

**Tomo III - Anexo - 4**  
**Reportes de Voltajes**

REPORTE DE VOLTAJES AÑO 2018				
Bus	Nodo	Base kV	Lluviosa	
			Dmax	Dmin
6000	FRONTPRO	230	1.01	1.0228
6001	PAN230	230	1.0163	1.0368
6003	PANII230	230	1.0264	1.0432
6005	CHO230	230	1.0119	1.0386
6008	LSA230	230	1.0092	1.0416
6011	MDN230	230	0.9955	1.022
6014	PRO230	230	1.009	1.0225
6096	FOR230	230	0.9968	1.0238
6100	BAY230	230	1.0343	1.0459
6171	PAC230	230	1.028	1.0437
6179	GUA230	230	0.9951	1.0226
6182	VEL230	230	0.9973	1.033
6240	EHIG230	230	1.0064	1.0394
6243	VHE230	230	1.0274	1.0433
6260	CHA230	230	1.0106	1.029
6263	ESP230	230	1.0111	1.0286
6340	CAN230	230	0.9994	1.0254
6380	BOQIII230	230	1.0013	1.0212
6400	FRONTCHA	230	1.0124	1.0291
6401	PM230-29	230	0.9965	1.0238
6440	DOM230	230	1.0105	1.0211
6460	ECO230	230	1.0213	1.0468
6470	24DIC230	230	1.0271	1.0431
6500	FRONTDOM	230	1.011	1.0216
6510	POR230	230	1.0114	1.0222
6520	SBA230	230	1.0006	1.0367
6550	BEV230	230	0.9985	1.0336
6713	BUR230	230	1.0281	1.0465
6002	PAN115	115	1.0073	1.0099
6004	PANII115	115	1.0085	1.0077
6006	CHO115	115	1.0095	1.0368
6009	LSA115	115	1.0117	1.0463
6012	MDN115	115	0.9972	1.0169
6015	PRO115	115	1.0062	1.0221
6018	CAC115	115	1.0068	1.0094
6024	CHI115	115	0.9888	0.9958
6059	LM1115	115	1.002	1.0106
6060	LM2115	115	1.002	1.0106
6087	CAL115	115	1.0066	1.0186
6170	CPA115	115	1.0031	1.0088
6173	STR115	115	1.0028	1.0108
6261	CHA115	115	1	1.0226
6290	CATII115	115	1.0021	1.0107

REPORTE DE VOLTAJES AÑO 2019

Bus	Nodo	Base kV	Seca		Lluviosa	
			Dmax	Dmin	Dmax	Dmin
6000	FRONTPRO	230	1.0157	1.0198	1.0135	1.0149
6001	PAN230	230	1.0369	1.0249	1.0321	1.0381
6003	PANII230	230	1.0426	1.0268	1.0397	1.04
6005	CHO230	230	1.0378	1.0292	1.0268	1.0372
6008	LSA230	230	1.0358	1.0356	1.012	1.0204
6011	MDN230	230	1.0177	1.0294	1.0074	1.0104
6014	PRO230	230	1.015	1.0194	1.0126	1.0141
6096	FOR230	230	1.0177	1.0324	1.0146	1.012
6100	BAY230	230	1.0449	1.0295	1.0421	1.0431
6171	PAC230	230	1.0426	1.0272	1.0397	1.0407
6179	GUA230	230	1.0181	1.0319	1.008	1.0101
6182	VEL230	230	1.0302	1.0391	1.005	1.0105
6240	EHIG230	230	1.0347	1.0323	1.0139	1.0288
6243	VHE230	230	1.0425	1.0272	1.0397	1.0407
6260	CHA230	230	1.0251	1.0368	1.0241	1.0246
6263	ESP230	230	1.0256	1.0379	1.0242	1.0241
6340	CAN230	230	1.0205	1.0343	1.0136	1.0163
6380	BOQIII230	230	1.0157	1.0233	1.0101	1.0122
6400	FRONTCHA	230	1.0256	1.0361	1.0246	1.0251
6401	PM230-29	230	1.0194	1.0331	1.0103	1.0126
6440	DOM230	230	1.0145	1.0167	1.0115	1.0129
