



CENACE[®]
CENTRO NACIONAL DE
CONTROL DE ENERGÍA

Niveles de cortocircuito de la Red Nacional de Transmisión 2028

Dirección de Operación y Planeación
del Sistema

Subdirección de Planeación

Unidad de Expansión de la Red

Noviembre de 2025

*Niveles de cortocircuito en las Subestaciones Eléctricas del Sistema Eléctrico Nacional
calculados con base en el Estándar IEC 60909.*

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1. Objetivo

Determinar los niveles de cortocircuito máximos y mínimos en las Subestaciones Eléctricas de la Red Nacional de Transmisión para el año 2028.

2. Fundamento legal

En cumplimiento al requerimiento de los Criterios INTE 11 y CONE 5 de las Disposiciones Administrativas de Carácter General que contienen los criterios de eficiencia, Calidad, Confiabilidad, Continuidad, seguridad y sustentabilidad del Sistema Eléctrico Nacional (Código de Red) publicadas en el Diario Oficial de la federación el 31 de diciembre de 2021, el Centro Nacional de Control de Energía (CENACE) realiza el cálculo y publica anualmente los niveles de cortocircuito máximos y mínimos en los Puntos de Interconexión de Centrales Eléctricas y conexión de Centros de Carga.

3. Consideraciones de cálculo

Los niveles de cortocircuito fueron calculados con base en las siguientes consideraciones:

- a) A fin de calcular los valores máximos y mínimos en los Puntos de Interconexión de Centrales Eléctricas y Conexión de Centros de Carga, se analizaron los escenarios esperados para 2028 con los proyectos de Centrales Eléctricas contempladas en el Programa Vinculante tanto para la Instalación y Retiro de Centrales Eléctricas (PVIRCE) a los que refiere la Ley del Sector Eléctrico del ciclo de planeación 2025.
- b) Para el escenario de mínima capacidad, se considera red completa (sin contingencia) y las condiciones esperadas para invierno de 2028.
- c) Para el escenario de máxima capacidad, se consideran cerrados todos los interruptores y elementos de transmisión que pueden estar en servicio en la Red Nacional de Transmisión.
- d) Los modelos eléctricos del Sistema Eléctrico Nacional (SEN) contemplan las obras ya instruidas por SENER para su construcción por CFE de los programas de ampliación y modernización para la Red Nacional de Transmisión y los elementos de las Redes Generales de Distribución que correspondan al Mercado Eléctrico

Mayorista (PAMRNT) de 2015 a 2024, que estarán en operación para diciembre de 2028 de acuerdo con reporte pormenorizado de la Transportista.

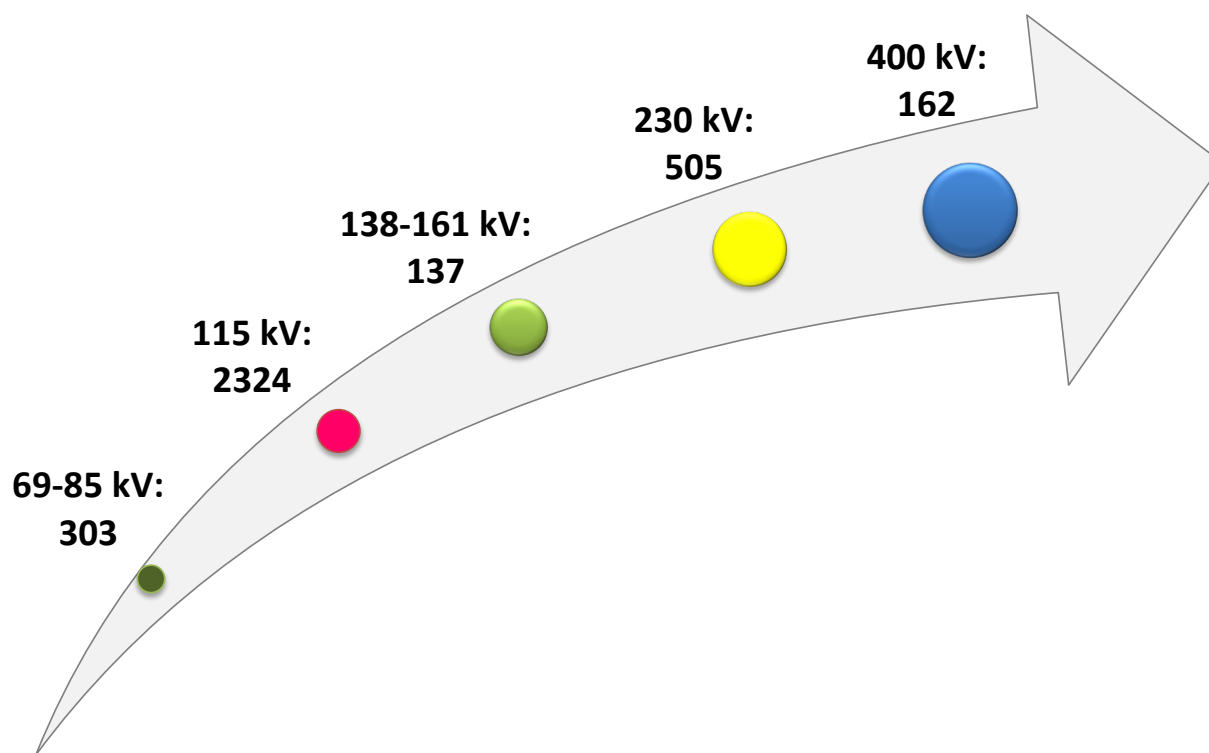
- e) Los modelos eléctricos del SEN se desarrollaron con base en las características reportadas por la Transportista y la Distribuidora.
- f) Los modelos de las Centrales Eléctricas y de los Centros de Cargas programados en los escenarios de estudio son con base en la información proporcionada en las solicitudes de interconexión y de conexión respectivamente que fueron consideradas para el PAMRNT 2025-2039.
- g) El método de cálculo es el establecido en el Estándar IEC 60909.
- h) Para efectos de cálculo se utiliza la herramienta de software PSS®E V36.2, con los siguientes parámetros:
 - Taps de los transformadores unitarios.
 - Reactores de Líneas de Transmisión (LT) y barra en servicio y sin cambio.
 - Susceptancia de las LT sin cambio.
 - Reactancia subtransitoria de las unidades de Centrales Eléctricas.
 - Cargas del sistema eléctrico sin cambio.
 - Para el escenario de máxima capacidad se considera el factor $C = 1.1$.
 - Para el escenario de mínima capacidad se considera el factor $C=1.0$.
- i) Se reporta la magnitud de la corriente simétrica inicial I_k'' (r.m.s.)

Los niveles de cortocircuito calculados pueden variar dependiendo de las impedancias de las unidades de las Centrales Eléctricas, transformadores, autotransformadores, transformadores defasadores, reactores, etc.

4. Niveles de cortocircuito reportados por nivel de tensión y por Gerencia de Control Regional

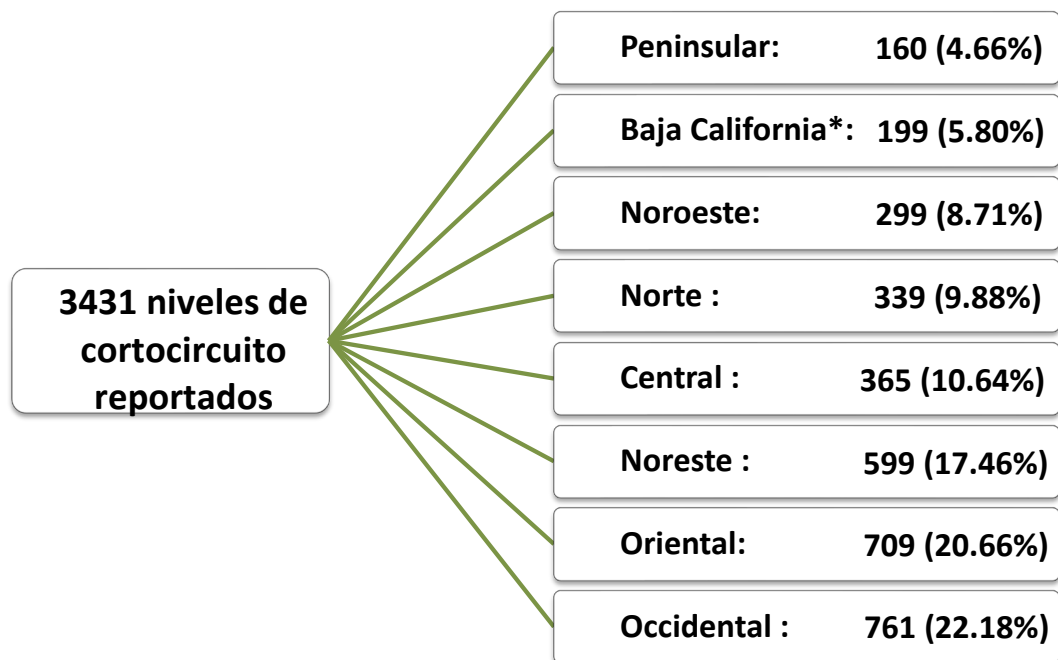
En la figura 1 se muestran los niveles de cortocircuito reportados por nivel de tensión. Se observa que el nivel de tensión con el mayor número de subestaciones eléctricas es 115 kV, con aproximadamente el 68% de los valores reportados.

Figura 1: Niveles de cortocircuito por nivel de tensión



Considerando las diferentes Gerencias de Control Regional, en la figura 2 se indica el número de Subestaciones Eléctricas reportadas por Gerencia de Control Regional, por ejemplo, el 22% de los niveles de cortocircuito reportados corresponde a la Gerencia de Control Regional Occidental.

Figura 2: Niveles de cortocircuito por Gerencia de Control Regional



* Incluye los Sistemas Interconectados Baja California, Baja California Sur y Mulegé

5. Referencias

- [1] Ley del Sector Eléctrico. DOF: 18/03/2025.
- [2] Reglamento de la Ley del Sector Eléctrico. DOF: 03/10/2025.
- [3] Disposiciones Administrativas de carácter general que contienen los criterios de eficiencia, Calidad, Confiabilidad, Continuidad, seguridad y sustentabilidad del Sistema Eléctrico Nacional: Código de Red. DOF: 31/12/2021.
- [4] Programas de ampliación y modernización de la Red Nacional de Transmisión y de los elementos de las Redes Generales de Distribución que correspondan al Mercado Eléctrico Mayorista 2025-2039.
- [5] Estándar IEC 60909 Short-circuit currents in three-phase a.c. systems.
- [6] IEEE Standard 551-2006. Recommended Practice for Calculating Short-Circuit Currents in Industrial and Commercial Power Systems.

Niveles de cortocircuito de la Red Nacional de Transmisión por Gerencia de Control Regional



Gerencia de Control Regional Central



[Regresar a mapa del SEN](#)



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Central

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ACEROS CAMESA	ACM-85	85.0	18.07	10.36	0.490+j2.671	1.208+j8.691	21.17	11.88	0.410+j2.517	1.262+j8.430
ACEROS CORSA	ACS-230	230.0	12.90	9.58	1.724+j10.150	3.794+j20.727	15.13	11.00	1.453+j9.545	3.743+j20.228
ACEROS CORSA	ACC-85	85.0	13.40	6.01	0.689+j3.595	3.219+j16.861	15.50	7.75	0.618+j3.427	2.934+j13.634
ACEROS NACIONALES	ACN-85	85.0	18.25	10.11	0.534+j2.635	1.756+j9.006	20.84	11.90	0.483+j2.545	1.764+j8.234
ACOLMAN	ACO-230	230.0	25.31	19.15	0.877+j5.173	2.129+j10.106	29.55	21.84	0.699+j4.894	2.102+j9.979
ACTOPAN	AAN-85	85.0	5.62	1.93	2.552+j8.355	9.829+j58.109	6.31	2.26	2.463+j8.196	10.971+j53.524
ACULCO	AUO-115	115.0	2.83	1.59	4.222+j23.107	15.009+j76.450	3.12	1.76	4.172+j23.058	15.023+j76.460
AEROPUERTO INTERNACIONAL FELIPE ÁNGELES	AFA-230	230.0	15.57	13.17	1.149+j8.449	1.494+j13.131	18.02	15.22	0.944+j8.049	1.398+j12.513
AGUAVIVA	AGV-85	85.0	5.60	1.46	1.901+j8.556	8.141+j82.731	6.25	1.61	1.843+j8.439	8.141+j82.731
ÁGUILAS	AGU-230	230.0	27.61	28.31	1.156+j4.668	0.690+j4.416	33.01	33.38	0.886+j4.336	0.664+j4.225
AGUSTÍN MILLÁN	ANM-115	115.0	17.91	13.25	0.601+j3.658	1.257+j7.514	21.66	15.37	0.497+j3.335	1.262+j7.392
AIFA MANIOBRAS	AFM-230	230.0	15.83	13.36	1.105+j8.315	1.472+j12.968	18.33	15.45	0.902+j7.918	1.379+j12.357
ALMOLOYA	AML-400	400.0	12.61	10.73	2.816+j18.092	2.115+j27.867	15.74	12.67	1.919+j16.021	2.124+j27.719
ALPURA	ALR-85	85.0	18.56	9.93	0.502+j2.595	1.349+j9.440	22.10	11.42	0.404+j2.409	1.403+j9.179
ALTAMIRANO (115 KV)	ATM-115	115.0	2.74	1.62	6.844+j23.203	20.163+j72.129	3.37	2.36	5.607+j20.914	11.936+j48.134
AMOMOLULCO	AMO-85	85.0	8.93	4.57	1.198+j5.366	2.469+j21.082	10.23	5.19	1.099+j5.160	2.572+j20.529
APAPLASTIC	AAP-85	85.0	9.24	4.67	1.128+j5.191	2.684+j20.782	10.61	5.29	1.029+j4.983	2.787+j20.229
APASCO	APA-230	230.0	19.34	17.30	0.980+j6.797	1.113+j9.227	23.10	20.32	0.770+j6.277	1.081+j8.841
APASCO	APA-85	85.0	18.14	3.62	0.408+j2.675	1.462+j35.297	21.18	4.24	0.353+j2.524	2.459+j33.061
APM TERMINALS	ATS-115	115.0	10.20	9.25	1.068+j6.419	1.497+j8.287	13.56	11.65	0.828+j5.324	1.476+j7.880
ARAGÓN	ARA-230	230.0	18.85	17.80	1.109+j6.955	1.362+j8.193	21.84	20.52	0.897+j6.629	1.294+j7.877
ARAGÓN	ARA-85	85.0	9.13	2.80	0.628+j5.341	0.311+j41.847	11.25	3.15	0.525+j4.770	0.311+j41.847
ARCELIA NUEVA	ANU-115	115.0	2.38	1.44	9.543+j26.261	27.046+j78.046	2.97	2.42	7.639+j23.415	8.609+j40.373
ARCELIA NUEVA	ANU-69	69.0	2.15	2.65	4.078+j18.035	0.616+j8.240	2.52	3.06	3.378+j17.033	0.618+j8.250
ARCELOR MITTAL MANIOBRAS	AMM-230	230.0	11.47	11.25	1.712+j11.450	1.783+j11.680	18.64	16.60	0.789+j7.797	1.740+j10.419
ARMEX	ARX-230	230.0	22.38	17.82	0.842+j5.874	2.037+j10.298	27.25	21.17	0.638+j5.323	1.993+j9.785
ARTEAGA	ATG-115	115.0	2.58	1.91	5.671+j25.062	8.623+j52.161	2.97	2.16	5.384+j24.001	8.574+j51.655
ARTEAGA	ATG-69	69.0	1.95	1.95	4.123+j19.996	2.747+j20.425	2.20	2.19	4.098+j19.472	2.760+j20.206
ATENCO	ATE-230	230.0	17.21	17.84	1.747+j7.516	0.714+j6.900	20.50	21.01	1.363+j6.994	0.674+j6.579
ATENCO	ATE-85	85.0	14.85	7.12	0.643+j3.242	0.984+j14.065	17.54	8.22	0.548+j3.028	1.088+j13.516
ATIZAPÁN	ATI-230	230.0	21.49	17.81	1.178+j6.067	1.773+j9.854	25.05	20.52	0.941+j5.755	1.687+j9.539
ATLACOMULCO	ATU-115	115.0	8.15	5.79	1.609+j7.988	3.288+j17.788	9.10	6.42	1.533+j7.878	3.286+j17.757
ATLACOMULCO INDUSTRIAL	AIN-115	115.0	6.34	4.30	2.315+j10.208	5.336+j24.787	7.06	4.76	2.238+j10.099	5.333+j24.755
ATLACOMULCO POTENCIA	AMP-400	400.0	10.06	8.83	3.336+j22.713	2.565+j32.483	12.22	10.29	2.421+j20.642	2.575+j32.361
ATLACOMULCO POTENCIA	AMP-115	115.0	15.66	14.70	0.599+j4.197	0.355+j5.063	17.78	16.53	0.523+j4.075	0.354+j5.024
ATOTONILCO	ANL-85	85.0	2.89	1.18	4.383+j16.383	17.247+j89.668	3.22	1.36	4.272+j16.190	18.411+j83.709
AURORA	AUR-230	230.0	32.24	32.83	0.842+j4.032	0.596+j3.866	38.51	38.52	0.624+j3.741	0.577+j3.748
AURORA	AUR-85	85.0	20.42	2.82	0.350+j2.377	0.067+j47.360	23.69	3.12	0.300+j2.259	0.067+j47.360
AUTOMETALES	AUM-85	85.0	13.31	6.01	0.712+j3.616	3.308+j16.820	15.42	7.87	0.638+j3.443	2.922+j13.262
AVANDARO	AVA-115	115.0	7.14	4.77	2.613+j8.923	6.737+j22.191	8.24	5.41	2.463+j8.512	6.705+j21.771



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Central

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
AVANTE TEXTIL	AVT-85	85.0	12.90	6.51	0.757+j3.728	1.225+j15.005	15.13	7.50	0.660+j3.507	1.324+j14.399
AYOTLA	AYO-230	230.0	21.30	20.38	1.111+j6.134	0.847+j7.045	24.64	23.44	0.895+j5.860	0.809+j6.799
AYOTLA	AYO-85	85.0	17.10	2.30	0.438+j2.836	2.970+j58.294	19.65	2.54	0.389+j2.720	2.970+j58.294
AZCAPOTZALCO	AZC-230	230.0	34.41	32.48	0.881+j3.757	2.377+j4.031	41.95	38.54	0.631+j3.424	2.315+j3.936
AZTECA	ATK-230	230.0	27.80	26.02	0.831+j4.704	0.785+j5.715	32.74	30.17	0.634+j4.416	0.759+j5.553
BANCOMER	BBV-230	230.0	22.45	11.82	1.151+j5.802	2.163+j21.795	26.28	13.38	0.911+j5.484	2.098+j21.547
BÁRBARA (SANTA)	BBR-115	115.0	7.83	5.39	1.780+j8.290	4.115+j19.572	9.76	7.92	1.419+j7.350	1.858+j12.496
BARRIENTOS	BAR-85	85.0	21.26	11.85	0.460+j2.262	1.339+j7.682	24.43	14.12	0.409+j2.172	1.347+j6.910
BECTON DICKINSON	BDK-85	85.0	18.15	9.73	0.515+j2.654	1.382+j9.628	21.60	11.19	0.416+j2.464	1.436+j9.366
BOSQUES	BOS-230	230.0	24.62	21.59	1.271+j5.241	1.658+j7.493	29.14	24.97	1.011+j4.910	1.624+j7.344
BUENTONO (SCT)	BUT-B1 230	230.0	21.48	20.03	1.138+j6.077	0.999+j7.477	25.10	23.36	0.915+j5.747	0.923+j7.067
BUENTONO (SCT)	BUT-B2 230	230.0	18.56	19.05	1.425+j7.012	0.930+j6.555	21.57	22.10	1.166+j6.671	0.874+j6.232
CAMPO MORADO	CMO-115	115.0	1.80	1.08	11.448+j35.094	32.524+j105.640	2.17	1.61	9.529+j32.270	13.908+j67.729
CAMPOS HERMANOS	CHE-85	85.0	19.54	10.86	0.499+j2.461	1.562+j8.389	22.37	12.85	0.449+j2.371	1.570+j7.617
CANCHESDA NUEVA	CSN-115	115.0	3.08	1.92	5.714+j20.816	15.429+j58.724	3.40	2.11	5.636+j20.710	15.427+j58.692
CARACOL	ROL-230	230.0	23.64	18.33	0.974+j5.533	2.271+j10.272	27.51	20.83	0.787+j5.251	2.262+j10.186
CARBONER	CSR-115	115.0	5.30	4.78	2.566+j12.270	3.576+j16.058	6.39	5.63	2.317+j11.184	3.560+j15.664
CAREAGA	CAR-85	85.0	19.58	7.81	0.478+j2.460	2.673+j13.584	22.53	10.00	0.426+j2.358	2.288+j11.176
CARTAGENA	CTG-230	230.0	28.82	25.50	0.854+j4.528	1.060+j6.326	34.06	29.53	0.644+j4.240	1.032+j6.179
CARTÓN Y PAPEL DE MÉXICO	CPM-230	230.0	28.49	24.86	0.840+j4.585	1.194+j6.605	33.66	28.78	0.640+j4.292	1.168+j6.449
CAYACAL	CAY-115	115.0	7.43	6.70	1.789+j8.752	2.217+j11.568	9.33	8.10	1.534+j7.676	2.184+j11.167
CAÑAS	CNA-69	69.0	1.48	1.22	11.276+j24.531	14.043+j41.839	1.72	1.42	10.879+j23.089	13.509+j39.540
CEILÁN	CEI-230	230.0	23.98	21.77	0.978+j5.452	1.170+j7.141	28.31	25.42	0.740+j5.106	1.124+j6.832
CEMENTOS ANÁHUAC	CAH-85	85.0	18.41	11.05	0.527+j2.613	1.250+j7.890	21.07	12.90	0.474+j2.518	1.298+j7.311
CEMENTOS APASCO	CEA-85	85.0	10.09	2.60	0.880+j4.785	5.004+j46.608	11.45	2.99	0.827+j4.642	6.001+j44.364
CEMENTOS FORTALEZA	CFZ-85	85.0	2.49	1.04	4.774+j19.115	18.239+j101.008	2.76	1.18	4.682+j18.961	19.381+j96.413
CEMENTOS TOLTECA	TLT-85	85.0	9.44	2.37	0.920+j5.115	6.465+j51.440	10.71	2.71	0.868+j4.966	7.463+j49.191
CERRO DEL CAMPO	CCM-115	115.0	3.39	2.30	6.015+j18.624	14.891+j45.045	4.04	2.96	5.316+j17.299	11.444+j36.145
CERRO GORDO	CRG-230	230.0	36.99	37.95	0.719+j3.517	0.459+j3.304	44.68	44.96	0.523+j3.227	0.441+j3.183
CERRO GORDO	CRG-85	85.0	24.77	11.54	0.359+j1.948	1.401+j8.681	29.91	16.54	0.287+j1.782	1.004+j6.099
CERVECERÍA MODELO	CVM-85	85.0	13.80	5.34	0.687+j3.490	7.743+j19.028	15.66	6.51	0.634+j3.389	7.331+j16.579
CHALCO	CHA-230	230.0	16.85	16.61	2.252+j7.552	2.180+j7.942	19.33	18.97	2.033+j7.277	2.137+j7.695
CHALCO	CHA-85	85.0	12.41	1.98	0.746+j3.882	4.764+j66.212	14.12	2.19	0.691+j3.761	4.764+j66.212
CHALCO	CHA-85B	85.0	12.41	1.98	0.746+j3.882	4.764+j66.212	14.12	2.19	0.691+j3.761	4.764+j66.212
CHAPINGO	CPG-230	230.0	39.91	35.39	0.628+j3.267	0.882+j4.531	48.00	41.24	0.449+j3.010	0.866+j4.461
CHICOLAPAN	CHC-230	230.0	22.97	18.04	0.973+j5.699	1.979+j10.340	26.64	20.59	0.775+j5.428	1.923+j10.145
CHIMALPA	MLP-230	230.0	31.75	32.50	1.018+j4.056	0.872+j3.797	38.42	38.31	0.765+j3.724	0.866+j3.730
CHIMALPA DOS	MLD-400	400.0	25.11	23.41	1.884+j9.002	1.799+j11.070	31.77	28.04	1.187+j7.906	1.798+j11.021
CHIMALPA DOS	MLD-230	230.0	33.25	34.24	0.947+j3.879	0.581+j3.612	40.40	40.47	0.695+j3.548	0.577+j3.547
CHRYSLER DE MÉXICO	KDM-85	85.0	12.23	6.57	0.779+j3.938	1.091+j14.388	14.40	7.64	0.677+j3.686	1.186+j13.646



