.0	1.0075	8.1	0.8619	25.0			64	6	
6367	PRUG1		13.800	G1	27.9	-5.7	8.0	-8.0	1.0075	28.2	0.9798	33.0			64	6	
6373	PRIG1		13.800	G1	130.0	18.4	92.2	-92.2	1.0000	131.3	0.9901	175.0			63	6	
6374	PRIG2		13.800	G2	130.0	18.4	92.2	-92.2	1.0000	131.3	0.9901	175.0			63	6	
6386	PEDI 13A		13.800	G1	11.9	1.6	6.2	-6.8	1.0000	12.0	0.9908	12.5			64	6	
6386	PEDI 13A		13.800	G2	11.9	1.6	6.2	-6.8	1.0000	12.0	0.9908	12.5			64	6	
6387	PEDII 13A		13.800	G1	6.1	0.0	3.3	-3.3	1.0000	6.1	1.0000	7.1			64	6	
6387	PEDII 13A		13.800	G2	6.1	0.0	3.3	-3.3	1.0000	6.1	1.0000	7.1			64	6	
6388	MACG1		0.6900	G1	1.7	-0.8	1.0	-0.8	1.0069	1.9*	0.9048	2.1			64	6	
6389	MACG2		0.6900	G2	1.7	-0.8	1.0	-0.8	1.0069	1.9*	0.9048	2.1			64	6	

6390	CON 4.16A	4.1600 G1	4.8	-0.5	1.0	-0.8 1.0000	4.8	0.9953	6.3	64	6
6390	CON 4.16A	4.1600 G2	4.8	-0.5	1.0	-0.8 1.0000	4.8	0.9953	6.3	64	6
6391	PAAG1	2.1400 G1	2.8	1.0	1.0	-0.8 0.9996	3.0*	0.9429	3.5	64	6
6392	PAAG2	2.1400 G2	2.8	1.0	1.0	-0.8 0.9996	3.0*	0.9429	3.5	64	6
6394	LPN 4.16A	4.1600 G1	4.8	1.0	1.0	-0.8 0.9983	4.9*	0.9785	6.3	64	6
6394	LPN 4.16A	4.1600 G2	4.8	1.0	1.0	-0.8 0.9983	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600 G1	4.8	1.0	1.0	-0.8 0.9983	4.9*	0.9785	6.3	64	6
6395	LPS 4.16A	4.1600 G2	4.8	1.0	1.0	-0.8 0.9983	4.9*	0.9785	6.3	64	6
6396	RP4G1	6.6000 G1	6.2	0.5	4.6	-2.3 1.0000	6.3	0.9968	7.3	64	6
6397	RP4G2	6.6000 G2	6.2	0.5	4.6	-2.3 1.0000	6.3	0.9968	7.3	64	6
6403	CDP4.16	4.2000 G1	2.1	0.1	0.6	-0.8 1.0000	2.1	0.9995	2.5	64	6
6403	CDP4.16	4.2000 G2	2.1	0.1	0.6	-0.8 1.0000	2.1	0.9995	2.5	64	6
6420	DOL 4.16A	4.1600 G1	1.0	0.5	0.8	-0.8 1.0000	1.1	0.8873	1.3	64	6
6420	DOL 4.16A	4.1600 G2	1.0	0.5	0.8	-0.8 1.0000	1.1	0.8873	1.3	64	6
6420	DOL 4.16A	4.1600 G3	1.0	0.5	0.8	-0.8 1.0000	1.1	0.8873	1.3	64	6
6421	LP1 4.16A	4.1600 G1	1.5	0.5	0.8	-0.8 1.0000	1.6	0.9442	1.8	64	6
6421	LP1 4.16A	4.1600 G2	1.5	0.5	0.8	-0.8 1.0000	1.6	0.9442	1.8	64	6
6421	LP1 4.16A	4.1600 G3	1.5	0.5	0.8	-0.8 1.0000	1.6	0.9442	1.8	64	6
6422	MMO 4.16A	4.1600 G1	1.2	0.8	0.8	-0.8 1.0000	1.4	0.8332	1.5	64	6
6422	MMO 4.16A	4.1600 G2	1.2	0.8	0.8	-0.8 1.0000	1.4	0.8332	1.5	64	6
6423	BU1G1	4.1600 G1	2.0	-0.3	1.0	-0.4 1.0000	2.0	0.9909	2.3	64	6
6424	BU1G2	4.1600 G2	2.0	-0.3	1.0	-0.4 1.0000	2.0	0.9909	2.3	64	6
6425	BU1G3	0.6900 G3	0.9	-0.1	0.6	-0.5 1.0000	0.9	0.9895	1.1	64	6
6427	BUGII 4.16	4.2000 G1	3.0	-0.1	1.5	-1.5 1.0000	3.0	0.9996	3.5	64	6
6427	BUGII 4.16	4.2000 G2	3.0	-0.1	1.5	-1.5 1.0000	3.0	0.9996	3.5	64	6