6460	ECO230	230	1.0356	1.0289	1.0217	1.024
6470	24DIC230	230	1.0424	1.027	1.0395	1.0406
6500	FRONTDOM	230	1.0153	1.0176	1.0124	1.0139
6510	POR230	230	1.0141	1.0174	1.0148	1.0159
6520	SBA230	230	1.0332	1.0395	1.006	1.0144
6550	BEV230	230	1.0308	1.039	1.0058	1.012
6713	BUR230	230	1.0413	1.0266	1.0365	1.0352
6002	PAN115	115	1.0217	1.0201	1.0101	1.0013
6004	PANII115	115	1.0216	1.0271	1.0033	0.9963
6006	CHO115	115	1.0365	1.0291	1.0257	1.0389
6009	LSA115	115	1.0344	1.0398	1.0133	1.0285
6012	MDN115	115	1.0219	1.0342	1.0094	1.0156
6015	PRO115	115	1.0119	1.0185	1.0118	1.0135
6018	CAC115	115	1.0211	1.0199	1.0097	1.0012
6024	CHI115	115	1.0033	1.0068	0.9946	0.9961
6059	LM1115	115	1.0131	1.0147	1.0072	1.0107
6060	LM2115	115	1.0131	1.0147	1.0072	1.0106
6087	CAL115	115	1.0204	1.0294	1.0182	1.022
6170	CPA115	115	1.0155	1.0158	1.0071	1.0053
6173	STR115	115	1.0143	1.0155	1.0077	1.0099
6261	CHA115	115	1.0128	1.0254	1.02	1.02
6290	CATII115	115	1.0133	1.0148	1.0072	1.0106

REPORTE DE VOLTAJES AÑO 2020						
Bus	Nodo	Base kV	Seca		Lluviosa	
			Dmax	Dmin	Dmax	Dmin
6000	FRONTPRO	230	1.0114	1.0177	1.0061	1.0127
6001	PAN230	230	1.0144	1.038	1.0272	1.02
6003	PANII230	230	1.0203	1.0404	1.0398	1.0242
6005	CHO230	230	1.0198	1.042	1.021	1.024
6008	LSA230	230	1.02	1.0382	1.0027	1.02
6011	MDN230	230	1.0079	1.0207	0.9953	1.0072
6014	PRO230	230	1.0104	1.0173	1.0048	1.0118
6096	FOR230	230	1.0101	1.0225	1.0023	1.0087
6100	BAY230	230	1.0225	1.0429	1.0424	1.0273
6171	PAC230	230	1.0202	1.0408	1.0398	1.025
6179	GUA230	230	1.0077	1.0223	0.9948	1.0063
6182	VEL230	230	1.0151	1.0347	0.9951	1.0144
6240	EHIG230	230	1.0164	1.0406	1.0049	1.0207
6243	VHE230	230	1.0201	1.0404	1.0397	1.0243
6260	CHA230	230	1.017	1.025	1.0176	1.0232
6263	ESP230	230	1.0174	1.0244	1.0208	1.0241
6340	CAN230	230	1.0102	1.0236	1.0019	1.0128
6380	BOQIII230	230	1.0089	1.0181	1	1.0089
6400	FRONTCHA	230	1.0182	1.0255	1.0187	1.0238
6401	PM230-29	230	1.0086	1.0227	0.9971	1.0087
6440	DOM230	230	1.011	1.0149	1.0068	1.0112
6460	ECO230	230	1.0166	1.0365	1.0107	1.0228
6470	24DIC230	230	1.0199	1.0402	1.0396	1.0242
6500	FRONTDOM	230	1.0117	1.0158	1.0075	1.0121
6510	POR230	230	1.0107	1.0159	1.0082	1.0136
6520	SBA230	230	1.0169	1.0371	1.0014	1.0158
6550	BEV230	230	1.0156	1.0351	0.9952	1.015
6713	BUR230	230	1.0198	1.041	1.0304	1.025
6830	ANT230	230	1.0233	1.0428	1.0046	1.0221
6861	CHE230	230			1.0419	1.0267
6002	PAN115	115	1.0123	1.0228	1.0153	1.0047
6004	PANII115	115	1.0091	1.0185	1.0161	1.002