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Central

Subestación Eléctrica	Acronímico	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CIUDAD BICENTENARIO	CDB-115	115.0	6.01	4.85	1.358+j10.956	2.367+j18.846	6.71	5.39	1.296+j10.806	2.361+j18.714
COAPA	COA-230	230.0	18.21	15.94	1.354+j7.164	1.792+j10.269	21.38	18.53	1.063+j6.749	1.688+j9.835
COFRADÍA UNO	CFI-230	230.0	28.13	24.74	0.906+j4.632	0.902+j6.614	33.35	28.62	0.682+j4.326	0.884+j6.495
COMALCO	COM-115	115.0	3.72	2.42	4.343+j17.299	10.709+j45.560	4.12	2.67	4.264+j17.186	10.707+j45.523
CONDESA	CDS-230	230.0	22.16	22.82	1.513+j5.797	1.186+j5.349	26.05	26.78	1.238+j5.468	1.117+j5.021
CONTADERO	CTD-230	230.0	23.65	21.09	1.287+j5.465	1.483+j7.519	27.90	24.48	1.024+j5.135	1.424+j7.286
CONTRERAS	CRS-230	230.0	16.07	13.56	1.491+j8.125	1.287+j12.817	18.51	15.55	1.225+j7.794	1.221+j12.348
COVADONGA	CVD-85	85.0	11.93	2.00	0.760+j4.042	4.417+j65.166	13.54	2.21	0.707+j3.925	4.417+j65.166
COYOACÁN	COY-230	230.0	23.44	24.01	1.341+j5.504	1.288+j5.106	27.65	28.27	1.066+j5.174	1.218+j4.784
COYOTEPEC	CYO-85	85.0	7.82	4.32	2.078+j5.925	5.001+j20.936	10.03	5.05	1.476+j5.174	5.055+j20.671
CRUZ AZUL	CCZ-230	230.0	22.25	18.99	0.740+j5.922	1.568+j8.909	27.27	22.72	0.540+j5.328	1.574+j8.434
CUAJIMALPA	CJM-230	230.0	23.70	22.27	1.185+j5.476	0.839+j6.653	27.99	25.81	0.912+j5.138	0.820+j6.490
CUAUHTÉMOC	CMC-230	230.0	21.95	20.29	1.072+j5.954	1.287+j7.433	25.68	23.69	0.850+j5.624	1.210+j7.026
CUAUTITLÁN	CTT-85	85.0	17.83	9.47	0.567+j2.693	1.604+j9.911	21.93	11.00	0.424+j2.424	1.659+j9.648
CUBITOS	CBT-85	85.0	8.62	2.37	1.344+j5.533	7.683+j50.095	9.89	2.93	1.236+j5.319	8.924+j43.467
CULHUACÁN	CUL-230	230.0	18.90	17.44	1.525+j6.859	1.720+j8.633	22.20	20.43	1.237+j6.461	1.587+j8.143
DART DE MÉXICO	DDM-115	115.0	6.32	4.28	2.323+j10.248	5.365+j24.919	7.03	4.74	2.247+j10.139	5.363+j24.888
DEACERO	DCO-85	85.0	22.25	14.52	0.431+j2.163	0.892+j5.648	25.89	17.03	0.369+j2.052	0.940+j5.249
DEPORTIVA	DVA-400	400.0	15.55	13.64	2.404+j14.654	1.337+j21.104	19.45	16.18	1.541+j12.968	1.324+j20.920
DEPORTIVA	DVA-230	230.0	17.16	17.92	1.340+j7.619	0.461+j6.774	20.13	20.76	1.022+j7.185	0.445+j6.579
DIANA	DAA-230	230.0	22.14	22.84	1.521+j5.802	1.209+j5.319	26.02	26.80	1.246+j5.473	1.139+j4.990
DISTRIBUCIÓN BMX	BMX-85	85.0	17.22	9.06	0.559+j2.795	1.624+j10.412	20.51	10.41	0.453+j2.593	1.678+j10.150
DONATO GUERRA	DOG-400	400.0	16.44	15.53	2.321+j13.853	1.352+j16.422	23.90	20.41	1.271+j10.554	1.382+j15.888
DONATO GUERRA	DOG-115	115.0	28.12	25.79	0.296+j2.342	0.248+j2.989	35.73	31.19	0.201+j2.034	0.252+j2.917
DONATO GUERRA	DOG-115B	115.0	29.15	26.65	0.304+j2.258	0.257+j2.905	37.30	32.47	0.205+j1.947	0.259+j2.811
DOS CARLOS	DCA-85	85.0	5.64	1.87	2.022+j8.462	9.622+j60.696	6.36	2.23	1.914+j8.266	10.787+j54.744
ECATEPEC	ECA-230	230.0	22.70	19.29	1.011+j5.762	1.642+j8.810	26.63	22.36	0.798+j5.428	1.551+j8.493
EL CARMEN	CRM-85	85.0	5.37	1.52	2.590+j8.762	14.021+j77.447	6.68	3.81	2.324+j7.737	6.801+j25.388
EL CERRILLO	ECR-230	230.0	12.94	11.56	2.136+j10.038	1.845+j13.833	15.00	13.44	1.775+j9.575	1.690+j13.011
EL GALLO	ELG-115	115.0	2.13	1.31	7.145+j30.316	19.645+j87.700	2.98	3.23	4.452+j24.065	1.645+j18.871
EL ROSAL	RSL-230	230.0	15.97	13.32	1.474+j8.184	1.341+j13.230	18.38	15.23	1.212+j7.856	1.283+j12.822
EL SALTO	SAO-230	230.0	5.78	6.18	3.824+j22.640	1.744+j18.572	7.59	7.75	2.526+j19.083	1.765+j17.843
EL SALTO	SAO-85	85.0	8.57	1.44	0.928+j5.651	18.243+j88.849	13.49	14.16	0.469+j3.974	0.228+j3.356
EL VIDRIO	EVD-230	230.0	21.17	16.06	1.126+j6.170	2.367+j12.034	24.72	18.38	0.926+j5.835	2.308+j11.798
ESMERALDA	ESR-230	230.0	18.58	18.11	1.119+j7.061	1.236+j7.617	21.51	20.89	0.906+j6.729	1.170+j7.306
ESMERALDA	ESR-230B	230.0	18.58	18.11	1.119+j7.061	1.236+j7.617	21.51	20.89	0.906+j6.729	1.170+j7.306
ESMERALDA	ESR-85	85.0	9.48	2.88	0.581+j5.145	0.000+j40.867	11.68	3.23	0.484+j4.597	0.000+j40.867
ESTADIO	EST-230	230.0	15.91	15.65	1.421+j8.224	0.744+j8.760	18.55	18.06	1.105+j7.797	0.715+j8.485
ESTRELLA	ETR-230	230.0	22.35	20.40	1.711+j5.689	2.700+j7.175	26.37	23.61	1.458+j5.344	2.682+j7.009
ESTRELLA	ETR-230B	230.0	17.16	14.17	1.906+j7.498	3.176+j12.243	20.01	16.23	1.637+j7.113	3.142+j12.003



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Central

Subestación Eléctrica	Acronímico	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
FERROCARRILES NACIONALES	FNL-230	230.0	32.41	31.85	0.805+j4.017	0.620+j4.281	38.87	37.38	0.584+j3.712	0.606+j4.165
FERTIMÉX	FTM-230	230.0	5.90	4.32	3.654+j22.207	11.575+j45.393	8.22	6.06	2.422+j17.610	9.099+j35.937
FORD MOTOR COMPANY	FMC-85	85.0	24.26	14.05	0.374+j1.988	0.736+j6.393	29.16	16.38	0.290+j1.828	0.790+j6.132
FRANCISCO DE LOS REYES	FRR-115	115.0	1.88	1.15	9.710+j33.930	27.470+j99.630	2.08	1.26	9.632+j33.825	27.467+j99.597
FUNDIDORA MÉXICO	FUM-85	85.0	22.36	13.50	0.414+j2.155	0.643+j6.489	26.60	15.68	0.334+j2.002	0.698+j6.228
GENERAL MOTORS	GMC-85	85.0	12.59	6.66	0.755+j3.825	1.342+j14.277	14.89	7.77	0.652+j3.567	1.442+j13.515
GUACAMAYAS	GMV-115	115.0	9.51	8.95	1.249+j6.869	1.324+j8.072	12.40	11.34	0.990+j5.805	1.180+j7.435
GUADALUPE	GUA-85	85.0	14.72	6.56	0.671+j3.267	3.096+j15.481	17.30	9.37	0.586+j3.065	2.343+j10.790
HÉROES DE CARRANZA	HRC-230	230.0	17.06	12.74	1.176+j7.692	3.323+j15.348	20.72	14.94	0.912+j6.989	3.314+j14.882
HIDALGO	HDG-85	85.0	6.57	2.10	1.762+j7.261	8.785+j54.419	7.48	2.50	1.633+j7.026	9.941+j49.358
HIPÓDROMO	HIP-85	85.0	15.84	6.16	0.560+j3.047	3.717+j17.327	18.07	7.63	0.507+j2.944	3.312+j14.880
HUASTECA	HTC-85	85.0	14.86	5.59	0.653+j3.238	7.645+j18.269	16.90	6.85	0.600+j3.137	7.233+j15.820
HUETAMO	HTM-115	115.0	2.44	1.47	6.970+j26.352	19.068+j78.356	3.15	2.52	5.132+j22.615	7.424+j39.848
HUETAMO	HTM-69	69.0	1.78	2.08	3.411+j22.095	0.638+j12.751	2.09	2.40	2.733+j20.825	0.641+j12.809
INDIANILLA	INN-85	85.0	8.77	0.17	0.630+j5.562	0.458+j-876.784	10.16	0.19	0.568+j5.283	0.458+j-876.784
INDUSTRIA DE LA DEFENSA NAL.	IDN-85	85.0	16.19	6.06	0.601+j2.971	5.822+j17.308	18.48	7.50	0.548+j2.869	5.413+j14.860
INDUSTRIA MILITAR	INM-85	85.0	9.83	4.44	1.016+j4.889	5.246+j22.590	11.05	5.31	0.962+j4.789	4.859+j20.180
INDUSTRIAL SAN CRISTÓBAL	ISC-85	85.0	14.74	6.60	0.609+j3.274	3.187+j15.324	17.65	10.12	0.505+j3.017	1.600+j9.758
INDUSTRIAS UNIDAS S. A.	INU-115	115.0	9.51	7.30	1.311+j6.854	2.408+j13.122	10.67	8.12	1.234+j6.733	2.407+j13.084
INFIERNILLO	IFR-69	69.0	0.88	0.91	20.746+j40.328	6.642+j41.543	1.00	1.03	20.337+j38.902	6.830+j41.364
INSURGENTES	INS-85	85.0	17.90	8.07	0.545+j2.686	2.236+j12.557	21.61	12.84	0.449+j2.457	1.173+j7.528
IROLO	IRO-230	230.0	13.15	10.85	1.654+j9.965	2.591+j16.401	15.36	12.62	1.403+j9.408	2.415+j15.554
IUSASOL 1	IUN-115	115.0	15.02	13.87	0.635+j4.376	0.438+j5.504	17.03	15.58	0.557+j4.252	0.436+j5.466
IXTAPALUCA	IXL-230	230.0	21.75	20.82	1.056+j6.013	0.733+j6.905	25.18	23.90	0.842+j5.740	0.710+j6.701
IXTAPAN DE LA SAL	IXS-115	115.0	2.37	1.36	6.046+j27.321	19.105+j88.966	4.42	4.19	3.447+j16.175	5.254+j18.524
IXTAPANTONGO	IXT-115	115.0	11.08	8.27	1.142+j5.883	2.232+j11.902	14.03	11.64	0.869+j5.134	1.260+j8.268
IXTLAHUACA DOS	ITD-115	115.0	10.21	7.87	1.150+j6.400	1.753+j12.168	11.46	8.76	1.073+j6.283	1.751+j12.131
IZTAPALAPA	IZT-230	230.0	21.08	19.01	1.167+j6.190	0.970+j8.323	24.86	22.04	0.899+j5.806	0.936+j8.083
JABÓN LA CORONA	JLC-230	230.0	23.57	20.42	0.954+j5.553	1.412+j8.135	27.52	23.53	0.751+j5.254	1.360+j7.901
JAMAICA	JAM-230	230.0	19.51	20.01	1.300+j6.681	0.826+j6.258	22.73	23.27	1.042+j6.340	0.771+j5.938
JAMAICA	JAM-85	85.0	9.46	0.17	0.477+j5.165	0.041+j-877.953	11.01	0.19	0.416+j4.886	0.041+j-877.953
JASSO	JAS-230	230.0	23.46	20.52	0.714+j5.615	1.172+j8.006	29.06	24.92	0.509+j5.001	1.156+j7.432
JASSO	JAS-85	85.0	14.53	2.50	0.393+j3.355	6.423+j51.854	16.91	2.86	0.340+j3.174	7.421+j49.599
JILOTEPEC	JIL-115	115.0	13.48	10.86	0.590+j4.890	0.988+j8.433	15.02	12.02	0.539+j4.832	1.001+j8.437
JILOTEPEC INDUSTRIAL	JID-115	115.0	12.71	9.86	0.636+j5.186	1.337+j9.653	14.13	10.90	0.586+j5.136	1.351+j9.663
JILOTEPEC POTENCIA	JIP-400	400.0	16.51	9.53	1.753+j13.876	9.096+j43.760	19.45	10.77	1.256+j13.001	9.089+j43.697
JILOTEPEC POTENCIA	JIP-230	230.0	22.88	19.57	0.819+j5.745	1.036+j8.674	27.68	22.74	0.598+j5.242	1.085+j8.629
JILOTEPEC POTENCIA	JIP-115	115.0	16.65	15.17	0.399+j3.967	0.415+j5.136	18.57	16.81	0.349+j3.916	0.429+j5.145
JORGE LUQUE	JOL-85	85.0	28.09	21.48	0.330+j1.716	0.169+j3.361	33.14	25.51	0.270+j1.606	0.224+j3.079
JOROBAS	JRB-230	230.0	23.22	18.71	0.809+j5.662	1.879+j9.679	28.38	22.31	0.605+j5.112	1.834+j9.167



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Central

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
JUANDO	JUA-85	85.0	6.52	2.19	2.172+j7.207	7.171+j51.709	7.32	2.53	2.103+j7.065	8.248+j48.560
JUCHITEPEC	JCP-85	85.0	6.47	1.57	1.579+j7.419	7.281+j78.562	7.24	1.73	1.521+j7.301	7.281+j78.562
JUGOS DEL VALLE	JDV-85	85.0	7.24	3.95	2.137+j6.433	4.440+j23.321	9.01	4.57	1.596+j5.777	4.494+j23.056
JUGOSMEX	JMX-85	85.0	18.11	8.23	0.528+j2.658	2.504+j12.204	21.49	11.11	0.447+j2.472	2.013+j9.335
KILOMETRO 110	KMC-230	230.0	9.88	9.84	2.164+j13.267	1.809+j13.540	12.91	12.83	1.470+j11.218	1.578+j11.413
KILOMETRO 110	KMC-85	85.0	9.35	2.58	0.909+j5.169	3.885+j46.483	11.70	5.22	0.760+j4.551	3.977+j21.423
KILOMETRO 42	KCD-85	85.0	2.11	0.86	9.255+j21.280	50.231+j114.914	2.39	1.18	9.103+j20.658	44.305+j81.215
KILOMETRO 48	KCO-85	85.0	4.31	2.46	2.048+j11.202	6.067+j36.557	6.21	3.58	1.632+j8.539	4.746+j27.328
KILOMETRO CERO	KCR-230	230.0	22.80	21.12	1.010+j5.737	0.894+j7.176	26.74	24.70	0.788+j5.406	0.820+j6.770
LA CEIBA	LAC-115	115.0	2.58	1.60	6.150+j24.968	16.589+j71.489	3.51	3.29	4.097+j20.409	3.650+j24.781
LA COSTEÑA	LCT-85	85.0	17.71	8.10	0.508+j2.724	2.379+j12.405	21.15	11.86	0.421+j2.517	1.494+j8.420
LA ESTANCIA	LES-115	115.0	6.10	4.18	2.887+j10.493	6.921+j24.977	7.06	4.78	2.689+j9.984	6.842+j24.203
LA LOMA	LOM-85	85.0	14.82	7.24	0.686+j3.239	2.995+j13.392	16.80	8.63	0.636+j3.150	2.869+j11.997
LA MIRA	MIR-115	115.0	6.65	5.54	2.259+j9.722	2.920+j15.654	8.20	6.63	1.978+j8.689	2.764+j14.997
LA PAZ	LAP-400	400.0	28.41	27.25	1.620+j7.967	0.962+j9.174	35.61	32.56	1.035+j7.057	0.953+j9.099
LA PAZ	LAP-230	230.0	28.31	30.27	0.873+j4.609	0.364+j3.786	33.31	35.18	0.660+j4.336	0.354+j3.675
LA QUEBRADA	LAQ-85	85.0	18.62	11.73	0.532+j2.582	1.257+j7.165	21.49	13.69	0.469+j2.468	1.302+j6.670
LAFARGE	LFG-230	230.0	19.84	15.01	0.859+j6.639	2.257+j12.969	23.92	17.60	0.653+j6.072	2.241+j12.484
LAGO	LGO-400	400.0	25.53	15.27	1.414+j8.933	4.079+j27.014	31.13	17.49	0.937+j8.106	4.051+j26.950
LAGO	LGO-230	230.0	22.99	22.96	0.824+j5.716	0.919+j5.737	26.63	26.40	0.635+j5.448	0.895+j5.567
LAGO DE GUADALUPE	LDG-230	230.0	27.23	23.39	0.929+j4.787	1.098+j7.206	32.20	26.97	0.704+j4.481	1.081+j7.093
LAS AMÉRICAS	LAR-230	230.0	10.07	6.13	1.581+j13.094	7.622+j37.886	11.35	6.84	1.359+j12.795	7.576+j37.674
LÁZARO CÁRDENAS DISTRIBUCIÓN	LCD-115	115.0	9.41	8.95	1.267+j6.942	1.285+j7.946	12.27	11.21	1.014+j5.867	1.246+j7.525
LÁZARO CÁRDENAS POTENCIA	LCP-400	400.0	11.65	12.69	2.805+j19.627	0.927+j13.913	29.63	32.47	0.553+j8.554	0.290+j5.613
LÁZARO CÁRDENAS POTENCIA	LCP-230	230.0	16.14	19.03	1.203+j8.139	0.212+j4.056	32.71	37.66	0.332+j4.453	0.136+j2.528
LÁZARO CÁRDENAS POTENCIA	LCP-115	115.0	14.09	15.13	0.516+j4.683	0.200+j3.638	20.42	21.08	0.290+j3.565	0.188+j3.213
LECHERÍA	LEC-85	85.0	28.45	21.47	0.327+j1.694	0.176+j3.409	33.62	25.55	0.266+j1.583	0.232+j3.116
LERMA	LER-85	85.0	0.86	0.46	14.719+j54.887	50.752+j200.452	2.56	2.80	2.350+j20.949	0.338+j10.286
LIQUIMEX	LQX-85	85.0	9.98	5.51	1.471+j4.692	3.961+j16.409	12.32	6.37	1.152+j4.229	4.015+j16.145
LOMAS VERDES	LVE-230	230.0	22.80	19.06	1.131+j5.712	1.607+j9.121	26.72	21.97	0.891+j5.394	1.542+j8.873
LOS REYES	RES-230	230.0	25.69	26.54	0.942+j5.082	0.503+j4.671	30.06	30.64	0.728+j4.804	0.493+j4.563
LOS REYES	RES-85	85.0	17.58	2.52	0.435+j2.758	1.870+j52.955	20.19	2.78	0.388+j2.646	1.870+j52.955
MADERO	MAD-230	230.0	23.79	23.00	0.896+j5.509	1.157+j6.062	27.70	26.52	0.700+j5.226	1.123+j5.879
MAGDALENA	MAG-230	230.0	25.63	25.59	1.014+j5.081	0.801+j5.161	30.50	30.09	0.758+j4.729	0.759+j4.926
MAGDALENA	MAG-85	85.0	19.90	2.09	0.377+j2.438	5.704+j65.197	23.93	2.32	0.296+j2.236	5.704+j65.197
MANIOBRAS APROVECHAMIENTO DE RESIDUALES REFINERÍA	APR-MAN	230.0	26.27	22.53	0.624+j5.016	1.242+j7.476	33.15	28.20	0.422+j4.386	1.170+j6.623
MANIOBRAS EVM II	VMA-400	400.0	23.86	21.82	1.222+j9.603	1.261+j12.339	28.72	25.52	0.826+j8.806	1.235+j12.095
MANIOBRAS EVM II	VMA-230	230.0	19.93	16.22	1.044+j6.582	1.667+j11.186	23.44	18.78	0.845+j6.173	1.615+j10.806
MANIOBRAS PARQUES SOLARES	MNS 230.0	230.0	9.02	8.21	1.989+j14.593	3.389+j18.806	12.03	13.21	1.272+j12.075	0.757+j8.851
MERCED (A)	MER-230	230.0	17.66	17.28	1.470+j7.372	1.177+j7.950	20.47	19.97	1.211+j7.032	1.112+j7.595