6427	BUGII 4.16	4.2000 G3	1.7	-0.0	0.8	-0.8 1.0000	1.7	0.9996	1.9	64	6
6429	AST4.16	4.2000 G1	3.9	1.4	1.8	-1.8 1.0000	4.1	0.9430	4.5	64	6
6432	YEG 4.16A	4.1600 G1	2.8	-1.3	2.2	-2.2 1.0015	3.1	0.9123	3.8	64	6
6432	YEG 4.16A	4.1600 G2	2.8	-1.3	2.2	-2.2 1.0015	3.1	0.9123	3.8	64	6
6432	YEG 4.16A	4.1600 G3	0.9	-0.4	0.8	-0.8 1.0015	1.0	0.9123	1.2	64	6
6433	EFR 4.16A	4.1600 G1	2.5	1.6	1.6	-1.6 1.0086	3.0	0.8386	3.2	64	6
6433	EFR 4.16A	4.1600 G2	2.5	1.6	1.6	-1.6 1.0086	3.0	0.8386	3.2	64	6
6435	ODA13	13.800 G1	3.1	-0.3	1.6	-1.6 1.0000	3.1	0.9956	3.6	63	6
6435	ODA13	13.800 G2	3.1	-0.3	1.6	-1.6 1.0000	3.1	0.9956	3.6	63	6
6436	LHU13.8	13.800 G1	2.4	-0.3	1.2	-1.2 1.0000	2.4	0.9912	2.8	63	6
6436	LHU13.8	13.800 G2	2.4	-0.3	1.2	-1.2 1.0000	2.4	0.9912	2.8	63	6
6439	CHU13.8	13.800 G1	4.2	-0.2	1.2	-1.5 1.0000	4.2	0.9993	4.6	64	6
6439	CHU13.8	13.800 G2	4.2	-0.2	1.2	-1.5 1.0000	4.2	0.9993	4.6	64	6
6444	PDOG1	13.800 G1	15.8	-2.3	12.8	-8.3 1.0005	16.0	0.9893	18.5	64	6
6445	PDOG2	13.800 G2	15.8	-2.3	12.8	-8.3 1.0005	16.0	0.9893	18.5	64	6
6446	ALTG1	13.800 G1	21.3	-3.4	10.9	-7.6 1.0000	21.6	0.9875	24.9	64	6
6447	ALTG2	13.800 G2	21.3	-3.4	10.9	-7.6 1.0000	21.6	0.9875	24.9	64	6
6448	ALTG3	13.800 G3	21.3	-3.4	10.9	-7.6 1.0000	21.6	0.9875	24.9	64	6
6449	MLIG1	13.800 G1	15.8	-3.3	12.8	-8.3 1.0000	16.2	0.9786	18.5	64	6
6450	MLIG2	13.800 G2	15.8	-3.3	12.8	-8.3 1.0000	16.2	0.9786	18.5	64	6
6451	MLIG3	13.800 G3	15.8	-3.3	12.8	-8.3 1.0000	16.2	0.9786	18.5	64	6
6462	RDVG1	0.6900 E1	25.6	-6.3	8.4	-8.4 1.0000	26.4	0.9710	107.9	64	6
6463	PORG1	0.6900 E2	11.9	-2.5	3.9	-3.9 1.0000	12.1	0.9787	50.0	64	6
6464	MARG1	0.6900 E3	4.4	-1.3	1.4	-1.4 1.0000	4.6	0.9601	18.4	64	6
6465	NCHIG1	0.6900 E4	13.8	-4.5	4.5	-4.5 1.0006	14.5	0.9500	57.9	64	6
6473	NCHIIG1	0.6900 E5	28.8	-6.2	9.4	-9.4 1.0000	29.4	0.9772	121.1	64	6
6481	SLOR6	6.0000 G1	4.2	1.5	1.5	-1.7 0.9989	4.5*	0.9415	4.9	64	6
6481	SLOR6	6.0000 G2	4.2	1.5	1.5	-1.7 0.9989	4.5*	0.9415	4.9	64	6

6484	ANTG1	0.7000	G1	26.2	8.6	8.6	8.6	1.0266	26.9*	0.9500	110.5	64	6			
6488	TOAG1	0.7000	G1	26.2	8.6	8.6	8.6	1.0266	26.9*	0.9500	110.5	63	6			
6492	BONG1	13.800	G1	9.9	-0.5	4.9	-2.0	1.0000	9.9	0.9987	11.5	64	6			
6493	BONG2	13.800	G2	9.9	-0.5	4.9	-2.0	1.0000	9.9	0.9987	11.5	64	6			
6494	BONG3	13.800	G3	9.9	-0.5	4.9	-2.0	1.0000	9.9	0.9987	11.5	64	6			
6605	CEP13.8	13.800	G1	4.8	-0.6	2.3	-2.3	1.0000	4.8	0.9926	5.3	60	6			
6605	CEP13.8	13.800	G2	4.8	-0.6	2.3	-2.3	1.0000	4.8	0.9926	5.3	60	6			