6006	CHO115	115	1.0186	1.0431	1.0202	1.0242
6009	LSA115	115	1.0222	1.0402	1.0057	1.0262
6012	MDN115	115	1.0132	1.0269	0.9972	1.0086
6015	PRO115	115	1.0078	1.0164	1.0035	1.0111
6018	CAC115	115	1.0118	1.0225	1.0146	1.0042
6024	CHI115	115	0.9951	1.0123	1.0008	0.9988
6059	LM1115	115	1.0037	1.0209	1.0103	1.0105
6060	LM2115	115	1.0037	1.0209	1.0103	1.0105
6087	CAL115	115	1.0145	1.0242	1.0051	1.012
6170	CPA115	115	1.0063	1.0206	1.0101	1.0061
6173	STR115	115	1.0046	1.0211	1.0108	1.0099
6261	CHA115	115	1.0062	1.0159	1.0122	1.0184
6290	CATII115	115	1.0038	1.0209	1.0104	1.0105

**REPORTE DE VOLTAJES AÑO 2021**

Bus	Nodo	Base kV	Seca		Lluviosa	
			Dmax	Dmin	Dmax	Dmin
6000	FRONTPRO	230	1.0134	1.0169	1.0034	1.0074
6001	PAN230	230	1.0208	1.0182	1.0277	1.0217
6003	PANII230	230	1.0268	1.0201	1.0349	1.0251
6005	CHO230	230	1.0257	1.027	1.021	1.0217
6008	LSA230	230	1.0253	1.0322	1.0022	1.0151
6011	MDN230	230	1.0122	1.0193	0.9924	1.0004
6014	PRO230	230	1.0125	1.0165	1.0018	1.006
6096	FOR230	230	1.0127	1.0209	0.9995	1.0014
6100	BAY230	230	1.0291	1.0228	1.0375	1.0282
6171	PAC230	230	1.0266	1.0204	1.035	1.0257
6179	GUA230	230	1.0125	1.0204	0.9919	0.9992
6182	VEL230	230	1.0317	1.0312	0.992	1.0047
6240	EHIG230	230	1.0219	1.029	1.0041	1.0169
6243	VHE230	230	1.0264	1.0198	1.0347	1.0254
6260	CHA230	230	1.0195	1.0238	1.0103	1.0148
6263	ESP230	230	1.0194	1.0234	1.0115	1.0146
6340	CAN230	230	1.0153	1.0218	0.9979	1.0052
6380	BOQIII230	230	1.0118	1.017	0.9972	1.003
6400	FRONTCHA	230	1.0205	1.0244	1.0121	1.0162
6401	PM230-29	230	1.0136	1.021	0.9938	1.0014
6440	DOM230	230	1.0126	1.0138	1.0055	1.0086
6460	ECO230	230	1.0156	1.0262	1.0067	1.0174
6470	24DIC230	230	1.0263	1.0197	1.0346	1.0253
6500	FRONTDOM	230	1.0133	1.0148	1.006	1.0092
6510	POR230	230	1.0123	1.0152	1.0049	1.008
6520	SBA230	230	1.0369	1.0328	0.999	1.0077
6550	BEV230	230	1.0311	1.0315	0.9923	1.0057
6713	BUR230	230	1.019	1.0211	1.0221	1.0218
6801	SAB230	230	1.0234	1.0223	1.034	1.0268
6830	ANT230	230	1.0273	1.034	1.0037	1.0179
6840	PAN3 230	230	1.0217	1.0196	1.0279	1.0225
6861	CHE230	230	1.0286	1.0222	1.037	1.0276
6002	PAN115	115	1.0135	1.02	1.023	1.0214
6004	PANII115	115	1.0194	1.0203	1.0199	1.0192
6006	CHO115	115	1.024	1.0268	1.02	1.0207
6009	LSA115	115	1.027	1.0349	1.0035	1.0201
6012	MDN115	115	1.0163	1.0264	0.9958	1.0044
6015	PRO115	115	1.0094	1.0155	1.0009	1.005
6018	CAC115	115	1.0126	1.0193	1.0224	1.0209
6024	CHI115	115	0.9913	1.0039	1.0137	1.0191