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MERCED (B)	MER-230B	230.0	17.66	17.28	1.470+j7.372	1.177+j7.950	20.47	19.97	1.211+j7.032	1.112+j7.595
MILAGROS	MGR-230	230.0	24.81	22.86	1.013+j5.256	1.266+j6.617	29.23	26.47	0.775+j4.936	1.237+j6.450
MILLÁN DOS	MDO-400	400.0	15.64	14.19	2.368+j14.575	1.453+j19.211	22.01	18.18	1.333+j11.465	1.475+j18.651
MINERA TIZAPA	MTI-115	115.0	7.36	5.59	1.778+j8.846	3.153+j17.309	8.95	7.09	1.463+j8.027	2.490+j14.319
MOCTEZUMA	MZA-85	85.0	7.89	2.57	0.873+j6.159	1.266+j44.922	9.56	2.88	0.763+j5.593	1.266+j44.922
MORALES	MOS-230	230.0	30.08	28.67	1.036+j4.291	2.710+j4.464	36.19	33.72	0.787+j3.959	2.644+j4.369
MORALES	MOS-85	85.0	17.67	6.60	0.494+j2.733	3.521+j16.383	20.24	8.26	0.441+j2.630	3.117+j13.936
MORELOS	MOR-230	230.0	11.36	9.03	1.822+j11.543	3.717+j20.403	12.90	10.24	1.567+j11.218	3.554+j19.832
NACEL Y NACOBRE	NYN-85	85.0	12.28	5.68	0.867+j3.902	3.336+j17.623	14.10	6.89	0.797+j3.744	3.299+j15.488
NARVARTE	NAR-230	230.0	22.58	23.35	1.458+j5.697	1.234+j5.160	26.57	27.44	1.183+j5.368	1.160+j4.833
NAUCALPAN	NAU-85	85.0	17.67	7.73	0.548+j2.723	2.199+j13.306	20.51	10.72	0.485+j2.586	1.538+j9.727
NECAXA	NEC-85A	85.0	7.86	1.40	1.134+j6.140	18.792+j90.752	12.07	11.97	0.653+j4.425	0.498+j4.481
NECAXA	NEC-85C	85.0	7.86	1.40	1.134+j6.140	18.792+j90.752	12.05	11.95	0.656+j4.431	0.498+j4.481
NECAXA	NEC-85B	85.0	7.86	1.40	1.134+j6.140	18.792+j90.752	12.05	11.96	0.656+j4.431	0.498+j4.481
NESTLÉ	NLE-85	85.0	11.94	6.18	0.821+j4.028	1.566+j15.535	13.98	7.15	0.721+j3.793	1.668+j14.846
NETZAHUALCÓYOTL	NET-85	85.0	14.45	2.46	0.603+j3.341	1.881+j53.109	16.52	2.72	0.550+j3.221	1.881+j53.109
NISSAN	NIS-85	85.0	10.09	5.01	1.019+j4.757	2.554+j19.541	11.64	5.69	0.921+j4.547	2.658+j18.989
NOCHISTONGO	NOC-230	230.0	24.01	20.33	0.763+j5.478	1.493+j8.412	29.56	24.29	0.559+j4.909	1.494+j8.021
NOCHISTONGO	NOC-115	115.0	7.34	6.70	0.979+j8.998	0.886+j11.592	8.21	7.48	0.917+j8.849	0.880+j11.460
NONOALCO	NON-85	85.0	25.32	9.79	0.344+j1.907	1.740+j11.021	32.58	20.44	0.245+j1.639	0.380+j4.599
NOPALA	NOP-400	400.0	28.26	28.74	1.781+j7.976	0.817+j7.753	36.51	35.18	1.092+j6.872	0.811+j7.691
NOPALA	NOP-230A	230.0	29.50	28.40	0.896+j4.411	0.694+j4.986	35.32	33.03	0.652+j4.084	0.695+j4.944
NOPALA	NOP-230B	230.0	29.50	28.40	0.896+j4.411	0.694+j4.986	35.32	33.03	0.652+j4.084	0.695+j4.944
NOPALA	NOP-230C	230.0	29.60	28.73	0.893+j4.396	0.662+j4.862	35.45	33.42	0.649+j4.069	0.664+j4.824
NUEVO FANAL	NFA-85	85.0	21.55	13.98	0.448+j2.233	0.950+j5.895	25.04	16.37	0.386+j2.121	0.998+j5.483
NUTRIGO	NTG-115	115.0	8.23	6.01	1.587+j7.911	2.982+j16.740	9.20	6.67	1.509+j7.794	2.980+j16.703
OCEANÍA	OCE-230	230.0	16.62	15.50	1.619+j7.822	3.233+j9.247	19.21	17.84	1.360+j7.482	3.168+j8.892
OCEANÍA	OCE-230B	230.0	15.32	12.35	1.534+j8.529	9.177+j12.802	17.59	14.07	1.320+j8.197	9.051+j12.469
ODÓN DE BUEN	ODB-230	230.0	15.19	12.89	1.677+j8.578	2.334+j13.231	17.48	14.83	1.399+j8.238	2.190+j12.650
OLIVAR	OLI-230	230.0	23.57	23.39	1.274+j5.488	0.999+j5.692	27.81	27.37	0.999+j5.156	0.959+j5.421
OTUMBA	OTM-230	230.0	18.90	15.31	1.103+j6.938	1.783+j11.914	22.20	17.73	0.899+j6.517	1.725+j11.496
PACHUCA	PAC-85	85.0	8.82	2.45	1.386+j5.389	7.212+j48.583	10.10	2.99	1.280+j5.191	8.377+j42.636
PACHUCA POTENCIA	PHP-400	400.0	11.50	8.59	2.027+j19.975	6.326+j40.068	13.52	9.97	1.492+j18.729	5.929+j38.422
PACHUCA POTENCIA	PHP-230	230.0	9.47	9.73	1.653+j13.925	1.194+j12.880	11.84	12.43	1.176+j12.280	1.048+j10.510
PALIZADA	PLZ-115	115.0	8.03	5.24	2.180+j7.980	5.671+j20.677	9.09	5.85	2.086+j7.760	5.672+j20.601
PANTITLAN	PNT-85	85.0	10.68	2.10	0.941+j4.496	4.313+j60.810	12.12	2.32	0.879+j4.368	4.313+j60.810
PAPELERA EL NEVADO	PDO-115	115.0	4.10	2.44	3.352+j15.831	9.768+j48.146	4.63	2.72	3.201+j15.451	9.771+j48.037
PAPELES HIGIÉNICOS DEL CENTRO	PHC-230	230.0	11.26	8.71	1.903+j11.638	3.911+j21.868	13.17	10.07	1.619+j10.970	3.755+j21.036
PARQUE INDUSTRIAL	PQI-115	115.0	6.57	5.22	1.557+j9.992	2.993+j17.707	7.32	5.80	1.497+j9.859	2.990+j17.604
PARQUE INDUSTRIAL REFORMA	PIR-85	85.0	10.23	2.27	0.899+j4.713	9.164+j54.542	12.09	2.94	0.772+j4.397	10.723+j44.895



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Central

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
PASO DE CORTES	PDC-115	115.0	2.64	1.60	7.886+j23.857	22.526+j70.595	2.93	1.77	7.808+j23.701	22.515+j70.446
PATERA	PAT-85	85.0	13.37	6.06	0.693+j3.605	2.826+j16.716	15.42	7.41	0.623+j3.446	2.789+j14.582
PATLA	PTL-85	85.0	5.65	1.25	2.049+j8.443	22.077+j98.105	8.32	7.79	1.337+j6.349	1.361+j7.620
PEMEX	PMX-230	230.0	26.64	25.54	0.659+j4.941	0.501+j5.614	33.97	32.63	0.452+j4.276	0.442+j4.795
PEMEX	PEX-85	85.0	14.75	5.47	0.660+j3.262	9.007+j18.339	16.78	6.67	0.606+j3.160	8.594+j15.890
PEMEX	PEX-85B	85.0	7.09	0.17	0.744+j6.879	0.187+j-877.409	8.14	0.19	0.683+j6.598	0.187+j-877.409
PEMEX -ZONA LCP	PMX-115	115.0	5.31	4.80	2.540+j12.244	3.583+j16.027	6.42	5.64	2.299+j11.146	3.570+j15.629
PEMEX -ZONA TUL	PMX-115	115.0	6.10	5.69	0.349+j10.871	0.661+j13.225	8.44	10.04	0.216+j8.652	0.226+j4.516
PEMEX AZCAPOTZALCO	PXA-85	85.0	15.97	7.22	0.597+j3.014	2.343+j14.060	18.59	10.22	0.528+j2.856	1.546+j9.922
PENSADOR	PEN-230	230.0	21.20	18.57	1.115+j6.162	2.889+j8.516	24.76	21.62	0.893+j5.832	2.770+j8.091
PENSADOR MEXICANO	PSD-85	85.0	6.88	4.18	1.327+j7.007	2.376+j20.851	8.66	5.22	1.123+j6.133	2.279+j18.385
PENWALT	PEW-85	85.0	19.42	9.30	0.468+j2.483	2.000+j10.584	22.97	12.59	0.395+j2.317	1.604+j8.002
PERALVILLO	PEV-230	230.0	17.55	15.74	1.182+j7.475	4.013+j9.553	20.26	18.10	0.969+j7.143	3.888+j9.221
PITIRERA	PIT-400	400.0	10.93	10.64	3.063+j20.912	2.989+j21.885	25.88	27.14	0.722+j9.790	0.598+j7.811
PITIRERA	PIT-230A	230.0	10.93	11.87	1.481+j12.057	0.718+j8.923	17.26	17.97	0.642+j8.437	0.461+j7.327
PITIRERA	PIT-230B	230.0	10.93	11.87	1.481+j12.057	0.718+j8.923	17.26	17.97	0.642+j8.437	0.461+j7.327
PITIRERA	PIT-230C	230.0	10.93	11.87	1.481+j12.057	0.718+j8.923	17.26	17.97	0.642+j8.437	0.461+j7.327
PITIRERA	PIT-230D	230.0	10.93	11.87	1.481+j12.057	0.718+j8.923	17.26	17.97	0.642+j8.437	0.461+j7.327
PLACERES DEL ORO	PLO-115	115.0	1.63	0.96	11.484+j38.965	34.911+j121.493	1.92	1.24	10.238+j36.683	26.353+j97.028
POLANCO	POO-230	230.0	32.01	30.41	0.927+j4.044	2.618+j4.227	38.72	35.91	0.678+j3.711	2.552+j4.133
PROCTER & GAMBLE	PYG-230	230.0	22.93	18.38	0.831+j5.731	2.085+j9.885	27.99	21.89	0.627+j5.180	2.040+j9.373
PRODUCTORA MEXICANA DE TUB.	PMT-115	115.0	6.57	5.77	2.079+j9.892	2.870+j13.902	8.11	6.89	1.824+j8.816	2.840+j13.503
PROPIMEX	PRO-85	85.0	12.19	6.22	0.807+j3.943	1.464+j15.587	14.27	7.16	0.708+j3.716	1.570+j14.959
PUESTO CENTRAL DE CONTROL	PCC-85	85.0	8.59	0.17	0.660+j5.678	0.566+j-876.484	9.94	0.19	0.599+j5.398	0.566+j-876.484
PUESTO CENTRAL DE CONTROL	PCC-85B	85.0	20.17	7.47	0.513+j2.379	6.638+j13.394	25.11	12.71	0.413+j2.110	5.263+j6.969
REFORMA	REF-85	85.0	11.86	5.22	0.865+j4.046	4.511+j19.403	13.40	6.34	0.812+j3.946	4.124+j16.993
REMEDIOS	REM-230	230.0	38.40	42.28	0.814+j3.361	0.294+j2.505	47.43	50.95	0.565+j3.027	0.285+j2.425
REMEDIOS	REM-85	85.0	32.12	11.06	0.268+j1.504	1.586+j10.137	38.10	15.20	0.217+j1.400	1.201+j7.729
ROBERT BOSCH	RBS-85	85.0	11.98	6.28	0.810+j4.015	1.492+j15.224	14.07	7.27	0.709+j3.772	1.591+j14.508
SAFIMEX	SAF-85	85.0	12.82	6.48	0.762+j3.752	1.230+j15.039	15.03	7.47	0.665+j3.531	1.330+j14.430
SAN ANDRÉS	ANS-85	85.0	13.83	1.92	0.637+j3.491	6.923+j69.062	16.17	2.13	0.553+j3.293	6.923+j69.062
SAN ÁNGEL	SNG-230	230.0	24.59	25.35	1.256+j5.252	0.848+j4.856	29.11	29.85	0.981+j4.922	0.809+j4.568
SAN BERNABÉ	BRN-400	400.0	27.42	26.71	1.846+j8.219	1.124+j9.058	35.25	32.44	1.142+j7.116	1.117+j8.999
SAN BERNABÉ	BRN-230	230.0	29.41	30.94	1.012+j4.401	0.398+j3.848	35.41	36.46	0.739+j4.058	0.390+j3.751
SAN FELIPE DEL PROGRESO	FPG-115	115.0	4.33	2.80	3.735+j14.886	9.634+j39.386	4.80	3.09	3.658+j14.765	9.633+j39.348
SAN FRANCISCO	SSO-85	85.0	11.53	6.80	0.838+j4.174	1.049+j13.147	13.61	7.94	0.729+j3.898	1.139+j12.401
SAN FRANCISCO SOYANIQUILPAN	SFS-230	230.0	12.24	10.48	1.623+j10.730	2.469+j16.116	15.08	12.52	1.217+j9.612	2.470+j15.391
SAN ISIDRO	ISO-115	115.0	6.55	5.30	2.311+j9.865	3.387+j16.920	8.06	6.32	2.029+j8.834	3.221+j16.244
SAN MATEO	SMT-115	115.0	5.02	2.99	2.574+j12.961	7.504+j39.436	5.70	3.34	2.424+j12.580	7.507+j39.327
SAN SEBASTIÁN	SSE-115	115.0	4.44	3.04	3.541+j14.533	10.562+j34.116	4.92	3.35	3.475+j14.443	10.563+j34.106



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Central

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SANTA CRUZ	CRU-400	400.0	27.42	26.13	1.701+j8.247	1.206+j9.652	34.34	31.19	1.090+j7.318	1.193+j9.570
SANTA CRUZ	CRU-230	230.0	30.46	34.30	0.904+j4.265	0.288+j2.905	36.75	40.98	0.652+j3.920	0.270+j2.740
SANTA FÉ	SFE-230	230.0	23.95	22.04	1.267+j5.398	1.284+j6.880	28.28	25.64	1.000+j5.067	1.229+j6.641
SANTIAGO TLAUTLA	STU-115	115.0	5.11	3.60	3.116+j12.619	7.342+j28.430	5.67	3.98	3.057+j12.505	7.343+j28.357
SECRETARÍA DE SEGURIDAD PÚBLICA	SSP-85	85.0	10.28	4.61	0.975+j4.672	5.024+j21.794	11.57	5.54	0.922+j4.572	4.638+j19.384
SEDENA	EDN-85	85.0	16.06	7.40	0.690+j2.976	2.627+j13.537	18.56	10.14	0.627+j2.840	1.965+j9.958
SMURFIT KAPPA	SKP-85	85.0	10.25	4.64	0.856+j4.711	4.186+j21.760	11.69	5.53	0.789+j4.548	4.197+j19.634
SUBESTACIÓN CINCO BOMBEO	ENB-115	115.0	12.35	8.27	0.849+j5.309	2.254+j13.137	14.94	9.51	0.700+j4.838	2.256+j13.064
SUBESTACIÓN CUATRO BOMBEO	ECB-115	115.0	25.46	21.08	0.356+j2.583	0.529+j4.197	32.13	25.17	0.255+j2.259	0.532+j4.115
SUBESTACIÓN DOS BOMBEO	EDB-115	115.0	13.78	9.71	0.816+j4.747	1.888+j10.710	16.86	11.70	0.662+j4.280	1.741+j9.901
SUBESTACIÓN SEIS BOMBEO	ESB-115	115.0	13.87	10.76	0.755+j4.726	1.226+j8.854	16.60	12.40	0.638+j4.352	1.225+j8.772
SUBESTACIÓN TRES BOMBEO	ETB-115	115.0	21.68	16.63	0.434+j3.032	0.842+j5.788	26.95	19.57	0.329+j2.690	0.844+j5.706
SUBESTACIÓN UNO BOMBEO	EUB-115	115.0	10.58	10.11	1.073+j6.181	0.738+j7.128	12.56	11.88	0.935+j5.741	0.716+j6.767
TACUBA	TAC-85	85.0	16.98	7.54	0.576+j2.833	2.243+j13.574	20.15	11.66	0.493+j2.633	1.204+j8.445
TACUBAYA	TYA-230	230.0	22.69	23.12	1.377+j5.687	1.075+j5.432	26.71	27.13	1.103+j5.357	1.013+j5.109
TACUBAYA	TYA-85	85.0	9.51	4.33	1.055+j5.050	5.553+j23.035	10.69	5.16	1.001+j4.950	5.166+j20.625
TAXQUEÑA	TAX-230B	230.0	13.68	11.06	1.752+j9.546	2.751+j16.402	15.68	12.68	1.473+j9.199	2.575+j15.710
TAXQUEÑA	TAX-230	230.0	13.68	11.06	1.752+j9.546	2.751+j16.402	15.68	12.68	1.473+j9.199	2.575+j15.710
TAXQUEÑA	TAX-85	85.0	13.03	1.82	0.567+j3.723	8.147+j72.939	15.14	2.01	0.493+j3.530	8.147+j72.939
TECÁMAC	TCM-230	230.0	16.71	13.71	1.053+j7.878	1.621+j13.065	19.33	15.83	0.855+j7.509	1.526+j12.471
TECAMACHALCO	TEH-230	230.0	24.11	20.97	1.307+j5.351	1.786+j7.782	28.48	24.23	1.046+j5.020	1.747+j7.628
TEJUPILCO	TJP-115	115.0	7.82	6.47	1.823+j8.288	2.703+j13.535	9.45	7.88	1.551+j7.572	2.608+j12.034
TEOLOAPAN	TLP-69	69.0	0.85	1.06	18.250+j43.371	2.367+j19.028	0.95	1.19	17.527+j42.431	2.344+j18.918
TENANGO DEL VALLE	TDV-85	85.0	5.22	3.33	2.284+j9.113	3.022+j25.268	5.93	3.74	2.155+j8.851	3.102+j24.916
TEOTIHUACÁN	TTH-400	400.0	34.00	33.43	1.204+j6.684	0.727+j7.145	43.05	40.38	0.736+j5.855	0.720+j7.030
TEOTIHUACÁN	TTH-230	230.0	36.94	34.40	0.607+j3.543	0.540+j4.380	44.38	40.19	0.433+j3.262	0.533+j4.297
TEPEXIC	TEP-85	85.0	7.10	1.35	1.457+j6.758	19.570+j93.240	10.76	10.36	0.903+j4.936	0.701+j5.489
TEXCALTITLAN	TTT-115	115.0	5.70	4.67	2.506+j11.382	3.804+j18.983	7.05	6.10	2.091+j10.145	3.301+j14.808
TEXCOCO	TEX-400	400.0	35.20	35.60	1.270+j6.436	0.637+j6.362	45.53	43.56	0.757+j5.528	0.639+j6.308
TEXCOCO	TEX-230	230.0	44.97	45.88	0.549+j2.901	0.333+j2.775	55.12	54.22	0.370+j2.624	0.334+j2.765
TIANGUISTENCO	TIA-230	230.0	10.30	8.63	2.611+j12.631	2.987+j20.184	11.88	9.89	2.204+j12.093	2.842+j19.528
TINGAMBATO	TIN-115	115.0	5.69	4.72	2.254+j11.439	3.556+j18.521	7.44	7.00	1.593+j9.685	1.603+j11.456
TIQUICHEO	TQC-115	115.0	1.90	1.16	8.187+j33.964	22.680+j99.205	2.43	1.94	6.120+j29.417	9.578+j52.187
TIZAPA MANIOBRAS	TMA-115	115.0	8.11	6.34	1.617+j8.025	2.692+j14.824	9.98	8.21	1.303+j7.205	2.030+j11.835
TIZAYUCA	TIZ-230	230.0	15.00	11.87	1.199+j8.774	2.190+j15.719	17.39	13.70	0.990+j8.341	2.070+j15.040
TLAPEHUALA	TPA-115	115.0	2.46	1.46	8.367+j25.610	24.492+j78.564	3.01	2.15	6.976+j23.223	13.851+j51.553
TLATELULCO MÓVIL	TTO-85	85.0	9.12	5.98	1.121+j5.260	1.196+j13.851	10.61	6.91	1.007+j4.985	1.270+j13.195
TOLUCA	TOL-230	230.0	15.19	15.07	1.788+j8.557	0.710+j8.968	17.86	17.46	1.421+j8.056	0.685+j8.722
TOLUCA	TOL-85	85.0	14.48	7.83	0.620+j3.331	0.650+j12.039	17.44	9.29	0.515+j3.053	0.742+j11.206
TOLUCA 2000	TDK-230	230.0	11.85	9.95	2.255+j10.979	2.190+j17.509	13.62	11.44	1.917+j10.554	2.048+j16.741