6608	COLG1	2.1000	G1	3.2	-0.7	2.0	-1.3	0.9463	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	1.0055	3.5*	0.9193	3.9	64	6			
6611	COTG1	4.1600	G1	2.4	-1.0	1.4	-1.0	1.0037	2.6*	0.9267	2.9	64	6			
6612	COTG2	4.1600	G2	2.4	-1.0	1.4	-1.0	1.0037	2.6*	0.9267	2.9	64	6			
6616	HERRG1	4.2000	G1	2.1	-0.9	1.2	-0.9	1.0082	2.3*	0.9182	2.6	64	6			
6617	HERRG2	4.2000	G2	2.1	-0.9	1.2	-0.9	1.0082	2.3*	0.9182	2.6	64	6			
6618	HERRG3	4.2000	G3	0.9	-0.4	0.5	-0.4	1.0086	1.0*	0.9086	1.2	64	6			
6651	BDT4.16	4.2000	G1	4.8	1.1	2.5	-2.5	1.0000	4.9	0.9739	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	0.7	2.2	-2.2	1.0000	4.3	0.9872	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	0.9985	5.8	64	6			
6731	SAN13.8	13.800	G2	4.9	0.3	2.7	-2.7	1.0000	4.9	0.9985	5.8	64	6			
6736	SANII13.8	13.800	G1	4.7	-0.1	1.6	-1.6	1.0000	4.7	0.9996	5.2	64	6			
6736	SANII13.8	13.800	G2	4.7	-0.1	1.6	-1.6	1.0000	4.7	0.9996	5.2	64	6			
6764	ESCHO13	13.800	G1	4.8	2.6	2.6	-2.6	0.9210	5.9*	0.8772	5.8	63	6			
6764	ESCHO13	13.800	G2	4.8	2.6	2.6	-2.6	0.9210	5.9*	0.8772	5.8	63	6			
6766	CRU13.8	13.800	G1	9.8	-4.7	4.9	-4.9	1.0000	10.9*	0.9037	12.5	63	6			
6766	CRU13.8	13.800	G2	9.8	-4.7	4.9	-4.9	1.0000	10.9*	0.9037	12.5	63	6			
6774	BAR13.8	13.800	G1	9.2	1.9	4.8	-4.8	1.0000	9.4	0.9788	10.8	63	6			
6774	BAR13.8	13.800	G2	9.2	1.9	4.8	-4.8	1.0000	9.4	0.9788	10.8	63	6			
6791	SMA82G1	13.800	G1	13.5	-0.9	6.9	-6.9	1.0100	13.4	0.9979	15.8	63	6			
6792	SMA82G2	13.800	G2	13.5	-0.9	6.9	-6.9	1.0100	13.4	0.9979	15.8	63	6			
6821	PLAII13.8	13.800	G1	3.5	0.0	1.8	-1.8	1.0000	3.5	0.9999	4.1	64	6			
6841	BUR13.8	13.800	G1	29.9	-0.7	15.4	-15.4	1.0000	29.9	0.9997	35.0	64	6			
6841	BUR13.8	13.800	G2	29.9	-0.7	15.4	-15.4	1.0000	29.9	0.9997	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	-1.1	6.4	-6.4	1.0000	12.7	0.9960	14.8	64	6			
6861	BBL13.8	13.800	G2	12.7	-1.1	6.4	-6.4	1.0000	12.7	0.9960	14.8	64	6			
6861	BBL13.8	13.800	G3	1.8	-0.2	0.8	-0.6	1.0000	1.8	0.9960	2.1	64	6			
6935	LTR13.8	13.800	G1	0.9	-0.2	0.3	-0.3	1.0000	0.9	0.9828	1.0	63	6			
6940	RPI13.8	13.800	G1	4.3	0.3	2.2	-2.2	1.0000	4.3	0.9979	5.0	62	6			
6940	RPI13.8	13.800	G2	4.3	0.3	2.2	-2.2	1.0000	4.3	0.9979	5.0	62	6			
6986	SVC-PAN3	13.200	C1	0.0	-5.3	150.0	-30.0	1.0050	5.3	0.0000	180.0	60	6			
6996	SVC-LSA	13.200	C1	0.0	6.8	120.0	-30.0	1.0149	6.7	0.0000	150.0	63	6			
6998	SVC-PAN2	13.200	C1	0.0	-6.6	120.0	-30.0	1.0053	6.5	0.0000	150.0	61	6			
SUBSYSTEM TOTALS				2147.7	-6.7	1560.5	-1057.1				3730.9					

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	11.4	3.1	6.0	-6.0	1.0000	11.8	0.9643	13.0			65	7	