6059	LM1115	115	0.9976	1.0127	1.0334	1.0388
6060	LM2115	115	0.9977	1.0127	1.0333	1.0386
6087	CAL115	115	1.0164	1.0238	1.0072	1.0124
6170	CPA115	115	1.0025	1.0136	1.0268	1.0288
6173	STR115	115	0.9994	1.0155	1.0365	1.0411
6261	CHA115	115	1.0141	1.0186	1.0049	1.0095
6290	CATII115	115	0.9978	1.013	1.0337	1.039

REPORTE DE VOLTAJES AÑO 2022						
Bus	Nodo	Base kV	Seca		Lluviosa	
			Dmax	Dmin	Dmax	Dmin
6000	FRONTPRO	230	1.0113	1.0135	1.012	1.0171
6001	PAN230	230	1.0158	1.0407	1.0311	1.0234
6003	PANII230	230	1.0205	1.0413	1.038	1.0248
6005	CHO230	230	1.0214	1.0434	1.0238	1.0218
6008	LSA230	230	1.0273	1.0368	1.0025	1.0131
6011	MDN230	230	1.0132	1.0181	0.9971	1.008
6014	PRO230	230	1.0109	1.0134	1.0107	1.0162
6096	FOR230	230	1.0147	1.02	1.0041	1.0087
6100	BAY230	230	1.0227	1.0442	1.0405	1.0276
6171	PAC230	230	1.0202	1.0417	1.0379	1.0251
6179	GUA230	230	1.0136	1.0198	0.9951	1.0057
6182	VEL230	230	1.0259	1.0318	0.9891	1.0087
6240	EHIG230	230	1.0215	1.0402	1.0019	1.0141
6243	VHE230	230	1.0201	1.0415	1.0378	1.0249
6260	CHA230	230	1.0194	1.0231	1.0213	1.0237
6263	ESP230	230	1.0196	1.0227	1.0245	1.0252
6340	CAN230	230	1.0144	1.0206	1.0023	1.0119
6380	BOQIII230	230	1.0115	1.015	1.0038	1.0114
6400	FRONTCHA	230	1.0204	1.0237	1.0222	1.0244
6401	PM230-29	230	1.014	1.0201	0.9974	1.0079
6440	DOM230	230	1.0068	1.0073	1.0141	1.0179
6460	ECO230	230	1.0211	1.0319	1.0044	1.016
6470	24DIC230	230	1.02	1.0413	1.0377	1.0248
6500	FRONTDOM	230	1.0082	1.0088	1.0145	1.0184
6510	POR230	230	1.0097	1.0115	1.0139	1.0175
6520	SBA230	230	1.029	1.0331	0.9977	1.0123
6550	BEV230	230	1.0263	1.0324	0.989	1.0087
6713	BUR230	230	1.0161	1.0396	1.0227	1.0205
6787	BCA230	230			1.0135	1.0176
6801	SAB230	230	1.0136	1.0396	1.0368	1.0271
6830	ANT230	230	1.0304	1.0457	1.0037	1.0174
6840	PAN3 230	230	1.0166	1.0403	1.0306	1.0232
6861	CHE230	230	1.0222	1.0437	1.04	1.0271
6002	PAN115	115	1.0233	0.9957	1.0095	1.0023
6004	PANII115	115	1.0189	0.9943	1.0114	1.0019
6006	CHO115	115	1.0194	1.043	1.0223	1.0211
6009	LSA115	115	1.028	1.0391	1.0051	1.017
6012	MDN115	115	1.0174	1.0258	1.001	1.0117
6015	PRO115	115	1.0082	1.0123	1.0089	1.0151
6018	CAC115	115	1.0225	0.9955	1.0089	1.0021
6024	CHI115	115	1.0059	0.9859	1.0008	0.9976
6059	LM1115	115	1.0159	0.999	1.0204	1.0162
6060	LM2115	115	1.0159	0.999	1.0203	1.0161
6087	CAL115	115	1.017	1.0232	1.0141	1.0209
6170	CPA115	115	1.0162	0.9951	1.0129	1.0078
6173	STR115	115	1.0187	0.9987	1.0233	1.0167
6261	CHA115	115	1.0137	1.0177	1.02	1.02