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Central

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TOPILEJO	TOP-400	400.0	28.70	28.25	1.695+j7.866	1.198+j8.388	36.69	34.21	1.048+j6.843	1.193+j8.345
TOPILEJO	TOP-230	230.0	24.47	24.01	0.985+j5.336	0.547+j5.740	28.85	27.78	0.732+j5.010	0.538+j5.626
TOTOLTEPEC	TTC-230	230.0	14.47	13.47	1.962+j8.966	1.531+j11.148	16.94	15.68	1.590+j8.475	1.442+j10.604
TRATAMIENTO AGUAS RESIDUALES	RAT-230	230.0	21.90	19.12	0.760+j6.016	1.347+j8.603	26.73	22.71	0.561+j5.435	1.374+j8.247
TREN AIFA-PACHUCA (ECATEPEC)	SET_1	230.0	14.91	11.57	1.190+j8.826	2.469+j16.444	17.27	13.31	0.982+j8.403	2.370+j15.828
TREN AIFA-PACHUCA (PACHUCA)	SET_2	230.0	9.10	9.00	1.737+j14.486	1.813+j14.996	11.37	11.51	1.245+j12.788	1.579+j12.282
TREN INTERURBANO MÉXICO-TOLUCA DOS	TTD-230	230.0	21.43	19.42	1.279+j6.063	1.515+j7.987	25.12	22.35	1.005+j5.727	1.498+j7.829
TREN INTERURBANO MÉXICO-TOLUCA UNO	TTU-230	230.0	15.18	11.94	1.554+j8.610	3.122+j15.554	17.54	13.52	1.263+j8.233	3.113+j15.443
TREN SUBURBANO	TSU-230	230.0	22.76	20.26	1.028+j5.743	1.836+j7.795	26.82	23.66	0.786+j5.389	1.731+j7.448
TRIMEX	TRX-85	85.0	19.40	10.38	0.494+j2.481	1.483+j9.003	23.59	12.03	0.375+j2.258	1.537+j8.740
TULA	TUL-400	400.0	32.48	31.46	1.085+j7.028	0.698+j7.780	40.25	37.84	0.657+j6.277	0.645+j7.475
TULA	TUL-230	230.0	33.06	35.41	0.518+j3.983	0.197+j3.217	43.53	48.59	0.316+j3.340	0.114+j2.291
TULANCINGO	TLG-85	85.0	6.32	2.16	2.015+j7.494	7.292+j52.231	7.42	3.48	1.858+j7.034	7.647+j30.982
VALLE DE MÉXICO (230 KV)	VAE-230	230.0	47.24	49.06	0.515+j2.763	0.335+j2.491	56.67	57.61	0.366+j2.551	0.325+j2.435
VALLE DE MÉXICO (85 KV)	VDM-85	85.0	11.59	4.70	0.694+j4.176	4.350+j22.452	14.65	9.27	0.521+j3.648	0.936+j10.062
VALLE SAN PEDRO	VAP-230	230.0	31.73	26.64	0.715+j4.124	1.216+j6.479	37.10	30.46	0.554+j3.898	1.200+j6.406
VALLE TULANCINGO	VTU-85	85.0	4.84	1.98	2.708+j9.773	7.640+j53.677	5.61	3.20	2.551+j9.279	7.806+j30.404
VALLEJO	VAJ-230	230.0	22.76	20.26	1.028+j5.743	1.836+j7.795	26.82	23.66	0.786+j5.389	1.731+j7.448
VALLEJO	VAJ-85	85.0	16.86	6.96	0.465+j2.874	2.153+j15.189	19.71	8.65	0.399+j2.709	2.165+j13.063
VERÓNICA	VRN-230	230.0	20.70	19.27	1.238+j6.293	1.647+j7.682	24.15	22.44	1.015+j5.963	1.571+j7.275
VERÓNICA	VRN-85	85.0	14.22	5.73	0.668+j3.386	4.042+j18.343	16.16	7.05	0.615+j3.284	3.638+j15.895
VERÓNICA	VRN-85B	85.0	7.28	0.17	0.699+j6.709	0.053+j-877.911	8.36	0.19	0.637+j6.428	0.053+j-877.911
VERTIZ	VER-230	230.0	18.90	18.60	1.335+j6.900	2.049+j7.099	21.98	21.58	1.077+j6.559	1.968+j6.768
VICTORIA	VIC-400	400.0	26.57	23.19	1.553+j8.553	1.808+j12.371	32.80	27.28	0.992+j7.682	1.798+j12.299
VICTORIA	VIC-230	230.0	35.95	37.88	0.757+j3.615	0.335+j3.128	43.56	45.03	0.537+j3.310	0.320+j3.012
VICTORIA	VIC-85	85.0	27.11	16.40	0.334+j1.779	0.422+j5.346	32.83	19.28	0.253+j1.625	0.477+j5.085
VIDRIERA LOS REYES	VLR-85	85.0	10.73	4.82	0.812+j4.501	3.996+j21.034	12.26	5.76	0.746+j4.338	4.007+j18.908
VIDRIERA TOLUCA	VDT-85	85.0	13.76	6.76	0.705+j3.495	1.162+j14.633	16.19	7.79	0.610+j3.279	1.262+j14.055
VIDRIO PLANO	VPM-85	85.0	11.63	5.75	0.812+j4.142	2.985+j16.909	13.28	7.01	0.745+j3.996	2.842+j14.701
VILLA DE LAS FLORES	VDF-85	85.0	7.49	3.34	1.371+j6.411	7.105+j30.168	9.21	4.73	1.087+j5.762	5.104+j21.917
VILLA GUERRERO	VGU-115	115.0	1.95	1.12	8.007+j33.052	24.341+j107.897	3.32	3.90	5.056+j21.385	4.344+j11.554
VILLITA	VIL-230	230.0	11.21	10.16	2.011+j11.675	2.968+j14.826	20.54	22.58	0.801+j7.067	0.499+j5.382
VILLITA	VIL-115	115.0	11.07	10.74	0.975+j5.920	0.838+j6.399	14.86	14.19	0.711+j4.864	0.596+j5.580
VITO	VIT-85	85.0	9.74	2.44	0.878+j4.963	6.007+j49.837	11.05	2.80	0.826+j4.816	7.006+j47.584
VITRO FIBRAS	VFI-85	85.0	11.68	5.73	0.807+j4.122	3.010+j17.026	13.35	6.98	0.740+j3.975	2.879+j14.831
VOLCÁN GORDO	VOG-400	400.0	7.59	5.81	3.820+j30.190	4.257+j58.178	9.40	6.91	2.680+j26.892	4.169+j55.929
VOLCÁN GORDO	VOG-115	115.0	8.57	8.61	1.411+j7.618	0.559+j7.637	10.56	11.01	1.115+j6.824	0.568+j6.030
XALOSTOC	XAL-230	230.0	22.09	19.54	0.999+j5.929	1.361+j8.261	25.71	22.54	0.794+j5.625	1.302+j7.983
XOCHIMILCO	XOC-230	230.0	19.89	18.19	1.284+j6.552	1.452+j8.435	23.42	21.34	1.001+j6.157	1.330+j7.950
XOCHITLA	XOH-230	230.0	20.57	15.34	1.000+j6.377	2.321+j12.855	23.85	17.47	0.779+j6.074	2.276+j12.643



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
YEBUCIBI	YBC-115	115.0	7.69	5.17	2.177+j8.360	5.372+j20.529	8.64	5.75	2.093+j8.193	5.373+j20.486
ZAPATA ENVASES	ZAE-85	85.0	18.94	10.04	0.512+j2.540	1.534+j9.351	23.08	11.64	0.387+j2.306	1.588+j9.088
ZICTEPEC	ZIC-85	85.0	5.12	2.86	2.319+j9.307	4.853+j32.064	5.84	3.21	2.165+j8.988	4.935+j31.629
ZIRANDARO	ZIR-69	69.0	1.18	0.94	13.161+j31.118	35.288+j49.196	1.35	1.06	12.482+j29.877	35.291+j49.254
ZUMPANGO	ZUM-85	85.0	7.95	2.44	1.273+j6.042	5.423+j47.850	8.97	2.79	1.214+j5.898	6.420+j45.611

Gerencia de Control Regional Oriental



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**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
AB CALSA	ABL-115	115.0	1.86	1.02	8.324+j34.701	33.703+j120.156	2.26	1.36	7.182+j31.545	26.662+j93.302
ABENT 3T	ABT-230	230.0	8.21	9.18	2.104+j16.035	1.064+j11.631	9.69	10.63	1.739+j14.977	1.063+j11.484
ACACOYAUA	AYA-115	115.0	3.13	2.16	6.226+j20.251	16.379+j47.248	3.69	2.52	5.456+j19.003	15.746+j44.771
ACAHUIZOTLA	AHZ-115	115.0	1.94	1.34	9.243+j32.991	17.095+j78.287	2.34	1.54	7.398+j30.364	17.105+j78.106
ACAJETE	ACJ-115	115.0	5.14	3.34	2.560+j12.672	7.021+j33.097	6.13	3.81	2.131+j11.717	6.992+j32.879
ACALA	AAA-115	115.0	4.94	3.56	3.155+j13.051	9.846+j27.514	5.87	4.14	2.754+j12.131	9.728+j26.381
ACAPULCO	APC-115	115.0	5.17	6.66	4.112+j12.159	1.290+j4.013	7.25	9.03	2.430+j9.770	1.320+j3.898
ACATLÁN	ACA-115	115.0	2.85	1.69	7.199+j22.119	17.147+j69.078	3.17	1.87	7.078+j21.960	17.148+j68.928
ACATZINGO	ACZ-115	115.0	4.39	2.75	5.573+j14.073	10.698+j40.847	4.88	3.05	5.491+j13.930	10.690+j40.756
ACAYUCAN	ACY-115	115.0	10.78	7.35	1.251+j6.030	3.087+j14.538	12.97	8.74	1.069+j5.531	2.904+j13.547
ACEROS TLAXCALA	ATX-230	230.0	6.62	4.92	3.536+j19.758	9.289+j39.938	7.67	5.56	3.094+j18.801	9.207+j39.635
ACTOPAN	AOC-115	115.0	2.96	1.91	6.031+j21.575	12.327+j58.150	3.31	2.12	5.859+j21.252	12.315+j58.054
ACUITLAPILCO	ACU-115	115.0	12.43	7.72	1.071+j5.234	3.279+j14.775	14.04	8.61	1.001+j5.104	3.273+j14.718
ADOLFO RUIZ CORTINEZ	ARC-115	115.0	5.12	6.33	4.193+j12.280	1.370+j5.345	7.15	8.47	2.499+j9.910	1.399+j5.232
AEROPUERTO	ARU-115	115.0	16.39	14.90	0.708+j3.988	1.094+j5.168	22.64	19.58	0.443+j3.195	1.012+j4.634
AEROPUERTO	ARP-69	69.0	4.96	3.58	2.064+j7.756	4.529+j16.702	6.36	4.23	1.932+j6.614	4.529+j16.716
AGRONITROGENADOS	ARG-115	115.0	6.88	4.42	1.686+j9.496	4.985+j25.384	7.89	5.05	1.578+j9.120	4.782+j24.475
AGUA DULCE DOS	ADD-115	115.0	5.23	3.99	2.823+j12.374	5.637+j23.973	5.89	4.45	2.758+j12.091	5.627+j23.794
AGUA FRÍA	AGF-69	69.0	2.83	2.62	4.593+j13.306	4.982+j16.724	3.38	3.03	4.440+j12.182	4.982+j16.737
AGUA SANTA	AGA-115	115.0	9.57	5.61	1.372+j6.803	5.678+j20.924	10.80	6.26	1.288+j6.638	5.671+j20.781
AGUA ZARCA	AZA-115	115.0	1.58	0.92	15.257+j39.162	36.122+j126.485	1.79	1.03	14.261+j38.342	35.912+j125.780
ALMECATLA	LML-115	115.0	35.67	29.59	0.316+j1.834	0.506+j2.991	43.11	35.20	0.245+j1.676	0.487+j2.819
ALTOTONGA DOS	TTG-115	115.0	9.07	9.42	1.226+j7.220	0.529+j6.499	11.58	11.84	0.869+j6.247	0.446+j5.830
ALTZAYANCA	AZY-115	115.0	5.55	3.52	3.247+j11.513	7.506+j31.777	6.25	3.92	3.120+j11.254	7.515+j31.688
ALTZAYANCA MANIOBRAS	AZM-230	230.0	6.96	5.08	3.159+j18.823	9.877+j39.191	8.40	6.03	2.543+j17.200	9.192+j36.612
ALUMINIO	AMN-115	115.0	19.01	20.07	0.600+j3.441	0.557+j2.901	26.49	26.21	0.362+j2.733	0.545+j2.790
ALVARADO DOS	AVD-115	115.0	1.96	1.12	10.648+j32.119	30.412+j105.615	2.29	1.44	9.497+j30.448	23.361+j84.802
AMATLAN DOS	ATD-230	230.0	7.96	7.99	2.794+j16.440	1.495+j16.523	9.88	9.56	2.108+j14.629	1.468+j16.237
AMATLAN DOS	ATD-115	115.0	15.98	17.82	0.746+j4.086	0.238+j2.884	20.01	21.75	0.565+j3.605	0.230+j2.773
AMOZOC	AMZ-115	115.0	7.26	4.70	3.156+j8.590	6.304+j23.267	8.12	5.22	3.080+j8.451	6.303+j23.208
ANA CHIAUTEMPAN SANTA	ANC-115	115.0	14.68	9.59	0.995+j4.413	2.817+j11.424	16.65	10.71	0.925+j4.287	2.812+j11.382
ANDRÉS DOS SAN	ADS-115	115.0	2.08	1.17	11.235+j29.960	27.016+j103.413	2.67	2.31	8.432+j26.015	8.972+j39.308
ANGOSTURA	ANG-400	400.0	7.19	7.19	5.864+j31.564	4.445+j31.984	15.70	19.02	1.447+j16.111	0.352+j7.162
ANGOSTURA	ANG-115	115.0	13.02	12.61	0.782+j5.039	0.471+j5.603	18.64	19.21	0.349+j3.902	0.102+j3.541
ANTUÑANO	AUN-115	115.0	19.03	12.70	0.859+j3.383	1.655+j8.577	21.96	14.36	0.782+j3.233	1.649+j8.460
APAXTLA SWITCHEO	AXM-115	115.0	2.21	1.56	9.525+j28.551	19.754+j64.413	2.70	1.81	7.661+j25.977	19.725+j63.695
APIZACO DOS	API-115	115.0	11.28	7.88	1.391+j5.719	3.536+j13.072	12.76	8.80	1.305+j5.573	3.525+j13.010
AQUASISTEMAS	ASI-115	115.0	2.60	2.53	5.981+j24.838	7.266+j26.984	3.19	3.00	4.902+j22.337	7.151+j26.614
ARRIAGA	ARR-115	115.0	2.63	2.71	7.079+j24.200	3.023+j22.971	3.07	3.11	6.353+j22.904	3.013+j22.757
ATENCINGO	AEN-115	115.0	1.80	1.05	11.448+j35.042	28.884+j113.120	1.99	1.15	11.342+j34.901	28.879+j112.988