6135		MADG2		6.9000	G2	11.4	2.6	6.0	-6.0	1.0000	11.7	0.9746	13.0			65	7	
6136		MADG3		6.9000	G3	11.4	4.4	6.0	-6.0	1.0100	12.1	0.9329	13.0			65	7	
6140		GAT6A		6.9000	G1	2.8	-0.3	2.0	-2.0	1.0100	2.8	0.9957	4.1			65	7	
6140		GAT6A		6.9000	G2	2.8	-0.3	2.0	-2.0	1.0100	2.8	0.9957	4.1			65	7	
6140		GAT6A		6.9000	G3	2.8	-0.3	2.0	-2.0	1.0100	2.8	0.9957	4.1			65	7	
6140		GAT6A		6.9000	G4	4.3	-0.4	3.0	-3.0	1.0100	4.3	0.9957	5.6			65	7	
6140		GAT6A		6.9000	G5	4.3	-0.4	3.0	-3.0	1.0100	4.3	0.9957	6.2			65	7	
6140		GAT6A		6.9000	G6	4.3	-0.4	3.0	-3.0	1.0100	4.3	0.9957	6.2			65	7	
SUBSYSTEM TOTALS						55.6	8.1	33.0	-33.0				69.4					

Reporte de Voltajes

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E THU, JUN 25 2015 20:22
 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	1.0042	230.96	6001		PAN230		230.00	6	1.0066	231.52
6002		PAN115		115.00	6	1.0159	116.83	6003		PANII230		230.00	6	1.0100	232.30
6004		PANII115		115.00	6	1.0249	117.87	6005		CHO230		230.00	6	1.0106	232.43
6008		LSA230		230.00	6	1.0100	232.30	6009		LSA115		115.00	6	1.0066	115.76
6011		MDN230		230.00	6	1.0041	230.93	6012		MDN115		115.00	6	1.0086	115.99
6014		PRO230		230.00	6	1.0036	230.82	6015		PRO115		115.00	6	1.0002	115.02
6018		CAC115		115.00	6	1.0153	116.76	6019		CVI115A		115.00	6	1.0097	116.11
6027		LOC115A		115.00	6	1.0056	115.64	6032		MAR115A		115.00	6	1.0056	115.64
6036		SMA115		115.00	6	1.0107	116.23	6040		SFR115		115.00	6	1.0007	115.08
6055		MOS115B		115.00	6	1.0044	115.51	6057		TOC115		115.00	6	1.0206	117.37
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	1.0061	231.40
6100		BAY230		230.00	6	1.0155	233.56	6105		PAM230		230.00	6	1.0106	232.43
6115		LBO115		115.00	6	1.0092	116.06	6123		MIR115A		115.00	7	1.0113	116.30
6165		FLO115		115.00	6	1.0130	116.50	6170		CPA115		115.00	6	1.0018	115.21
6171		PAC230		230.00	6	1.0118	232.71	6173		STR115		115.00	6	1.0032	115.37
6178		EST230		230.00	6	1.0072	231.65	6179		GUA230		230.00	6	1.0072	231.66
6182		VEL230		230.00	6	1.0100	232.30	6210		TIN115		115.00	6	1.0111	116.28
6211		PM115-9		115.00	6	1.0088	116.01	6225		CDE115		115.00	6	1.0029	115.34
6230		CBA115		115.00	6	1.0031	115.35	6240		EHIG230		230.00	6	1.0099	232.27
6245		BNGA230		230.00	6	1.0100	232.29	6250		BVI230		230.00	6	1.0066	231.51
6251		BVI115		115.00	6	1.0068	115.78	6260		CHA230		230.00	6	1.0179	234.11
6261		CHA115		115.00	6	1.0062	115.71	6263		ESP230		230.00	6	1.0188	234.32