6290	CATII115	115	1.0162	0.999	1.0207	1.0163

REPORTE DE VOLTAJES AÑO 2024						
Bus	Nodo	Base kV	Seca		Lluviosa	
			Dmax	Dmin	Dmax	Dmin
6000	FRONTPRO	230	1.0161	1.018	1.0189	1.0147
6001	PAN230	230	1.042	1.0447	1.0355	1.029
6003	PANII230	230	1.0464	1.0458	1.04	1.03
6005	CHO230	230	1.0469	1.0468	1.0399	1.0329
6008	LSA230	230	1.0373	1.0389	1.038	1.032
6011	MDN230	230	1.0192	1.0233	1.0162	1.0131
6014	PRO230	230	1.0155	1.0176	1.0184	1.0138
6096	FOR230	230	1.0212	1.0252	1.019	1.0143
6100	BAY230	230	1.0485	1.0485	1.0455	1.0327
6171	PAC230	230	1.0459	1.0458	1.0399	1.0302
6179	GUA230	230	1.0223	1.0268	1.0186	1.0142
6182	VEL230	230	1.0344	1.0357	1.033	1.0259
6240	EHIG230	230	1.0409	1.0429	1.0346	1.0313
6243	VHE230	230	1.0459	1.0457	1.0397	1.03
6260	CHA230	230	1.0272	1.0315	1.0213	1.0202
6263	ESP230	230	1.0265	1.0305	1.0232	1.0197
6340	CAN230	230	1.0265	1.0328	1.0132	1.016
6380	BOQIII230	230	1.0163	1.0193	1.0164	1.0128
6400	FRONTCHA	230	1.0275	1.0314	1.0221	1.0211
6401	PM230-29	230	1.0244	1.0295	1.0174	1.0155
6440	DOM230	230	1.0141	1.015	1.0168	1.0139
6460	ECO230	230	1.0351	1.0377	1.0395	1.0372
6470	24DIC230	230	1.0458	1.0456	1.0396	1.0299
6500	FRONTDOM	230	1.015	1.016	1.0176	1.0147
6510	POR230	230	1.0142	1.0154	1.0178	1.0148
6520	SBA230	230	1.0385	1.0368	1.0372	1.028
6550	BEV230	230	1.0345	1.0358	1.0327	1.0261
6713	BUR230	230	1.0419	1.0435	1.0363	1.0326
6787	BCA230	230	1.0143	1.0158	1.0185	1.0151
6801	SAB230	230	1.0364	1.0438	1.041	1.0331
6830	ANT230	230	1.0398	1.0429	1.0375	1.0344
6837	CHG230	230	1.0286	1.0349	1.0127	1.0169
6840	PAN3 230	230	1.0427	1.045	1.0362	1.0298
6861	CHE230	230	1.048	1.0479	1.0427	1.0322
6969	STG2A230	230	1.0355	1.0333	1.0341	1.0322
6002	PAN115	115	1.0241	1.0036	1.0173	0.9998
6004	PANII115	115	1.019	1.005	1.0203	1.0042
6006	CHO115	115	1.0443	1.0455	1.0375	1.032
6009	LSA115	115	1.0382	1.0413	1.0374	1.0362
6012	MDN115	115	1.0203	1.0326	1.0104	1.0116
6015	PRO115	115	1.0123	1.0164	1.0156	1.0128
6018	CAC115	115	1.0233	1.0033	1.0166	0.9994
6024	CHI115	115	1.0122	0.9926	1.009	0.9975
6059	LM1115	115	1.0302	1.0063	1.0296	1.018
6060	LM2115	115	1.0301	1.0063	1.0295	1.0178
6087	CAL115	115	1.0193	1.0283	1.0132	1.0139
6170	CPA115	115	1.0247	1.0025	1.0213	1.0076
6173	STR115	115	1.0336	1.006	1.0323	1.0201
6261	CHA115	115	1.0216	1.0261	1.0157	1.0149
6290	CATII115	115	1.0306	1.0063	1.0299	1.0182

REPORTE DE VOLTAJES AÑO 2026						
Bus	Nodo	Base kV	Seca		Lluviosa	
			Dmax	Dmin	Dmax	Dmin