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental**

Subestación Eléctrica	Acronímico	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
AEXCACO	AXO-115	115.0	3.40	2.58	4.705+j18.979	11.485+j36.469	4.58	4.57	3.199+j15.635	2.079+j15.892
ATLIHUETZIA	ATZ-115	115.0	17.24	12.64	0.910+j3.741	2.007+j7.858	19.68	14.17	0.838+j3.616	2.004+j7.834
ATLIXCO	ATC-115	115.0	7.99	4.59	1.844+j8.100	6.783+j25.925	8.98	5.11	1.757+j7.944	6.770+j25.781
ATLIXCOYOTL	AXT-115	115.0	21.32	13.59	0.736+j3.026	1.913+j8.232	24.81	15.48	0.657+j2.869	1.900+j8.060
AUTO MANUFACTURAS	AMF-115	115.0	16.90	12.51	0.652+j3.873	1.906+j7.869	19.07	13.96	0.597+j3.783	1.909+j7.832
AYUTLA	AYT-115	115.0	0.83	0.47	25.333+j76.023	64.412+j256.319	0.92	0.52	24.310+j75.248	64.191+j255.595
BACHAJON	BAC-115	115.0	1.13	0.70	18.644+j55.590	55.933+j155.688	1.26	0.78	18.319+j55.006	55.953+j155.233
BALSAS	BAA-115	115.0	3.33	2.69	6.414+j18.879	11.819+j32.008	4.33	3.26	4.589+j16.250	11.792+j31.296
BARRA NORTE	BRN-115	115.0	3.06	3.26	4.901+j21.133	4.414+j17.165	3.42	3.64	4.796+j20.787	4.383+j16.962
BELISARIO DOMÍNGUEZ	BDZ-115	115.0	5.90	4.92	3.010+j10.849	3.987+j17.518	7.53	6.17	2.208+j9.445	3.613+j15.647
BELISARIO DOMÍNGUEZ II	BDD-115	115.0	2.26	1.48	9.440+j27.867	24.922+j71.333	2.61	1.69	8.581+j26.641	24.489+j69.284
BENITO JUÁREZ	BJU-115	115.0	7.05	5.48	1.661+j9.276	2.525+j17.525	8.25	6.35	1.497+j8.729	2.475+j16.792
BENTELER	BEN-115	115.0	15.68	9.54	1.028+j4.107	2.209+j12.233	17.91	10.70	0.954+j3.965	2.207+j12.149
BERRIOZÁBAL	BRZ-115	115.0	7.32	5.15	1.668+j8.913	3.941+j20.180	8.73	5.91	1.380+j8.252	3.935+j19.959
BII HIOXO	BII-115	115.0	4.36	5.07	1.521+j15.145	0.325+j8.862	5.63	6.33	1.197+j12.917	0.310+j8.659
BII HIOXO	BII-115B	115.0	3.43	4.16	2.114+j19.234	0.288+j9.211	4.88	5.63	1.392+j14.893	0.274+j8.992
BII NEE STIPA	BNS-115	115.0	5.87	7.67	1.551+j11.203	0.231+j3.532	7.51	9.54	1.082+j9.667	0.242+j3.610
BII STINÚ I	BSU-115	115.0	7.57	9.83	1.520+j8.635	0.230+j2.903	10.08	12.64	1.054+j7.168	0.239+j2.949
BII STINÚ II	BSD-230	230.0	4.90	5.34	2.496+j26.979	2.089+j20.324	6.77	6.93	1.807+j21.497	2.029+j20.021
BIO PAPEL PRINTING	BPP-115	115.0	7.49	5.48	1.856+j8.665	3.169+j18.421	9.50	7.68	1.472+j7.547	1.967+j13.158
BOCA DEL RIO	BDR-115	115.0	14.73	10.38	0.880+j4.420	2.034+j9.984	21.19	15.73	0.527+j3.405	1.245+j6.918
BOCHIL	BCH-115	115.0	3.66	2.33	4.336+j17.632	10.403+j48.043	4.19	2.61	4.029+j16.947	10.404+j47.866
BONFIL	BNL-115	115.0	4.82	5.11	4.498+j13.013	2.309+j11.233	6.55	6.51	2.823+j10.786	2.311+j11.086
BOSQUES	BOE-115	115.0	19.19	13.46	0.670+j3.394	1.680+j7.709	22.08	15.18	0.598+j3.254	1.680+j7.651
BRIDGESTONE	BDG-115	115.0	8.44	6.80	1.343+j7.755	2.422+j13.339	9.51	7.60	1.209+j7.587	2.408+j13.263
BUENA VISTA	BVI-115	115.0	6.57	4.40	2.036+j9.898	6.414+j24.286	8.02	5.06	1.841+j8.920	6.415+j24.254
BUGAMBILIAS	BGB-115	115.0	18.13	11.15	0.872+j3.558	2.638+j10.217	20.97	12.73	0.789+j3.392	2.597+j9.928
BUGAMBILIAS SF6	BGS-115	115.0	17.96	11.01	0.884+j3.590	2.680+j10.370	20.77	12.56	0.801+j3.425	2.639+j10.081
CACALUTA	CLU-115	115.0	1.40	0.82	15.018+j45.090	41.153+j143.590	1.56	0.92	14.602+j44.619	40.268+j139.754
CACTUS PEMEX	CAX-115	115.0	7.52	7.35	1.731+j8.656	1.754+j9.661	9.00	8.53	1.475+j7.976	1.752+j9.625
CACTUS SWITCHEO	CSX-115	115.0	16.96	19.32	0.565+j3.874	0.196+j2.893	19.96	22.41	0.484+j3.626	0.188+j2.828
CALPULALPAN	CPL-115	115.0	4.27	3.68	4.938+j14.755	4.282+j22.706	4.66	4.04	5.006+j14.855	4.265+j22.611
CANTICAS	CIC-115	115.0	13.76	10.72	1.015+j4.718	1.687+j8.947	16.61	12.53	0.900+j4.304	1.687+j8.661
CAPILLA	CAP-115	115.0	4.82	2.96	3.042+j13.445	10.653+j38.281	7.00	4.75	2.195+j10.197	7.398+j24.237
CARACOL	CRL-230	230.0	3.29	3.06	10.453+j38.952	9.393+j48.538	8.89	10.36	1.638+j16.340	0.305+j8.926
CARACOL	CRL-115	115.0	1.79	1.21	11.463+j35.352	25.097+j86.420	2.14	1.39	9.591+j32.783	25.067+j85.700
CARDEL	CAE-115	115.0	3.98	3.37	3.306+j16.351	3.783+j25.473	4.42	3.74	3.232+j16.190	3.770+j25.360
CÁRDENAS	CDN-115	115.0	11.10	9.72	1.280+j5.841	1.857+j8.430	12.98	11.14	1.142+j5.510	1.830+j8.288
CÁRDENAS CENTRO	CDC-115	115.0	10.29	8.33	1.693+j6.228	2.799+j10.748	11.97	9.49	1.558+j5.899	2.766+j10.594
CÁRDENAS DOS	CDD-230	230.0	8.85	8.66	2.469+j14.792	2.483+j16.210	11.14	10.59	1.862+j12.974	2.311+j15.211



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CÁRDENAS DOS	CDD-115	115.0	13.44	13.45	0.805+j4.874	0.611+j5.010	15.98	15.75	0.662+j4.522	0.566+j4.811
CÁRDENAS SUR	CSU-115	115.0	9.28	7.40	2.239+j6.797	2.968+j12.390	10.73	8.41	2.107+j6.469	2.905+j12.187
CARLOS A. CARRILLO	CAC-115	115.0	3.90	2.39	5.284+j16.198	13.934+j47.247	4.54	2.87	4.876+j15.319	12.620+j42.392
CASABLANCA	SBL-115	115.0	9.91	7.43	1.240+j6.581	2.631+j13.262	11.55	8.41	1.079+j6.231	2.628+j13.229
CATEMACO	CTO-115	115.0	2.26	1.27	10.368+j27.516	24.514+j94.778	2.94	2.67	7.661+j23.611	7.168+j31.668
CAVERNAS TUZANDEPETL	CVN-115	115.0	13.50	10.06	1.031+j4.808	1.969+j9.856	16.48	11.67	0.893+j4.341	1.972+j9.756
CAYACO	CAY-115	115.0	5.90	6.89	3.782+j10.607	0.979+j6.413	8.54	9.34	2.099+j8.289	0.990+j6.276
CAZONES	CZN-115	115.0	8.39	6.29	1.096+j7.835	3.224+j15.547	10.85	7.47	0.879+j6.676	3.224+j15.530
CD. HIDALGO. CHIAPAS.	CGO-115	115.0	2.05	1.45	9.519+j30.951	25.849+j67.455	2.35	1.64	8.853+j29.838	25.907+j66.648
CD. INDUSTRIAL VILLAHERMOSA	CIH-115	115.0	14.06	12.56	0.875+j4.640	1.071+j6.449	16.79	14.49	0.718+j4.290	1.070+j6.421
CEBADAS Y MALTA	CBM-115	115.0	4.06	3.43	5.204+j15.516	5.046+j25.027	4.43	3.76	5.272+j15.616	5.029+j24.932
CECILIO DEL VALLE	CCL-69	69.0	1.71	1.96	1.961+j23.243	1.048+j14.316	2.99	3.77	0.863+j14.648	0.197+j5.466
CEFERESO	CFS-85	85.0	2.51	1.36	3.780+j19.206	12.928+j67.925	2.80	1.51	3.631+j18.907	12.926+j67.687
CEFERESO VILLACOMALTITLAN	CFV-115	115.0	3.01	2.08	6.499+j21.077	16.937+j48.598	3.54	2.42	5.702+j19.829	16.425+j46.364
CELANESE	CLS-115	115.0	11.99	8.63	1.214+j5.403	2.430+j11.830	14.45	9.94	1.076+j4.937	2.433+j11.729
CELCSA MANIOBRAS	CCB-115	115.0	13.35	12.00	0.825+j4.906	0.886+j6.950	15.83	13.89	0.732+j4.555	0.882+j6.789
CEMENTOS APASCO (TABASCO)	CEM-115	115.0	5.17	4.18	2.854+j12.521	7.877+j20.599	6.09	4.79	2.518+j11.732	7.864+j20.465
CEMENTOS APASCO S.A. DE C.V.	CSS-115	115.0	5.76	7.28	3.909+j10.837	0.478+j4.389	8.33	10.05	2.219+j8.483	0.489+j4.256
CEMENTOS CRUZ AZUL (OAXACA)	CCA-115	115.0	4.62	3.27	4.458+j13.672	7.752+j31.273	5.42	3.71	4.147+j12.822	7.724+j31.200
CEMENTOS MOCTEZUMA (MORELOS)	CUM-230	230.0	12.55	11.88	1.887+j10.411	2.295+j12.159	15.03	13.80	1.378+j9.622	2.287+j12.102
CEMENTOS MOCTEZUMA(APAZAPAN)	CMT-115	115.0	4.18	2.75	3.141+j15.578	5.728+j40.183	4.71	3.07	2.946+j15.221	5.707+j40.060
CEMENTOS TOLTECA	TOC-230	230.0	8.45	6.85	2.217+j15.559	5.489+j26.198	9.61	7.67	1.967+j15.073	5.487+j26.190
CEMENTOS VERACRUZ	CVE-115	115.0	10.48	8.32	1.199+j6.218	2.682+j10.962	12.52	9.60	1.024+j5.745	2.683+j10.840
CENTENARIO	CIO-85	85.0	3.72	2.26	2.368+j12.993	6.263+j38.121	4.19	2.52	2.225+j12.686	6.261+j37.885
CENTRAL EÓLICA SURESTE UNO FASE DOS	SUD-230	230.0	8.08	10.72	1.436+j16.363	0.729+j4.297	12.57	15.90	0.861+j11.586	0.725+j4.267
CENTRO DE EXPOSICIONES Y CONVENCIONES FUERTES	CEF-115	115.0	15.38	9.00	1.046+j4.188	2.575+j13.273	17.56	10.08	0.972+j4.045	2.573+j13.189
CERRO AZUL DOS	CDO-115	115.0	4.12	2.38	3.730+j15.670	19.410+j47.856	4.62	2.64	3.641+j15.380	19.399+j47.770
CERRO DE ORO	EDO-400	400.0	16.88	17.92	2.286+j13.493	1.388+j11.410	27.51	25.81	1.051+j9.176	1.353+j10.958
CERRO DE ORO	EDO-115	115.0	18.55	18.00	0.358+j3.561	0.184+j3.937	25.43	23.33	0.194+j2.865	0.209+j3.597
CERVECERA DE VERACRUZ1	CVR-230	230.0	8.18	6.60	2.524+j16.031	6.126+j27.318	10.31	7.82	1.865+j14.050	6.151+j27.061
CERVECERÍA DEL TRÓPICO	CVT-115	115.0	5.89	4.10	2.079+j11.087	4.633+j25.793	6.83	4.68	1.909+j10.522	4.610+j25.188
CERVECERÍA MOCTEZUMA (ORIZABA)	CMA-115	115.0	11.45	10.26	1.575+j5.580	1.730+j7.655	14.40	12.60	1.294+j4.906	1.639+j7.058
CHAPULCO	CPO-115	115.0	8.68	2.93	1.436+j7.512	12.553+j51.244	9.78	3.25	1.351+j7.342	12.580+j50.947
CHICONTEPEC	CHI-115	115.0	3.10	3.74	5.134+j20.784	1.675+j10.401	3.44	4.16	5.072+j20.592	1.645+j10.216
CHIGNAHUAPAN	CHH-115	115.0	2.79	1.71	6.293+j22.955	19.236+j66.241	3.09	1.89	6.189+j22.789	19.205+j66.088
CHILAPA	CIP-115	115.0	3.51	3.25	5.031+j18.249	5.447+j22.718	4.60	3.99	3.147+j15.563	5.444+j22.436
CHILAPAN	CHP-115	115.0	2.18	1.23	10.754+j28.421	25.467+j97.920	2.89	2.79	7.719+j24.069	5.943+j27.371
CHILPANCINGO	CHG-115	115.0	4.45	4.34	4.439+j14.259	2.804+j15.915	6.22	5.56	2.559+j11.465	2.806+j15.657
CHILPANCINGO	CHG-69	69.0	1.60	1.72	1.989+j24.847	0.000+j19.845	2.13	2.31	1.277+j20.563	1.623+j15.612
CHILPANCINGO DOS	CCS-115	115.0	5.11	5.67	3.771+j12.426	1.139+j9.201	7.39	7.62	1.953+j9.682	1.140+j8.920



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Oriental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CHILPANCINGO POTENCIA	CGP-230	230.0	3.35	3.67	11.778+j37.856	4.413+j29.250	5.34	5.26	5.095+j26.897	4.540+j27.989
CHILPANCINGO POTENCIA	CGP-115	115.0	5.23	6.22	3.626+j12.159	0.574+j6.737	7.61	8.53	1.817+j9.427	0.573+j6.460
CHINAMECA DOS	CHD-115	115.0	19.30	15.87	0.598+j3.389	0.872+j5.715	24.96	19.44	0.441+j2.893	0.839+j5.418
CHINAMECA POTENCIA	CHM-400	400.0	9.06	8.44	3.463+j25.257	4.530+j31.471	13.82	11.31	2.130+j18.252	4.426+j30.543
CHINAMECA POTENCIA	CHM-115	115.0	21.68	20.19	0.487+j3.024	0.429+j3.834	28.45	25.21	0.341+j2.544	0.414+j3.601
CHONTALPA	CHT-115	115.0	4.03	2.94	4.042+j15.984	12.528+j32.669	4.53	3.27	3.899+j15.661	12.501+j32.528
CIA. GRESS	GRE-115	115.0	13.06	8.29	1.065+j4.973	3.285+j13.499	14.76	9.24	0.994+j4.846	3.278+j13.454
CICLO COMBINADO	CBE-115	115.0	20.47	19.77	0.296+j3.230	0.161+j3.594	22.95	22.08	0.256+j3.172	0.158+j3.559
CICLO COMBINADO CENTRO (HUEXCA)	CBE-400	400.0	19.16	19.76	1.562+j11.951	0.873+j10.979	22.92	23.07	1.094+j11.029	0.853+j10.844
CINCO DE MAYO	CIY-115	115.0	15.47	9.94	1.069+j4.157	3.015+j11.062	17.77	11.28	0.986+j3.991	2.991+j10.810
CINTALAPA DOS	CIT-115	115.0	6.29	4.39	2.213+j10.325	4.765+j23.823	7.41	5.00	1.910+j9.668	4.761+j23.637
CIUDAD MODELO	CDM-230	230.0	5.19	3.65	4.068+j25.272	14.549+j56.162	6.11	4.24	3.443+j23.654	13.860+j53.577
CIUDAD PEMEX	CPX-115	115.0	7.14	5.63	1.425+j9.183	2.985+j16.584	8.67	6.53	1.094+j8.357	2.976+j16.477
CIUDAD TEXTIL	CDX-115	115.0	10.17	6.30	1.180+j6.424	4.673+j17.997	11.38	7.00	1.120+j6.317	4.650+j17.917
CIVAC	CIV-115	115.0	10.59	9.50	1.055+j6.181	1.214+j8.336	12.01	10.68	0.921+j6.012	1.200+j8.260
CLORO DE TEHUANTEPEC	CLO-115	115.0	13.13	9.57	0.904+j4.975	1.852+j10.633	15.96	11.06	0.753+j4.515	1.855+j10.532
COAPAN	CPA-115	115.0	4.57	2.77	4.028+j13.955	10.037+j41.770	5.11	3.07	3.889+j13.741	10.032+j41.653
COATEPEC	COP-115	115.0	4.60	3.62	2.923+j14.150	5.373+j25.531	5.30	4.11	2.595+j13.527	5.343+j25.190
COATZACOALCOS DOS	CTS-400	400.0	11.33	11.68	2.922+j20.170	2.227+j19.136	17.35	16.03	1.583+j14.552	2.219+j18.351
COATZACOALCOS DOS	CTS-115	115.0	27.01	26.71	0.352+j2.433	0.273+j2.651	35.40	33.52	0.243+j2.049	0.263+j2.471
COATZINTLA	CZT-115	115.0	11.37	11.15	0.874+j5.775	1.903+j5.938	16.17	14.40	0.643+j4.470	1.903+j5.922
COGENERACIÓN DE ENERGÍA LIMPIA DE COSOLEACAQUE	CGC-115	115.0	11.93	11.39	0.885+j5.494	0.617+j6.803	13.94	13.10	0.805+j5.176	0.606+j6.631
COGENERACIÓN NUEVO PEMEX	CNX-115	115.0	16.96	19.32	0.565+j3.874	0.196+j2.893	19.96	22.41	0.484+j3.626	0.188+j2.828
COLOTLIPA	CLT-69	69.0	0.86	0.96	12.544+j44.595	22.968+j26.159	1.31	1.49	7.059+j32.585	10.918+j19.449
COMALA PROVISIONAL	CML-115	115.0	1.61	1.13	13.783+j38.854	27.823+j89.662	1.79	1.30	13.451+j38.566	26.275+j83.089
COMALCALCO	COM-115	115.0	8.50	7.74	1.677+j7.634	3.641+j9.589	9.80	8.81	1.528+j7.290	3.589+j9.437
COMALCALCO ORIENTE	CAO-115	115.0	8.84	8.31	1.422+j7.371	2.107+j8.805	10.24	9.52	1.266+j7.019	2.034+j8.586
COMALCALCO POTENCIA	CMP-230	230.0	5.73	5.25	3.979+j22.830	5.695+j29.393	6.83	6.13	3.350+j21.130	5.445+j28.472
COMALCALCO POTENCIA	CMP-115	115.0	9.14	9.03	1.292+j7.149	1.378+j7.495	10.60	10.40	1.136+j6.794	1.301+j7.244
COMALCALCO SUR	CMU-115	115.0	7.03	5.99	2.345+j9.150	5.256+j13.514	8.03	6.76	2.208+j8.821	5.211+j13.366
COMITÁN	CJT-115	115.0	1.52	1.01	14.799+j41.093	42.608+j100.384	1.73	1.14	13.959+j39.878	42.210+j98.279
COMPLEJO PETROQUÍMICO CANGREJERA	CGJ-115	115.0	8.10	4.90	1.800+j7.998	5.621+j23.711	9.31	5.61	1.706+j7.655	5.418+j22.802
COMPLEJO PETROQUÍMICO COSOLEACAQUE	CPQ-115	115.0	6.94	4.38	1.934+j9.369	5.705+j25.776	9.23	6.87	1.357+j7.797	2.224+j16.074
COMPLEJO PETROQUÍMICO INDEPENDENCIA	PEI-115	115.0	10.92	9.16	1.206+j5.961	1.319+j9.510	12.42	10.28	1.105+j5.775	1.317+j9.478
COMPLEJO PETROQUÍMICO MORELOS	PMO-115	115.0	9.36	8.64	1.165+j6.999	2.002+j9.031	10.50	9.62	1.115+j6.866	1.997+j9.003
CONALEP	LEP-115	115.0	7.39	6.80	1.653+j8.837	3.332+j10.897	8.85	7.91	1.371+j8.134	3.323+j10.787
CONEJOS	CNJ-115	115.0	1.40	0.81	14.352+j45.227	41.287+j144.731	1.56	0.91	13.924+j44.710	40.445+j141.018
CONTLA	CNU-115	115.0	21.19	14.25	0.605+j3.074	1.702+j7.545	24.51	16.14	0.534+j2.932	1.694+j7.448
CÓRDOBA	COR-115	115.0	11.73	8.74	1.017+j5.568	2.654+j11.174	14.15	10.10	0.838+j5.094	2.655+j11.079
CÓRDOBA DOS	CBS-115	115.0	13.72	11.96	0.884+j4.758	1.394+j6.854	16.84	14.08	0.702+j4.281	1.390+j6.752