6275		CHG500		500.00	6	1.0182	509.10	6276		CHG230		230.00	6	1.0098	232.24
6280		GIR115		115.00	6	1.0018	115.21	6309		PAN3 500		500.00	6	1.0170	508.51
6310		PAN3 230		230.00	6	1.0088	232.03	6311		PAN3 115		115.00	6	1.0128	116.47
6314		SAB500		500.00	6	1.0191	509.57	6315		MET230		230.00	6	1.0324	237.45
6317		CHE		230.00	6	1.0154	233.55	6318		SAB230		230.00	6	1.0191	234.40
6330		BAI230		230.00	6	1.0050	231.15	6340		CAN230		230.00	6	1.0087	231.99
6350		PM115-8		115.00	6	1.0081	115.93	6360		GLA230		230.00	6	1.0102	232.36
6363		ZAM230		230.00	6	1.0133	233.06	6366		EVA230		230.00	6	1.0148	233.41
6370		PET230		230.00	6	1.0029	230.68	6372		PRI230		230.00	6	1.0177	234.08
6380		BOQIII230		230.00	6	1.0029	230.66	6400		FRONTCHA		230.00	6	1.0193	234.43
6401		PM230-29		230.00	6	1.0078	231.79	6430		GENLLS		115.00	6	1.0066	115.76
6434		ODA115		115.00	6	1.0067	115.77	6440		DOM230		230.00	6	1.0038	230.88
6441		PRIM230		230.00	6	1.0040	230.92	6442		ALT230		230.00	6	1.0035	230.79
6443		PARE230		230.00	6	1.0036	230.83	6460		ECO230		230.00	6	1.0133	233.05
6470		24DIC230		230.00	6	1.0113	232.60	6485		ANT230		230.00	6	1.0157	233.60
6490		BON115		115.00	6	1.0062	115.71	6500		FRONTDOM		230.00	6	1.0047	231.08
6601		COP230		230.00	6	1.0115	232.65	6680		BFR230		230.00	6	1.0050	231.15
6681		LPO230		230.00	6	1.0050	231.16	6683		SAL230		230.00	6	1.0050	231.15
6760		SBA230		230.00	6	1.0097	232.23	6790		SMA82		230.00	6	1.0114	232.62
6840		BUR230		230.00	6	1.0043	230.98	6860		BBL230		230.00	6	1.0106	232.44
6915		SCR115		115.00	6	1.0043	115.49	6985		SVC-PAN3		230.00	6	1.0088	232.03
6990		REACTOR1		500.00	6	1.0182	509.10	6991		REACTOR2		500.00	6	1.0170	508.51
6992		REACTOR3		500.00	6	1.0182	509.10	6993		REACTOR4		500.00	6	1.0170	508.51
6995		SVC-LSA		230.00	6	1.0100	232.30	6997		SVC-PAN2		230.00	6	1.0100	232.30
56050		RCL230A		230.00	5	1.0050	231.16	56052		RCL230B		230.00	5	1.0050	231.16
58350		CAH230		230.00	5	1.0210	234.83								

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	0.9935	114.26	6047		CLA115		115.00	6	0.9840	113.16
6059		LM115		115.00	6	0.9979	114.76	6060		LM2115		115.00	6	0.9980	114.78
6064		MES115		115.00	6	0.9839	113.15	6066		FFIELD		115.00	6	0.9848	113.25
6074		LMDIST		115.00	6	0.9980	114.77	6270		CAT115		115.00	6	0.9980	114.77
6290		CATII115		115.00	6	0.9985	114.83	6331		BAI115		115.00	6	0.9922	114.11
6332		BAM115		115.00	6	0.9986	114.83	6730		SAN115		115.00	6	0.9987	114.85
6761		SBA115		115.00	6	0.9898	113.82	6980		BKO115		115.00	6	0.9849	113.26