6836	CHG500	500			1.0403	1.039
6839	PAN3 500	500			1.0428	1.0405
6851	REACTOR1	500			1.0403	1.039
6852	REACTOR2	500			1.0428	1.0405
6853	REACTOR3	500			1.0403	1.039
6854	REACTOR4	500			1.0428	1.0405
6000	FRONTPRO	230	1.0196	1.0242	1.0129	1.0152
6001	PAN230	230	1.0258	1.0298	1.0329	1.0329
6003	PANII230	230	1.0296	1.0296	1.034	1.034
6005	CHO230	230	1.0342	1.0363	1.0382	1.0363
6008	LSA230	230	1.0435	1.0435	1.03	1.03
6011	MDN230	230	1.0214	1.0328	1.0101	1.0153
6014	PRO230	230	1.0192	1.0244	1.0119	1.0145
6096	FOR230	230	1.0227	1.0384	1.0115	1.017
6100	BAY230	230	1.0314	1.032	1.035	1.0363
6171	PAC230	230	1.0287	1.0294	1.0323	1.0339
6179	GUA230	230	1.0233	1.0388	1.0116	1.018
6182	VEL230	230	1.041	1.046	1.0226	1.0274
6240	EHIG230	230	1.035	1.0388	1.0317	1.0329
6243	VHE230	230	1.0289	1.0294	1.0328	1.0334
6260	CHA230	230	1.0263	1.0409	1.0212	1.0148
6263	ESP230	230	1.0269	1.0404	1.0208	1.0182
6340	CAN230	230	1.023	1.0441	1.017	1.0225
6380	BOQIII230	230	1.019	1.0268	1.0104	1.0141
6400	FRONTCHA	230	1.0267	1.0399	1.0218	1.0161
6401	PM230-29	230	1.0238	1.0412	1.0143	1.0204
6440	DOM230	230	1.0167	1.019	1.0124	1.0139
6460	ECO230	230	1.0347	1.0382	1.0335	1.0344
6470	24DIC230	230	1.0288	1.0292	1.0328	1.0333
6500	FRONTDOM	230	1.0176	1.0201	1.0131	1.0147
6510	POR230	230	1.0175	1.0204	1.0133	1.015
6520	SBA230	230	1.0484	1.0452	1.0249	1.0289
6550	BEV230	230	1.0407	1.0455	1.0231	1.0276
6713	BUR230	230	1.0274	1.0327	1.0348	1.0352
6787	BCA230	230	1.0183	1.0219	1.0135	1.0154
6801	SAB230	230	1.025	1.0304	1.0375	1.0374
6830	ANT230	230	1.0412	1.044	1.0347	1.0354
6837	CHG230	230	1.0239	1.0461	1.0198	1.0245
6840	PAN3 230	230	1.0267	1.031	1.0346	1.0343
6861	CHE230	230	1.0308	1.0314	1.0336	1.0357
6882	GON230	230	1.029	1.0297	1.0344	1.0343
6969	STG2A230	230	1.0402	1.0384	1.0249	1.0239
6002	PAN115	115	1.009	1.0249	1.0181	1.0165
6004	PANII115	115	1.0097	1.0247	1.0204	1.0159
6006	CHO115	115	1.0306	1.0342	1.0347	1.0349
6009	LSA115	115	1.0428	1.0438	1.0309	1.0321
6012	MDN115	115	1.0217	1.0369	1.0061	1.0131
6015	PRO115	115	1.0159	1.0231	1.0091	1.0133
6018	CAC115	115	1.008	1.0241	1.0172	1.0157
6024	CHI115	115	0.998	1.0188	1.0066	1.0085
6059	LM1115	115	1.0197	1.0413	1.0264	1.0232
6060	LM2115	115	1.0196	1.0412	1.0264	1.0231
6087	CAL115	115	1.0203	1.0314	1.0105	1.0148
6170	CPA115	115	1.0122	1.0315	1.0198	1.018
6173	STR115	115	1.0224	1.0437	1.0295	1.0245
6261	CHA115	115	1.0206	1.0354	1.0154	1.0093
6290	CATII115	115	1.02	1.0416	1.0268	1.0233