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
COSCOMATEPEC	CSE-115	115.0	4.75	2.86	2.479+j13.745	11.774+j40.176	5.42	3.19	2.292+j13.280	11.777+j40.074
COSOLAPA	CSL-115	115.0	3.57	2.49	2.912+j18.390	5.707+j42.409	4.53	3.23	2.254+j15.954	4.736+j35.283
COSOLEACAQUE	CSQ-115	115.0	10.99	7.39	1.096+j5.942	2.861+j14.678	13.19	8.56	0.935+j5.457	2.818+j14.324
COSTA AZUL	CAZ-115	115.0	5.41	6.24	3.981+j11.599	1.139+j7.370	7.62	8.28	2.297+j9.302	1.141+j7.218
COYOACO MANIOBRAS	CYB-230	230.0	5.53	5.64	3.879+j23.678	2.923+j22.534	7.07	6.92	2.797+j20.473	2.809+j21.649
COYUCA	CYC-115	115.0	4.55	4.50	4.436+j13.889	2.843+j14.859	6.48	5.96	2.635+j10.965	2.824+j13.941
CRISOL TEXTIL	CTX-115	115.0	10.98	7.08	1.041+j5.955	3.917+j15.579	12.30	7.87	0.983+j5.854	3.896+j15.511
CRISTÓBAL SAN	CRI-115	115.0	4.92	3.33	3.423+j13.066	9.504+j31.389	5.76	3.80	3.052+j12.306	9.511+j30.828
CRUCES	CRC-69	69.0	6.57	7.10	1.723+j5.818	1.897+j4.311	8.90	9.10	1.092+j4.802	1.952+j4.223
CRUCES GENERACIÓN	CUG-115	115.0	5.88	6.86	3.773+j10.643	1.033+j6.428	8.53	9.32	2.086+j8.300	1.055+j6.307
CRUZ AZUL MANIOBRAS	CZM-400	400.0	12.38	9.52	2.442+j18.497	7.117+j35.025	15.51	11.22	1.654+j16.295	7.076+j34.643
CRUZ GRANDE	CGN-115	115.0	2.09	1.31	10.413+j30.041	27.233+j83.842	2.43	1.48	9.084+j28.627	27.159+j83.568
CRYO INFRA DOS	CRX-115	115.0	8.77	6.23	1.536+j7.413	3.245+j16.611	10.24	7.13	1.413+j6.988	3.231+j16.220
CRYOINFRA - PRAXAIR	CYX-115	115.0	9.30	7.89	1.196+j7.039	2.414+j11.067	10.44	8.81	1.145+j6.899	2.397+j10.979
CRYOINFRA CÁRDENAS	ICD-115	115.0	10.72	9.29	1.338+j6.045	2.081+j8.939	12.51	10.62	1.200+j5.714	2.054+j8.798
CRYO_INFRA	CRY-115	115.0	13.88	12.12	1.028+j4.673	0.977+j6.934	17.05	14.88	0.889+j4.191	0.935+j6.160
CUAUHTÉMOC	CUH-115	115.0	1.10	0.69	14.510+j58.500	51.260+j161.545	1.22	0.76	14.336+j58.181	51.258+j161.524
CUAUHTÉMOC	CTM-115	115.0	8.58	5.90	1.812+j7.522	4.102+j17.895	9.69	6.57	1.712+j7.341	4.095+j17.846
CUAUTLA	CUA-115	115.0	11.79	9.31	1.091+j5.527	1.757+j9.989	13.35	10.42	1.023+j5.374	1.742+j9.933
CUAUTLA DOS	CUS-115	115.0	13.98	10.56	0.730+j4.694	1.724+j9.211	15.67	11.74	0.682+j4.610	1.722+j9.184
CUAUTLA INDUSTRIAL	CIL-115	115.0	10.56	7.76	1.237+j6.164	3.269+j12.700	11.82	8.62	1.184+j6.064	3.265+j12.668
CUCHAPA PEMEX	CUH-115	115.0	9.02	6.08	1.649+j7.178	3.679+j17.789	10.48	6.88	1.536+j6.796	3.669+j17.609
CUERNAVACA	CUE-85	85.0	5.48	4.72	1.471+j8.835	1.550+j13.200	6.26	5.34	1.331+j8.525	1.548+j12.965
CUETZALAN	CTZ-115	115.0	3.48	2.06	3.472+j18.784	12.085+j57.104	3.94	2.31	3.287+j18.234	12.076+j56.587
CUICATLAN	CUX-115	115.0	1.81	1.16	9.813+j35.317	37.906+j91.595	2.01	1.28	9.603+j35.028	37.882+j91.268
CUICHAPA DOS	CCP-115	115.0	9.27	6.22	1.595+j6.985	3.603+j17.469	10.79	7.04	1.482+j6.604	3.593+j17.289
CUITLÁHUAC	CTH-115	115.0	4.58	2.86	2.632+j14.265	9.032+j39.762	5.22	3.19	2.446+j13.788	9.024+j39.651
CUNDUACÁN	DUA-115	115.0	5.90	4.09	1.980+j11.085	6.148+j25.595	6.71	4.58	1.833+j10.736	6.108+j25.457
CYCNA DE ORIENTE	CYR-400	400.0	9.22	6.70	2.992+j24.874	10.483+j52.618	11.15	7.74	2.198+j22.676	10.379+j52.097
DISTRIBUCIÓN TRC-115	TRC-115	115.0	6.03	3.95	1.860+j10.853	6.045+j27.891	6.97	4.44	1.653+j10.348	6.039+j27.818
DISTRITO INDUSTRIAL	DIN-69	69.0	8.99	9.07	0.439+j4.409	0.616+j4.278	13.22	12.00	0.314+j3.299	0.616+j4.288
DONAJI	DOJ-115	115.0	4.07	2.54	4.072+j15.805	10.190+j44.830	4.65	2.84	3.866+j15.215	10.145+j44.632
DOS BOCAS CICLO COMBINADO	DBC-230	230.0	10.41	9.25	2.041+j12.590	3.869+j17.181	16.22	15.58	0.964+j8.956	1.363+j9.938
DOS BOCAS CICLO COMBINADO	DBC-115	115.0	16.54	13.10	0.743+j3.945	1.518+j7.033	26.71	26.35	0.339+j2.713	0.281+j2.828
DOS BOCAS PEMEX	DBX-115	115.0	4.42	3.16	3.525+j14.595	8.231+j32.037	4.99	3.53	3.363+j14.251	8.155+j31.805
DPA DRAEXLMAIER, PARTES AUTOMOTORAS DE MÉXICO	DXM-115	115.0	10.92	6.82	1.091+j5.984	4.300+j16.538	12.24	7.58	1.031+j5.877	4.277+j16.458
EASTMAN (CHEMICAL)	EAS-115	115.0	6.71	4.30	2.994+j9.436	6.323+j25.868	7.78	4.87	2.831+j8.948	6.290+j25.570
EJUTLA	EJT-115	115.0	3.29	2.63	5.233+j19.466	7.339+j34.818	3.69	2.99	4.974+j19.173	6.969+j33.016
EL CARMEN	CNM-230	230.0	9.28	10.23	2.100+j14.152	1.281+j10.735	11.28	12.11	1.641+j12.843	1.292+j10.569
EL CARMEN	CNM-115	115.0	12.07	13.55	0.716+j5.455	0.389+j3.791	14.04	15.52	0.599+j5.167	0.395+j3.771



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
EL CASTILLO	ELC-230	230.0	4.89	4.75	5.018+j26.673	3.734+j29.388	6.06	5.71	3.851+j23.809	3.643+j27.910
EL CASTILLO	ELC-115	115.0	7.53	8.51	1.708+j8.650	0.451+j5.790	9.04	10.12	1.379+j7.964	0.415+j5.418
EL CERRO	CEO-115	115.0	6.61	4.28	2.025+j9.844	5.632+j25.881	7.89	4.89	1.671+j9.107	5.604+j25.608
EL CONDE	ECN-115	115.0	20.34	14.84	0.719+j3.184	1.275+j6.801	23.55	16.85	0.647+j3.033	1.268+j6.702
EL GIRASOL	GIS-115	115.0	1.56	0.98	10.905+j41.064	41.688+j110.821	1.73	1.08	10.695+j40.775	41.664+j110.493
EL GUAYABO	GYB-115	115.0	7.06	4.18	1.827+j9.226	6.230+j28.234	12.06	8.23	0.985+j5.973	2.977+j14.193
EL JÍCARO	JIC-115	115.0	5.39	3.10	2.166+j12.134	8.338+j38.818	6.56	3.92	1.824+j10.978	6.955+j32.901
EL MORAL (OAXACA)	MOR-115	115.0	2.62	1.95	7.074+j24.289	18.628+j48.376	2.93	2.16	6.865+j23.999	18.605+j48.051
EL MORAL (PUEBLA)	MOA-115	115.0	10.22	6.62	1.121+j6.401	3.882+j16.656	11.42	7.35	1.064+j6.305	3.874+j16.608
EL SABINO	SAB-400	400.0	9.06	9.05	4.084+j25.162	3.550+j25.409	16.27	14.19	1.364+j15.550	3.542+j21.950
EL SABINO	SAB-115	115.0	16.49	16.12	0.632+j3.977	0.385+j4.304	22.09	20.54	0.359+j3.286	0.375+j4.017
EL TEJAR	TJR-115	115.0	16.57	13.07	0.746+j3.938	1.518+j7.075	26.30	24.73	0.353+j2.755	0.406+j3.277
EL TREINTA	ETT-115	115.0	4.98	5.04	4.341+j12.593	2.480+j12.704	6.93	6.46	2.636+j10.197	2.507+j12.592
EL TULE	TLE-115	115.0	3.94	3.04	4.279+j16.281	7.001+j31.070	4.44	3.40	4.051+j15.933	6.971+j30.713
EL ZOPO	ZOP-115	115.0	5.71	4.73	2.537+j11.351	6.643+j17.795	6.77	5.44	2.204+j10.560	6.629+j17.661
EMILIANO ZAPATA	EMZ-115	115.0	2.56	1.56	6.757+j25.078	21.700+j72.615	2.87	1.74	6.581+j24.594	21.602+j72.098
ENCANTO	ECT-115	115.0	4.41	4.62	3.475+j14.655	2.140+j12.799	5.36	5.80	2.895+j13.302	1.444+j10.450
ENTABLADERO	ETD-115	115.0	6.21	3.97	1.917+j10.521	9.874+j27.190	7.02	4.43	1.865+j10.232	9.871+j27.115
ESCÁMELA	ECM-115	115.0	10.73	8.49	1.143+j6.080	2.417+j10.846	12.92	9.86	0.954+j5.572	2.403+j10.659
ESFUERZO	ESF-115	115.0	3.35	2.92	4.595+j19.264	8.195+j27.335	3.76	3.26	4.488+j18.917	8.167+j27.155
ESPERANZA	ERZ-115	115.0	6.94	5.95	2.517+j9.231	2.342+j14.186	7.83	6.70	2.391+j9.019	2.283+j13.885
ETLA	ETX-115	115.0	3.99	3.51	4.428+j16.048	7.605+j22.246	4.49	3.94	4.210+j15.721	7.573+j21.878
EXCELOPOLIS	EXE-115	115.0	19.03	11.66	0.811+j3.393	2.374+j9.839	22.05	13.27	0.730+j3.231	2.359+j9.615
FENO QUIMIA	FNQ-115	115.0	7.01	4.35	1.948+j9.268	5.813+j26.325	8.47	5.31	1.691+j8.456	4.942+j23.587
FERMEX	FEM-115	115.0	10.70	8.43	1.644+j5.981	3.091+j10.807	13.24	10.15	1.393+j5.336	2.950+j10.130
FLORES MAGÓN	FLM-115	115.0	3.84	2.80	4.358+j16.713	13.147+j34.240	4.58	3.30	3.769+j15.489	12.765+j32.158
FORJAMEX	FJM-115	115.0	12.91	9.94	1.131+j5.016	2.289+j9.524	14.70	11.13	1.041+j4.858	2.284+j9.504
FORTÍN	FOR-115	115.0	13.67	10.55	0.850+j4.781	2.169+j8.938	16.75	12.31	0.673+j4.309	2.172+j8.837
FRAMBOYANES	FRY-115	115.0	19.07	22.11	0.600+j3.430	0.291+j2.038	26.67	29.59	0.360+j2.715	0.282+j1.899
FRONTERA	FRT-115	115.0	1.47	1.00	12.423+j43.565	43.346+j99.456	1.62	1.11	12.250+j43.247	43.344+j99.435
FRONTERA COMALAPA	FCM-115	115.0	1.03	0.63	18.709+j61.860	53.073+j179.485	1.15	0.70	17.782+j60.726	52.625+j177.409
FUERTES	FUE-115	115.0	16.53	10.72	0.973+j3.898	1.997+j10.377	18.91	12.04	0.899+j3.756	1.995+j10.293
GABINO BARREDA	GBA-115	115.0	9.42	6.67	1.376+j6.910	3.401+j15.454	11.73	8.32	1.131+j6.123	3.179+j13.567
GARITA	GAR-115	115.0	5.56	6.26	3.827+j11.312	1.278+j7.888	7.96	8.35	2.145+j8.920	1.305+j7.781
GAVIOTAS	GVT-115	115.0	13.71	11.67	0.899+j4.760	1.311+j7.383	16.36	13.43	0.739+j4.404	1.309+j7.348
GIRANDAS PEMEX	GIR-115	115.0	5.42	3.79	2.693+j11.958	7.804+j27.118	6.14	4.23	2.564+j11.615	7.792+j27.008
GRAN PRIDECO	GRA-115	115.0	14.79	12.65	0.876+j4.404	1.688+j6.569	19.51	15.51	0.637+j3.688	1.678+j6.429
GRIJALVA	GIA-115	115.0	5.86	3.78	2.803+j10.980	6.150+j29.448	6.97	4.34	2.452+j10.195	6.079+j28.847
GUADALUPE ANALCO	GAN-115	115.0	22.17	15.91	0.662+j2.921	1.362+j6.406	25.96	18.35	0.581+j2.753	1.349+j6.176
GUTIÉRREZ ZAMORA DOS	GZD-115	115.0	5.79	4.09	1.745+j11.337	5.451+j25.217	6.59	4.58	1.642+j10.964	5.424+j25.047



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
HELIPUERTO	HEL-115	115.0	2.53	2.46	6.436+j25.396	3.893+j28.566	3.15	2.93	4.568+j22.730	3.880+j28.162
HUAJUAPAN	HJP-115	115.0	1.82	1.09	10.870+j34.729	27.116+j106.504	2.02	1.20	10.720+j34.562	27.110+j106.354
HUAMANTLA DOS	HUA-115	115.0	9.13	6.36	1.666+j7.082	3.764+j16.419	10.32	7.09	1.567+j6.898	3.762+j16.382
HUAMUXTITLAN	HUU-115	115.0	1.02	0.65	19.440+j61.854	40.570+j172.726	1.18	0.73	17.358+j59.376	40.563+j172.429
HUATULCO	HCO-115	115.0	1.40	0.82	15.081+j44.969	40.828+j143.352	1.56	0.92	14.670+j44.506	39.920+j139.500
HUATUSCO	HTU-115	115.0	3.49	2.04	3.386+j18.740	16.541+j57.534	3.94	2.26	3.196+j18.278	16.544+j57.432
HUAUTLA DE JIMENEZ	HUJ-69	69.0	0.65	0.49	31.199+j53.210	50.820+j111.925	0.71	0.53	31.173+j53.442	50.821+j112.242
HUEJOTZINGO	HJO-115	115.0	13.00	8.48	0.904+j5.027	3.633+j12.806	14.62	9.45	0.846+j4.924	3.607+j12.729
HUEYAPAN	HYN-115	115.0	2.72	2.01	6.114+j23.672	15.939+j47.490	3.50	3.16	4.597+j20.339	6.530+j26.910
HUEYAPAN DE OCAMPO	HOC-115	115.0	3.18	1.77	6.923+j19.682	17.960+j68.913	3.86	2.66	5.874+j17.991	10.450+j43.287
HUIMANGUILLO	HMG-115	115.0	6.15	4.80	2.972+j10.382	6.127+j19.020	7.00	5.40	2.838+j10.048	6.072+j18.817
HUIXTLA	HUX-115	115.0	3.47	2.50	5.847+j18.190	13.641+j39.168	4.14	2.93	5.024+j16.920	13.219+j37.139
HUMEROS DOS	HMD-115	115.0	6.39	6.21	2.019+j10.190	1.868+j11.151	7.79	7.50	1.730+j9.217	1.954+j10.268
HUMEROS LOS	HMS-115	115.0	4.21	4.25	3.118+j15.441	2.590+j15.159	5.22	5.37	2.524+j13.761	1.886+j12.682
HUMEROS TRES	HMT-115	115.0	6.28	6.16	1.998+j10.389	1.406+j11.156	7.52	7.27	1.751+j9.558	1.488+j10.589
IDESA	IDE-115	115.0	9.84	8.01	1.126+j6.652	2.512+j11.431	11.12	8.98	1.070+j6.482	2.485+j11.294
IGUALA	IGU-115	115.0	2.49	2.75	6.789+j25.795	1.163+j19.358	3.09	3.31	4.900+j23.160	1.137+j18.916
INDEPENDENCIA	IPD-115	115.0	3.59	2.29	4.481+j17.958	10.603+j48.823	4.45	3.40	3.572+j16.010	5.207+j31.135
INDUSTRIAL	INT-115	115.0	18.35	12.21	0.847+j3.518	1.728+j8.928	21.08	13.75	0.775+j3.377	1.727+j8.854
INDUSTRIAL CUAUTLA DOS	ICS-115	115.0	10.30	7.48	1.293+j6.313	3.434+j13.325	11.54	8.31	1.238+j6.207	3.430+j13.291
INDUSTRIAL PATRONA	IPA-115	115.0	13.65	11.36	0.891+j4.783	1.630+j7.641	16.74	13.33	0.709+j4.306	1.626+j7.538
INFONAVIT	IFN-115	115.0	17.48	15.05	0.731+j3.726	1.021+j5.557	23.95	18.88	0.489+j3.010	0.999+j5.411
INFRA VILLA HERMOSA	IVH-115	115.0	12.96	11.24	1.042+j5.015	1.440+j7.466	15.38	12.90	0.885+j4.665	1.438+j7.438
INGENIO LA GLORIA	GLR-115	115.0	3.50	3.35	3.655+j18.624	1.751+j21.630	3.86	3.70	3.630+j18.563	1.733+j21.479
INGENIO SAN NICOLÁS	ISN-115	115.0	3.10	1.78	3.500+j21.130	16.287+j67.271	4.43	4.25	2.153+j16.332	1.711+j18.565
IQUISA	IQU-115	115.0	15.50	13.87	0.836+j4.202	0.649+j5.888	19.34	17.37	0.698+j3.712	0.610+j5.101
ISLA	ISL-115	115.0	2.67	1.58	6.850+j23.950	21.476+j73.275	3.00	1.77	6.651+j23.453	21.352+j72.256
ITUNDUIJA	ITU-115	115.0	0.77	0.46	23.928+j82.522	62.345+j254.083	0.85	0.51	23.734+j82.321	62.329+j253.861
IXHUATLAN DE MADERO	IXH-115	115.0	1.50	1.31	9.030+j43.281	24.527+j59.414	1.67	1.45	8.906+j42.933	24.509+j59.288
IXTAPA POTENCIA	ITP-230	230.0	6.06	4.51	3.459+j21.620	10.956+j42.905	8.59	6.02	2.153+j16.875	9.852+j37.558
IXTAPA POTENCIA	ITP-115	115.0	5.54	4.79	1.251+j11.918	2.748+j17.372	8.87	7.07	1.087+j8.163	2.629+j14.280
IXTEPEC	IXP-115	115.0	3.95	3.37	3.894+j16.335	8.758+j24.373	4.79	3.91	3.389+j14.863	8.752+j24.333
IXTEPEC POTENCIA	IPO-400	400.0	6.46	8.14	3.270+j35.612	0.880+j13.676	10.34	12.11	1.545+j24.518	0.886+j13.715
IXTEPEC POTENCIA	IPO-230	230.0	9.04	12.16	1.036+j14.657	0.217+j3.425	14.68	18.79	0.473+j9.942	0.217+j3.399
IXTEPEC POTENCIA	IPO-115	115.0	15.21	18.64	0.261+j4.358	0.111+j1.962	22.73	26.13	0.121+j3.211	0.112+j1.953
IXTLAN DE JUÁREZ	IXJ-115	115.0	3.03	2.03	5.154+j21.267	11.785+j53.151	3.40	2.26	4.950+j20.900	11.764+j52.867
IZUCAR DE MATAMOROS	IZM-115	115.0	2.83	1.64	7.845+j22.118	19.447+j71.814	3.14	1.81	7.739+j21.973	19.442+j71.683
IZUCAR DE MATAMOROS DOS	IZD-115	115.0	2.94	1.72	7.572+j21.237	18.998+j68.440	3.26	1.90	7.469+j21.092	18.992+j68.309
J. B. LOBOS	JBL-115	115.0	14.82	12.94	0.811+j4.405	1.296+j6.319	19.65	15.99	0.559+j3.675	1.266+j6.139
JALACINGO	JAL-230	230.0	7.54	7.18	3.108+j17.344	3.150+j20.040	10.09	9.27	2.050+j14.335	2.819+j17.648



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Oriental

Subestación Eléctrica	Acronónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
JALACINGO	JAL-115	115.0	9.26	9.78	1.191+j7.073	0.427+j6.030	11.86	12.36	0.834+j6.101	0.345+j5.360
JALAPA DOS	JLD-115	115.0	4.72	3.80	2.835+j13.767	4.912+j23.791	5.47	4.32	2.501+j13.127	4.880+j23.439
JALPA	JAA-115	115.0	7.59	7.67	1.758+j8.573	6.357+j6.983	8.70	8.69	1.615+j8.238	6.321+j6.930
JARDÍN	JDN-230	230.0	13.11	13.72	1.715+j9.980	1.673+j8.679	19.64	19.38	0.874+j7.384	1.474+j7.570
JARDÍN	JDN-115	115.0	20.66	24.22	0.548+j3.167	0.204+j1.802	29.43	32.80	0.310+j2.462	0.191+j1.699
JIUTEPEC	JIU-115	115.0	10.17	8.69	1.030+j6.445	1.273+j9.797	11.51	9.78	0.925+j6.276	1.236+j9.641
JOJUTLA	JJT-115	115.0	6.75	4.73	2.044+j9.624	4.408+j22.040	7.63	5.27	1.910+j9.376	4.402+j22.005
JUCHITÁN DOS	JUD-230	230.0	5.89	7.65	3.236+j22.323	0.724+j7.251	8.75	10.83	1.807+j16.602	0.717+j7.186
JUCHITÁN DOS	JUD-115	115.0	8.74	11.89	1.213+j7.501	0.110+j1.734	11.97	15.87	0.754+j6.052	0.105+j1.713
JUCHITÁN UNO	JUC-115	115.0	6.78	7.11	1.903+j9.602	1.789+j8.536	8.86	8.77	1.407+j8.121	1.782+j8.496
JUILE	JUI-400	400.0	12.97	12.53	2.465+j17.630	3.263+j19.583	21.46	17.57	1.097+j11.787	3.264+j19.403
JUILE	JUI-230	230.0	10.62	12.30	1.075+j12.458	0.583+j7.465	13.98	15.47	0.566+j10.436	0.571+j7.420
JUILE	JUI-115	115.0	4.14	2.63	4.042+j15.517	9.800+j42.569	4.70	2.96	3.868+j15.035	9.681+j41.931
JUY JUY	JUY-115	115.0	12.19	12.66	0.943+j5.363	0.607+j4.821	15.45	15.42	0.675+j4.678	0.605+j4.702
KILOMETRO VEINTE	KLV-230	230.0	12.84	13.14	1.778+j10.191	1.332+j9.777	17.47	16.80	1.099+j8.290	1.291+j9.410
KILOMETRO VEINTE	KLV-115	115.0	20.38	21.37	0.530+j3.214	0.304+j2.888	25.74	26.01	0.364+j2.814	0.291+j2.798
KIMBERLEY CLARK	KIA-115	115.0	12.51	10.14	1.098+j5.191	1.654+j8.910	14.29	11.46	0.994+j5.013	1.624+j8.757
KIMBERLEY CLARK, PUÉ.	KIC-115	115.0	11.61	9.16	1.197+j5.591	1.936+j10.152	13.22	10.33	1.093+j5.413	1.905+j9.999
KIMBERLEY CLARK, VER.	KIM-115	115.0	12.66	11.02	0.894+j5.169	1.165+j7.505	15.61	12.99	0.692+j4.629	1.168+j7.414
KRUPP METALÚRGICA	KRU-115	115.0	14.07	8.94	0.795+j4.651	2.981+j12.527	15.98	10.02	0.728+j4.511	2.971+j12.421
LA BARRA	LBR-115	115.0	3.47	4.01	4.200+j18.659	1.817+j11.262	3.89	4.50	4.095+j18.313	1.786+j11.059
LA CHOCA	LCH-115	115.0	15.53	13.93	0.818+j4.195	1.171+j5.797	18.58	16.08	0.678+j3.872	1.170+j5.770
LA CIÉNEGA	CIG-230	230.0	3.59	3.58	8.300+j36.074	5.048+j37.042	4.14	4.12	7.425+j34.492	4.845+j35.580
LA CIÉNEGA	CIG-115	115.0	6.41	6.69	2.448+j10.061	1.107+j9.048	7.33	7.67	2.226+j9.717	1.047+j8.606
LA CURVA	LVA-115	115.0	7.55	6.33	1.340+j8.687	2.414+j13.727	9.11	7.35	1.045+j7.945	2.405+j13.621
LA GARZA	LGZ-115	115.0	1.92	1.14	9.733+j33.133	28.263+j101.295	2.16	1.27	9.409+j32.520	28.258+j101.100
LA GLORIA MANIOBRAS	GLM-115	115.0	3.59	3.33	3.635+j18.151	2.274+j22.792	3.96	3.68	3.601+j18.066	2.257+j22.651
LA GRANJA TRES	GRT-115	115.0	10.44	6.38	1.155+j6.255	3.888+j18.110	13.74	9.76	0.834+j5.250	2.348+j11.558
LA GUADALUPE	LGP-115	115.0	1.65	1.10	10.379+j38.892	30.731+j96.058	1.86	1.23	9.948+j37.898	30.338+j94.382
LA ISLA	ISL-115	115.0	9.20	6.57	1.241+j7.109	3.480+j15.742	10.57	7.39	1.135+j6.818	3.469+j15.667
LA MALINCHE	MLC-230	230.0	11.96	13.05	2.091+j10.902	1.009+j8.399	14.14	15.08	1.734+j10.181	1.020+j8.389
LA MALINCHE	MLC-115	115.0	19.32	22.97	0.651+j3.374	0.147+j1.857	22.30	26.13	0.567+j3.226	0.149+j1.872
LA MIRA	MRA-115	115.0	4.55	4.80	4.391+j13.916	2.774+j12.053	6.16	6.09	2.711+j11.538	2.800+j11.953
LA REFORMA	RFA-115	115.0	10.29	7.68	1.112+j6.355	2.728+j13.048	11.86	8.65	1.013+j6.075	2.724+j12.998
LA REINA	RNA-115	115.0	6.44	5.98	2.049+j10.111	2.148+j12.530	7.58	6.91	1.732+j9.476	2.119+j12.190
LA TINAJA	TNJ-115	115.0	2.23	1.22	7.152+j28.897	28.262+j100.383	2.76	1.69	6.028+j25.727	21.230+j73.543
LA TRINITARIA	TNI-115	115.0	1.34	0.88	16.238+j46.872	46.731+j117.164	1.52	0.99	15.392+j45.671	46.333+j115.058
LA UNIÓN	UNN-115	115.0	5.37	2.31	2.588+j12.082	16.531+j59.103	8.43	4.19	1.771+j8.485	9.222+j33.654
LA VENTA DOS	LVD-230	230.0	4.94	6.15	3.734+j26.624	1.542+j11.225	7.24	8.52	2.165+j20.064	1.519+j11.078
LA VENTA DOS	VED-115	115.0	4.74	3.76	3.081+j13.654	5.685+j24.447	5.30	4.18	3.047+j13.427	5.675+j24.267



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
LA VENTA MANIOBRAS	VMN-230	230.0	4.40	5.31	3.987+j29.907	1.288+j14.996	6.37	7.24	2.315+j22.804	1.253+j14.761
LA VENTA PEMEX	VEP-115	115.0	4.68	3.68	3.121+j13.841	5.883+j25.171	5.23	4.09	3.089+j13.618	5.873+j24.992
LACANJÁ	LCJ-115	115.0	0.83	0.57	23.853+j76.075	75.574+j172.710	0.94	0.64	22.948+j74.577	75.443+j172.103
LAGUNA DE TRES PALOS	LTP-115	115.0	4.73	5.04	4.517+j13.277	2.327+j11.259	6.41	6.42	2.835+j11.035	2.330+j11.112
LAGUNA VERDE	LAV-400	400.0	15.03	16.23	1.827+j15.261	0.970+j12.063	22.55	25.38	0.801+j11.237	0.381+j7.494
LAGUNA VERDE	LAV-230	230.0	10.95	11.69	1.046+j12.078	0.473+j9.878	13.69	14.34	0.624+j10.650	0.356+j9.216
LAMOSA	LOA-115	115.0	21.56	18.19	0.505+j3.037	0.800+j4.741	24.51	20.44	0.450+j2.946	0.799+j4.707
LAPSOLITE	LSL-115	115.0	15.84	11.49	0.714+j4.129	2.211+j8.708	17.84	12.81	0.660+j4.039	2.213+j8.670
LAS BRISAS	BRS-115	115.0	17.72	15.74	0.690+j3.683	0.794+j5.112	24.32	19.80	0.445+j2.969	0.777+j4.994
LAS CHOAPAS DOS	LHD-115	115.0	3.35	2.07	5.666+j18.996	12.422+j55.173	3.76	2.30	5.549+j18.620	12.412+j54.993
LAS HACIENDAS	LHA-115	115.0	11.52	8.12	1.117+j5.652	2.779+j12.900	13.50	9.20	0.980+j5.319	2.774+j12.851
LAS JUNTAS	LJU-115	115.0	1.75	1.05	11.198+j36.241	28.436+j109.989	1.94	1.16	11.041+j36.067	28.427+j109.832
LAS MARGARITAS	MGs-115	115.0	3.80	2.35	3.311+j17.177	9.918+j48.913	4.41	2.68	2.982+j16.282	9.899+j47.700
LAS MATAS	MAS-115	115.0	11.72	7.96	0.977+j5.581	2.782+j13.514	15.15	10.68	0.721+j4.768	1.911+j10.777
LAS TRANCAS	TRN-115	115.0	6.12	5.37	2.186+j10.626	2.785+j15.184	7.17	6.16	1.876+j10.018	2.758+j14.861
LAS VIGAS DOS	VGS-115	115.0	4.57	3.11	2.848+j14.258	7.333+j34.193	5.58	3.59	2.288+j12.895	7.301+j34.030
LERDO	LRD-115	115.0	1.86	1.05	11.812+j33.670	31.141+j114.898	2.23	1.52	9.992+j31.152	19.377+j76.719
LIBERACIÓN MEXICANA	LMX-115	115.0	2.92	2.30	5.962+j21.919	8.016+j40.624	3.37	2.59	5.465+j20.996	8.012+j40.474
LIBRES	LIB-115	115.0	4.74	3.08	3.762+j13.504	8.307+j35.793	5.38	3.44	3.573+j13.104	8.335+j35.582
LOMA BONITA DOS	LBD-115	115.0	3.43	2.02	5.242+j18.616	17.435+j57.154	3.91	2.29	5.017+j18.010	17.279+j55.789
LOMAS	LMS-115	115.0	10.21	0.17	1.245+j6.381	176.680+j-255.532	11.55	0.18	1.162+j6.217	176.680+j-255.532
LOMAS COCOYOC	LOC-115	115.0	12.59	8.60	0.968+j5.182	2.409+j12.375	14.25	9.60	0.907+j5.043	2.408+j12.356
LOMAS DEL MAR	LMM-115	115.0	5.39	6.21	4.011+j11.643	1.185+j7.433	7.58	8.23	2.327+j9.346	1.187+j7.280
LÓPEZ MATEOS	LME-115	115.0	11.58	9.06	1.668+j5.487	1.977+j10.485	13.87	10.71	1.544+j5.032	1.949+j9.857
LOS AMATES	LAT-230	230.0	3.29	4.03	13.350+j38.147	1.815+j18.415	4.92	5.66	6.946+j28.890	1.874+j17.980
LOS AMATES	LAT-115	115.0	6.01	7.82	3.752+j10.388	0.259+j3.463	8.75	10.96	2.073+j8.083	0.261+j3.310
LOS ARCOS	AOS-115	115.0	15.63	16.51	0.562+j4.211	0.324+j3.562	18.00	18.78	0.481+j4.029	0.323+j3.538
LOS RÍOS	LRS-230	230.0	5.30	5.42	4.768+j24.613	3.437+j22.978	8.56	8.41	2.207+j16.929	2.466+j17.828
LOS RÍOS	LRS-115	115.0	7.30	8.15	1.608+j8.947	0.516+j6.225	9.99	10.81	0.926+j7.250	0.406+j5.647
LUIS GIL PEREZ	LGI-115	115.0	11.49	9.57	0.896+j5.711	2.177+j9.370	13.26	10.81	0.804+j5.449	2.172+j9.317
MACTUMATZA	MAA-115	115.0	9.64	6.09	1.556+j6.711	2.983+j18.723	11.86	7.06	1.258+j6.028	2.974+j18.455
MACULTEPEC	MCL-115	115.0	6.87	5.45	2.234+j9.398	6.159+j16.299	7.85	6.11	2.078+j9.064	6.158+j16.279
MACUSPANA	MCP-115	115.0	5.83	4.91	2.348+j11.154	6.070+j16.857	6.88	5.63	2.047+j10.423	6.060+j16.740
MACUSPANA DOS	MCD-230	230.0	9.79	9.35	2.360+j13.359	2.241+j15.432	13.32	11.82	1.451+j10.873	2.221+j15.065
MACUSPANA DOS	MCD-115	115.0	10.72	12.00	0.890+j6.127	0.305+j4.249	13.33	14.52	0.623+j5.444	0.296+j4.142
MAGDALENA MANIOBRAS	MMA-400	400.0	10.65	6.62	2.214+j21.565	15.343+j59.730	12.40	7.48	1.770+j20.409	15.322+j59.273
MAGDALENA MANIOBRAS DOS	MDB-230	230.0	8.26	8.68	2.359+j15.908	1.704+j13.657	9.95	10.19	1.872+j14.560	1.681+j13.526
MAGUEYITOS	MGY-115	115.0	1.38	0.81	14.778+j45.844	42.045+j145.210	1.54	0.90	14.350+j45.327	41.203+j141.497
MALINALTEPEC	MLN-115	115.0	0.85	0.49	23.515+j74.754	61.718+j245.273	0.94	0.54	22.493+j73.962	61.499+j244.550
MALPASO	MPS-400	400.0	14.99	16.37	2.240+j15.240	1.173+j11.569	29.49	32.14	0.625+j8.591	0.422+j6.172



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Oriental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MALPASO	MPS-115	115.0	5.87	6.79	1.842+j11.166	0.426+j6.773	6.90	8.03	1.595+j10.465	0.348+j6.126
MALPASO DOS	MPD-230	230.0	12.44	14.01	0.991+j10.632	0.314+j7.173	17.95	19.67	0.386+j8.127	0.206+j5.935
MALPASO TRES	MPE-115	115.0	5.77	6.57	1.887+j11.344	0.553+j7.357	6.78	7.76	1.639+j10.643	0.475+j6.711
MANDINGA	MDG-115	115.0	9.63	3.75	1.229+j6.785	14.715+j36.747	12.77	4.65	0.848+j5.656	13.688+j33.217
MANIOBRAS ENERGÍA SOLAR HERRERA	HMN-115	115.0	21.92	17.66	0.580+j2.973	0.877+j5.162	26.80	24.93	0.456+j2.686	0.541+j3.303
MANIOBRAS GENERADORES EÓLICOS DE MÉXICO	GEM-115	115.0	2.00	2.13	10.048+j31.578	3.875+j27.200	2.30	2.43	9.354+j30.313	3.797+j26.829
MANIOBRAS MEDIA LUNA	MLM-230	230.0	3.71	3.74	10.089+j34.304	6.095+j34.686	7.68	7.17	2.728+j18.820	4.113+j22.405
MANIOBRAS PRO MDF	MPR-115	115.0	7.18	5.89	2.656+j8.854	3.781+j14.990	8.20	6.65	2.532+j8.536	3.697+j14.752
MANIOBRAS SOLAR XOXOCOTLA	XOX-115	115.0	9.92	9.41	1.114+j6.597	0.976+j7.737	11.60	10.75	0.964+j6.220	0.976+j7.728
MANLIO FABIO ALTAMIRANO	MFA-400	400.0	13.11	13.72	2.729+j17.397	2.082+j15.305	19.54	18.77	1.285+j12.934	2.107+j14.451
MANLIO FABIO ALTAMIRANO	MFA-230	230.0	16.78	19.51	1.301+j7.806	0.525+j4.626	24.95	27.16	0.650+j5.818	0.549+j4.370
MANLIO FABIO ALTAMIRANO	MFA-115	115.0	19.35	18.72	0.446+j3.402	0.363+j3.779	25.67	23.73	0.269+j2.832	0.358+j3.523
MANUEL MORENO TORRES	MMT-400	400.0	14.22	17.07	2.515+j16.045	0.578+j8.222	32.70	38.23	0.507+j7.753	0.232+j4.153
MANUEL MORENO TORRES	MMT-115	115.0	13.70	16.35	0.775+j4.783	0.086+j2.520	17.66	20.51	0.511+j4.103	0.083+j2.403
MAPASTEPEC	MAP-115	115.0	4.00	2.70	4.669+j15.942	11.468+j38.888	4.81	3.23	3.953+j14.655	10.551+j35.870
MARTÍNEZ DE LA TORRE DOS	MDD-115	115.0	3.76	3.02	4.224+j17.146	8.764+j29.320	4.40	3.53	3.805+j16.138	8.377+j27.654
MARTÍNEZ DE LA TORRE TRES	MTT-115	115.0	3.68	2.80	4.086+j17.586	9.342+j33.652	4.28	3.24	3.711+j16.672	9.013+j32.225
MATAPIONCHE	MPH-115	115.0	2.39	1.35	6.718+j26.954	25.526+j88.608	2.99	1.93	5.619+j23.766	18.507+j61.793
MATÍAS ROMERO	MRO-115	115.0	6.85	5.50	2.134+j9.449	3.395+j16.596	8.33	6.38	1.834+j8.575	3.367+j16.524
MATÍAS ROMERO POTENCIA	MSP-230	230.0	6.27	6.32	3.095+j20.948	4.343+j20.524	8.34	7.88	2.124+j17.387	4.241+j20.286
MATÍAS ROMERO POTENCIA	MSP-115	115.0	9.57	9.86	1.057+j6.857	0.904+j6.331	11.94	11.84	0.803+j6.063	0.865+j6.233
MAZATAN	MAZ-115	115.0	4.78	3.96	3.114+j13.548	6.551+j21.581	5.80	4.67	2.490+j12.335	6.611+j20.780
MAZATEPEC	MZT-230	230.0	6.71	5.10	2.891+j19.572	8.875+j37.555	10.97	10.50	1.288+j13.253	1.261+j13.389
MEDIA LUNA	MLU-115	115.0	3.21	2.57	6.678+j19.596	12.630+j33.851	4.14	3.10	4.849+j16.979	12.603+j33.140
METALOIDES	MET-115	115.0	19.89	14.30	0.750+j3.254	1.364+j7.142	23.00	16.23	0.677+j3.103	1.356+j7.040
METEPEC	MEC-115	115.0	7.00	4.04	2.309+j9.206	7.944+j29.295	7.84	4.49	2.223+j9.051	7.931+j29.150
METLATONOC	MTL-115	115.0	0.95	0.59	20.373+j67.228	44.472+j192.147	1.09	0.66	18.290+j64.736	44.465+j191.849
MEZCALA	MZL-230	230.0	4.49	5.44	9.316+j28.038	1.316+j14.361	8.99	10.00	2.872+j15.996	1.261+j11.022
MEZCALA	MZL-115	115.0	7.21	8.12	2.634+j8.826	0.394+j6.206	12.12	12.46	0.930+j5.952	0.370+j5.502
MEZCALAPA	MEZ-115	115.0	6.21	4.89	2.495+j10.403	6.313+j18.445	7.11	5.52	2.339+j10.001	6.297+j18.235
MEZCALAPA SWITCHEO	MZW-230	230.0	7.98	6.37	2.419+j16.466	5.495+j29.016	10.56	8.28	1.635+j13.736	4.592+j24.928
MIAHUATLAN	MHT-115	115.0	1.99	1.66	10.106+j31.773	10.761+j52.509	2.21	1.99	9.823+j31.499	8.276+j43.373
MIAHUATLÁN DOS	MUD-115	115.0	2.13	1.72	9.271+j29.743	11.237+j52.560	2.37	2.03	8.993+j29.466	9.347+j45.399
MINAS	MIS-69	69.0	1.46	1.01	5.884+j26.679	15.024+j61.787	2.30	2.45	2.991+j18.780	0.963+j15.769
MINATITLÁN DOS	MID-400	400.0	12.12	13.04	2.830+j18.849	1.552+j15.637	19.23	18.48	1.495+j13.124	1.564+j14.934
MINATITLÁN DOS	MID-115	115.0	26.78	29.50	0.364+j2.453	0.104+j1.883	36.55	38.19	0.227+j1.985	0.107+j1.782
MINATITLÁN UNO	MIU-115	115.0	9.15	5.75	1.287+j7.137	4.334+j19.753	11.02	6.60	1.085+j6.539	4.316+j19.533
MINERA AUTLÁN, PUÉ.	MAU-115	115.0	7.20	6.62	1.882+j9.023	1.364+j11.590	9.30	8.70	1.401+j7.731	1.330+j9.367
MINERA CAPELA	MCA-115	115.0	1.48	0.97	14.111+j42.519	31.171+j111.732	1.75	1.10	12.218+j40.023	31.142+j111.012
MINERA CUZCATLAN	MCN-115	115.0	3.01	2.20	5.734+j21.284	9.834+j45.329	3.37	2.46	5.495+j20.969	9.707+j44.567



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MINERA FILOS-BERMEJAL	MFB-115	115.0	4.98	4.32	3.675+j12.813	3.319+j19.239	7.20	5.59	1.962+j9.959	3.295+j18.535
MINERA MEDIA LUNA	LUD-230	230.0	3.64	3.62	10.193+j35.000	6.703+j36.527	7.40	6.79	2.824+j19.525	4.722+j24.246
MISANTLA DOS	MSD-115	115.0	2.08	1.60	8.511+j30.841	20.853+j56.622	2.36	1.82	8.079+j29.846	20.461+j54.949
MITLA	MTX-115	115.0	1.93	1.28	9.135+j33.153	19.760+j84.971	2.15	1.41	8.900+j32.818	19.730+j84.612
MOCAMBO	MCB-115	115.0	14.71	9.39	0.906+j4.423	1.982+j12.040	20.66	12.72	0.577+j3.488	1.469+j10.044
MOCAMBO	MCB-115B	115.0	14.71	9.39	0.906+j4.423	1.982+j12.040	20.66	12.72	0.577+j3.488	1.469+j10.044
MOTOZINTLA	MTO-115	115.0	1.67	1.05	13.214+j37.433	36.291+j103.676	1.91	1.19	12.328+j36.247	35.849+j101.613
MOZIMBA	MOZ-115	115.0	5.08	5.84	3.999+j12.447	1.939+j7.731	7.08	7.68	2.325+j10.054	1.961+j7.636
MUNDO IMPERIAL	MIP-115	115.0	4.60	4.54	4.654+j13.669	3.097+j14.769	6.19	5.68	2.972+j11.427	3.100+j14.622
NACAJUCA	NAC-115	115.0	4.85	3.80	2.687+j13.414	10.302+j23.300	5.48	4.24	2.542+j13.080	10.266+j23.247
NANCHITAL DOS	NND-115	115.0	13.00	9.10	0.879+j5.031	2.063+j11.616	15.65	10.60	0.756+j4.605	2.048+j11.224
NAONILCO	NAO-115	115.0	4.14	3.31	3.605+j15.647	5.553+j27.555	4.77	3.75	3.273+j14.963	5.518+j27.182
NESTLÉ OLMECA	NST-115	115.0	12.49	10.32	0.910+j5.237	1.644+j8.534	15.76	12.27	0.683+j4.583	1.639+j8.425
NISSAN	NSN-115	115.0	10.27	9.21	1.152+j6.360	1.289+j8.605	11.64	10.35	1.019+j6.191	1.276+j8.530
NOCHIXTLAN	NCH-115	115.0	1.93	1.28	9.991+j32.877	26.744+j83.308	2.14	1.41	9.796+j32.637	26.728+j83.050
NOGALES	NGL-115	115.0	9.23	6.61	1.902+j6.935	3.602+j15.330	11.12	7.70	1.687+j6.350	3.535+j14.894
NORTE	NOR-115	115.0	33.41	27.05	0.401+j1.947	0.573+j3.363	40.09	31.73	0.329+j1.792	0.561+j3.232
NUEVA XCALA MANIOBRAS	NXM-230	230.0	9.92	9.94	1.901+j13.249	2.278+j13.133	11.80	11.52	1.538+j12.278	2.274+j13.107
NUEVO MORELOS	NMO-115	115.0	3.77	2.29	4.690+j16.992	11.671+j50.666	4.27	2.55	4.502+j16.485	11.602+j50.319
NUEVO PEMEX	NPX-115	115.0	4.56	3.44	3.146+j14.215	10.938+j27.298	5.11	3.82	3.065+j13.966	10.930+j27.232
OAXACA	OAX-115	115.0	4.53	4.04	3.734+j14.169	4.475+j19.457	5.12	4.55	3.504+j13.822	4.441+j19.076
OAXACA DOS	OXD-115	115.0	5.69	5.12	2.883+j11.307	3.262+j15.274	6.48	5.79	2.659+j10.954	3.233+j14.918
OAXACA PONIENTE	OAP-115	115.0	4.86	4.90	3.471+j13.200	2.622+j13.150	5.51	5.54	3.242+j12.850	2.587+j12.763
OAXACA POTENCIA	OXP-230	230.0	3.93	4.02	7.561+j32.942	3.266+j31.622	4.57	4.65	6.701+j31.274	3.123+j30.270
OAXACA POTENCIA	OXP-115	115.0	6.60	7.68	2.388+j9.768	0.404+j5.903	7.56	8.84	2.166+j9.410	0.366+j5.509
OAXACA UNO	OAU-230	230.0	3.86	4.55	5.188+j33.994	2.343+j19.052	5.37	5.98	3.483+j26.997	2.301+j18.825
OCOTLAN	OCT-115	115.0	3.08	2.26	5.578+j20.841	9.513+j43.995	3.44	2.53	5.340+j20.524	9.394+j43.265
OCOZINGO	OCO-115	115.0	1.36	0.88	16.175+j46.093	47.989+j119.497	1.52	0.98	15.821+j45.487	48.009+j119.043
OCOZOCUAUTLA	OCZ-115	115.0	6.76	4.63	2.281+j9.560	4.649+j22.907	8.00	5.29	1.989+j8.905	4.645+j22.716
OJO DE AGUA POTENCIA	OJP-400	400.0	12.26	12.77	2.900+j18.614	1.695+j16.700	19.02	17.62	1.751+j13.244	1.690+j16.498
OJO DE AGUA POTENCIA	OJP-115	115.0	20.22	20.89	0.506+j3.244	0.267+j2.973	26.20	25.98	0.335+j2.767	0.268+j2.850
OLINALA	OLN-115	115.0	1.20	0.86	15.609+j53.085	34.706+j116.938	1.40	0.97	13.582+j50.533	34.699+j116.645
OMEALCA	OME-115	115.0	3.24	1.74	3.300+j20.222	16.473+j71.646	4.30	3.15	2.364+j16.832	6.469+j34.906
OMETEPEC	OMT-115	115.0	1.53	0.89	15.916+j40.518	36.992+j132.018	1.71	0.99	15.040+j39.846	36.727+j131.140
ORIENTE	ORT-115	115.0	20.92	15.24	0.674+j3.101	1.276+j6.619	24.29	17.39	0.598+j2.946	1.268+j6.472
ORIZABA	ORI-115	115.0	14.83	13.57	0.871+j4.390	1.006+j5.654	19.25	17.34	0.620+j3.743	0.866+j4.977
OXCHUC	OXC-115	115.0	2.03	1.33	9.882+j31.175	29.919+j79.113	2.28	1.48	9.507+j30.517	29.941+j78.661
PACHAMAMA II MANIOBRAS	MPA-400	400.0	12.46	9.23	2.245+j18.395	9.091+j37.657	15.78	11.01	1.429+j16.032	8.968+j36.505
PAGÉS	PAG-115	115.0	17.00	12.57	0.772+j3.828	1.204+j7.965	23.38	15.61	0.513+j3.082	1.148+j7.695
PAGÉS	PAG-115B	115.0	17.00	12.57	0.772+j3.828	1.204+j7.965	23.38	15.61	0.513+j3.082	1.148+j7.695



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
PAJARITOS DOS	PJD-115	115.0	15.96	14.34	0.806+j4.082	0.620+j5.658	20.01	18.11	0.665+j3.589	0.574+j4.841
PAKAL	PKN-115	115.0	3.01	2.39	5.375+j21.368	13.943+j36.682	3.60	2.77	4.644+j19.735	13.831+j36.102
PALENQUE	PLQ-115	115.0	2.37	1.80	7.219+j27.036	20.164+j50.807	2.78	2.06	6.470+j25.428	20.051+j50.227
PALMAR DE BRAVO	PLB-115	115.0	4.57	3.20	4.881+j13.676	8.048+j32.292	5.10	3.56	4.771+j13.495	8.010+j32.080
PALMAS	PMM-115	115.0	9.87	8.19	0.851+j6.675	2.096+j10.680	13.42	10.08	0.616+j5.406	2.096+j10.663
PANOTLA	PNA-115	115.0	12.05	7.99	1.543+j5.289	3.892+j13.392	13.56	8.88	1.478+j5.178	3.890+j13.369
PANTEPEC	PPC-230	230.0	5.46	5.23	3.920+j24.003	2.781+j27.488	6.37	6.01	3.548+j22.640	2.666+j26.986
PANTEPEC	PPC-115	115.0	8.70	9.85	1.288+j7.520	0.388+j4.983	10.04	11.34	1.192+j7.174	0.357+j4.773
PAPAGAYO	PPG-115	115.0	4.07	2.94	5.220+j15.455	13.760+j32.296	5.28	3.50	3.593+j13.361	13.756+j32.163
PAPALOTLA	PPL-115	115.0	19.62	13.05	0.608+j3.329	1.897+j8.305	22.65	14.80	0.536+j3.179	1.883+j8.172
PAPANOA	PPN-115	115.0	1.25	1.16	12.074+j51.729	39.118+j56.055	2.39	1.99	7.760+j29.491	25.506+j43.217
PAPANTLA DISTRIBUCIÓN	PPD-115	115.0	9.23	6.98	1.062+j7.116	3.097+j13.818	11.32	8.10	0.927+j6.386	3.096+j13.796
PAPANTLA POTENCIA	PPT-400	400.0	15.12	13.00	1.500+j15.203	4.313+j22.292	19.62	15.85	0.981+j12.912	4.362+j21.704
PAPANTLA POTENCIA	PPT-115	115.0	18.65	17.79	0.271+j3.549	0.559+j4.042	22.36	20.78	0.221+j3.259	0.556+j3.967
PAPELERA TUXTEPEC	PTU-230	230.0	5.03	3.63	3.892+j26.088	12.570+j55.771	6.00	4.18	3.282+j24.106	12.535+j54.669
PARAÍSO	PSO-115	115.0	6.87	5.81	1.951+j9.466	3.938+j14.553	7.86	6.57	1.792+j9.117	3.861+j14.322
PARAISO RURAL	PSD-115	115.0	5.12	3.82	2.949+j12.633	6.609+j25.426	5.80	4.28	2.788+j12.288	6.533+j25.194
PAREDON	PDN-115	115.0	1.82	1.62	10.574+j34.873	14.109+j48.040	2.08	1.83	9.839+j33.627	14.095+j47.805
PAREDÓN PEMEX	PPX-115	115.0	2.58	1.84	6.359+j24.939	21.621+j53.158	2.89	2.04	6.200+j24.541	21.605+j52.948
PARQUE INDUSTRIAL	PRQ-115	115.0	5.53	4.04	2.188+j11.798	7.632+j24.386	6.28	4.51	2.041+j11.453	7.594+j24.293
PARQUE INDUSTRIAL API	PII-115	115.0	5.38	4.09	2.768+j12.025	6.105+j23.364	6.10	4.59	2.607+j11.679	6.028+j23.132
PARQUE INDUSTRIAL DE ENERGÍA RENOVABLE, S.A. DE C.V.	PIE-230	230.0	4.81	5.17	2.581+j27.476	1.708+j21.869	5.38	5.78	2.422+j27.034	1.675+j21.494
PARRILLA	PLL-115	115.0	16.30	14.37	0.677+j4.016	0.946+j5.730	19.97	16.89	0.511+j3.621	0.934+j5.647
PASO DEL TORO	PDT-115	115.0	11.41	7.64	1.093+j5.714	3.126+j14.120	15.38	10.75	0.743+j4.691	2.227+j10.656
PE INGENIO	EIN-230	230.0	4.02	4.62	4.405+j32.765	2.574+j20.245	5.65	6.11	2.751+j25.707	2.538+j20.009
PERIFÉRICO SUR	PES-115	115.0	9.87	6.89	1.207+j6.615	3.297+j15.247	11.48	7.78	1.062+j6.272	3.293+j15.203
PEROTE DOS	PEE-115	115.0	4.79	5.01	2.679+j13.594	2.692+j11.783	6.11	6.10	1.986+j11.779	2.651+j11.666
PETATLÁN	PTT-115	115.0	1.92	1.74	7.365+j33.745	23.394+j40.430	3.06	2.60	5.668+j23.198	18.008+j32.534
PETROQUÍMICA ESCOLIN	PQS-115	115.0	11.48	11.38	0.866+j5.718	1.859+j5.684	16.39	14.76	0.635+j4.411	1.859+j5.668
PEÑITAS	PEA-230	230.0	10.16	8.78	1.728+j12.952	3.355+j19.152	16.41	17.27	0.726+j8.869	0.510+j7.495
PEÑITAS	PEA-115	115.0	4.13	3.33	3.574+j15.654	9.745+j26.153	4.71	3.75	3.381+j15.140	9.713+j25.793
PEÑITAS DOS	PED-115	115.0	4.13	3.33	3.573+j15.681	9.716+j26.097	4.70	3.75	3.380+j15.164	9.683+j25.733
PICHUCALCO	PCO-115	115.0	2.26	1.54	8.257+j28.220	27.719+j64.751	2.52	1.71	8.064+j27.861	27.705+j64.659
PIE DE LA CUESTA	PIC-230	230.0	3.53	4.33	12.269+j35.615	1.806+j16.820	5.31	6.11	6.261+j26.805	1.905+j16.557
PIE DE LA CUESTA	PIC-115	115.0	6.04	7.88	3.467+j10.425	0.271+j3.370	8.91	11.13	1.841+j7.992	0.290+j3.286
PIEDRAS NEGRAS	PNS-115	115.0	5.09	2.90	2.637+j12.778	9.642+j41.625	7.56	6.34	1.636+j9.517	2.746+j14.998
PIER II QUECHOLAC FELIPE ÁNGELES S.A. DE C.V.	PDQ-115	115.0	5.94	5.56	2.830+j10.816	1.599+j13.487	6.67	6.27	2.706+j10.604	1.519+j13.065
PINOTEPA NACIONAL	PIN-115	115.0	1.62	0.96	14.428+j38.233	31.589+j122.677	1.81	1.07	13.919+j37.885	31.097+j120.850
PLAYA DIAMANTE	PDI-115	115.0	4.85	5.14	4.381+j12.959	2.300+j11.230	6.61	6.56	2.700+j10.709	2.303+j11.082
PLAYA NORTE	PYN-115	115.0	17.81	14.20	0.714+j3.659	0.969+j6.512	24.60	17.76	0.464+j2.932	0.937+j6.326



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Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
PLAYA VICENTE	PVC-115	115.0	1.85	1.05	9.571+j34.655	36.095+j112.448	2.07	1.17	9.340+j34.054	35.936+j111.077
PLAYAS	PYS-115	115.0	4.59	4.89	4.396+j13.775	2.604+j11.510	6.23	6.23	2.711+j11.401	2.630+j11.409
POCHUTLA	POC-115	115.0	1.63	1.08	14.227+j38.216	30.746+j97.570	1.81	1.24	13.875+j37.915	29.487+j91.796
POLIDESA	PLS-115	115.0	11.74	8.63	1.262+j5.511	2.817+j11.472	13.33	9.64	1.172+j5.352	2.812+j11.452
POLIFIL	POF-115	115.0	18.22	14.47	0.683+j3.580	1.220+j6.374	20.61	16.19	0.628+j3.488	1.220+j6.341
POMOCA	PMC-115	115.0	15.96	16.45	0.744+j4.094	0.498+j3.885	19.20	19.21	0.595+j3.756	0.496+j3.864
PONIENTE	PON-115	115.0	23.74	16.57	0.641+j2.722	1.297+j6.315	27.80	18.99	0.563+j2.566	1.287+j6.167
PORCEL	POR-115	115.0	19.85	13.13	0.640+j3.283	1.851+j8.302	22.88	14.84	0.568+j3.141	1.842+j8.204
POTRERO DOS	PTD-115	115.0	6.39	4.64	3.084+j9.922	6.360+j21.268	7.39	5.23	2.900+j9.446	6.353+j21.157
POZA RICA	PRI-230	230.0	13.55	14.89	0.965+j9.749	0.651+j7.129	18.52	19.14	0.520+j7.871	0.664+j6.971
POZA RICA	PRI-115	115.0	15.86	20.45	0.420+j4.164	0.052+j1.367	26.11	31.49	0.175+j2.792	0.052+j1.351
POZA RICA	PRI-69	69.0	13.40	18.47	0.183+j2.967	0.027+j0.522	24.01	31.38	0.054+j1.824	0.028+j0.536
POZA RICA DOS	PRD-400	400.0	22.19	19.81	0.995+j10.360	2.205+j13.894	31.45	25.93	0.525+j8.061	2.207+j12.901
POZA RICA DOS	PRD-230	230.0	14.84	16.63	0.791+j8.914	0.401+j6.040	20.19	21.46	0.410+j7.224	0.397+j5.813
POZA RICA TRES	PRT-69	69.0	8.85	8.11	0.470+j4.477	1.101+j5.640	13.06	10.55	0.334+j3.339	1.101+j5.654
POZO RANEY	PZR-115	115.0	4.09	2.84	5.103+j15.392	26.822+j28.857	5.39	3.40	3.431+j13.107	26.834+j28.747
POZOS HUAZUNTLAN	POZ-115	115.0	5.36	3.46	4.301+j11.611	8.628+j31.753	6.16	3.90	4.142+j11.117	8.595+j31.455
PROCTER & GAMBLE MANUFACTURAS S DE R.L. DE C.V.	PGC-115	115.0	9.10	7.70	1.304+j7.176	1.531+j11.553	10.15	8.58	1.250+j7.086	1.495+j11.423
PROENERMEX SANTA GERTRUDIS	PSG-115	115.0	12.59	10.13	0.956+j5.187	1.892+j8.936	15.81	12.67	0.724+j4.562	1.556+j7.903
PUEBLA DOS	PBD-400	400.0	21.92	22.82	1.949+j10.354	1.178+j9.397	29.52	28.96	1.176+j8.525	1.147+j9.111
PUEBLA DOS	PBD-230	230.0	16.98	18.19	0.994+j7.755	0.462+j6.317	19.97	20.98	0.739+j7.276	0.451+j6.269
PUEBLA DOS	PBD-115	115.0	40.53	39.12	0.289+j1.613	0.148+j1.832	49.12	46.25	0.218+j1.471	0.149+j1.771
PUEBLA DOS	PBD-115B	115.0	40.53	39.12	0.289+j1.613	0.148+j1.832	49.12	46.25	0.218+j1.471	0.149+j1.771
PUEBLA DOS MIL	PDM-115	115.0	32.73	27.78	0.393+j1.990	0.457+j3.098	39.03	32.32	0.320+j1.844	0.456+j3.014
PUEBLA UNO SF6	PSF-115	115.0	19.10	12.62	0.838+j3.374	1.576+j8.722	22.01	14.24	0.763+j3.229	1.573+j8.628
PUENTE DE IXTLA	PTI-85	85.0	2.98	1.60	2.963+j16.213	10.218+j58.318	3.34	1.77	2.815+j15.912	10.215+j58.080
PUERTO CHIAPAS	PUC-115	115.0	3.21	2.39	6.101+j19.770	13.546+j39.581	3.76	2.74	5.449+j18.622	13.605+j38.776
PUERTO ESCONDIDO	PUE-115	115.0	1.28	0.78	19.181+j48.080	40.368+j146.499	1.42	0.88	18.800+j47.833	39.345+j142.119
PUERTO FRANCO	PFR-115	115.0	11.36	9.23	1.569+j5.629	1.793+j9.883	13.62	10.95	1.441+j5.167	1.762+j9.217
PUERTO MADERO	PTM-115	115.0	3.44	2.59	5.719+j18.411	12.093+j36.278	4.06	2.98	5.069+j17.260	12.152+j35.473
PUERTO MARQUEZ	PUM-115	115.0	5.50	6.45	3.931+j11.403	0.985+j6.773	7.79	8.61	2.248+j9.104	0.988+j6.620
PUNTA IXTAPA, GRO.	PUI-115	115.0	4.12	3.15	2.311+j15.953	6.253+j30.303	6.00	4.26	2.062+j11.992	6.066+j26.434
PUNTA LIMÓN	PLI-115	115.0	1.94	1.38	8.244+j33.295	14.482+j74.454	2.13	1.52	8.210+j33.211	14.465+j74.312
QUEMADO	QMD-230	230.0	3.37	4.28	13.193+j37.115	1.052+j14.776	5.10	6.11	6.776+j27.823	1.161+j14.412
QUEMADO	QMD-115	115.0	6.38	8.61	3.590+j9.774	0.131+j2.396	9.58	12.51	1.901+j7.381	0.160+j2.278
QUEMADO	QMD-69	69.0	7.91	10.56	1.297+j4.868	0.022+j1.272	11.21	14.60	0.666+j3.852	0.077+j1.184
REAL DEL BOSQUE	RDB-115	115.0	9.44	6.91	1.490+j6.877	2.700+j14.516	11.60	8.09	1.195+j6.184	2.686+j14.220
REFINERÍA LÁZARO CÁRDENAS RECONFIGURACIÓN	RLC-115	115.0	10.56	6.90	1.123+j6.184	3.512+j16.013	13.71	11.56	0.818+j5.265	0.920+j8.302
REFINERÍA MINATITLÁN	RMN-115	115.0	9.06	5.74	1.260+j7.220	4.367+j19.674	11.28	6.66	0.986+j6.398	4.361+j19.519
REFINERÍA PEMEX	RFP-115	115.0	10.77	7.05	1.086+j6.066	3.413+j15.650	13.97	11.69	0.791+j5.167	0.956+j8.281



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Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
REFINERÍA SALINA CRUZ	RSC-115	115.0	3.26	3.12	4.875+j19.798	5.692+j22.872	4.20	3.81	3.625+j17.003	5.544+j22.371
RENACIMIENTO	REN-115	115.0	5.87	7.48	3.860+j10.638	0.408+j4.081	8.53	10.39	2.171+j8.284	0.418+j3.948
RESURRECCIÓN	RSN-115	115.0	14.82	9.82	0.948+j4.378	2.358+j11.101	16.88	11.00	0.877+j4.237	2.355+j11.031
REYES MANTECÓN	RMC-115	115.0	5.19	4.59	2.988+j12.446	3.597+j17.473	5.88	5.19	2.764+j12.099	3.549+j17.060
RIO BLANCO	RBO-115	115.0	8.96	6.39	1.595+j7.236	3.574+j15.986	10.69	7.37	1.392+j6.689	3.538+j15.682
RÍO COATAN	RCT-115	115.0	3.99	3.18	4.571+j15.991	5.602+j28.870	5.09	4.20	3.383+j13.955	3.694+j23.217
RÍO COATAN	RCT-69	69.0	1.71	1.96	1.939+j23.194	1.029+j14.252	2.99	3.77	0.854+j14.626	0.212+j5.505
RÍO GRANDE (NEJAPA)	RGD-115	115.0	1.24	0.74	19.035+j49.933	41.776+j158.590	1.38	0.82	18.620+j49.672	40.923+j155.185
RÍO GRANDE (NEJAPA)	RGD-115B	115.0	0.99	0.59	22.773+j62.919	51.560+j199.902	1.10	0.65	22.362+j62.662	50.703+j196.490
RÍO MEDIO	RME-115	115.0	15.59	12.45	0.856+j4.172	1.191+j7.398	20.78	15.20	0.611+j3.460	1.176+j7.288
RODRÍGUEZ CLARA	RDC-115	115.0	2.66	1.62	6.755+j23.998	19.055+j70.288	2.99	1.81	6.566+j23.539	18.928+j69.384
SACRIFICIOS	SCF-115	115.0	15.08	9.56	0.881+j4.313	1.828+j11.903	20.96	12.38	0.575+j3.437	1.505+j10.620
SALINA CRUZ	SAC-115	115.0	3.59	3.38	4.285+j18.015	5.655+j21.554	4.61	4.11	3.208+j15.515	5.540+j21.184
SALOYA	SYA-115	115.0	14.93	12.94	0.895+j4.356	1.264+j6.538	17.81	14.89	0.753+j4.032	1.263+j6.514
SAMARIA	SMI-115	115.0	9.38	6.54	1.236+j6.967	3.429+j16.186	10.81	7.34	1.114+j6.664	3.427+j16.152
SAMARIA	SMI-115B	115.0	9.38	6.54	1.236+j6.967	3.429+j16.186	10.81	7.34	1.114+j6.664	3.427+j16.152
SAN CRISTÓBAL ORIENTE	SCO-115	115.0	4.38	2.91	3.960+j14.642	10.894+j36.615	5.08	3.29	3.597+j13.925	10.918+j36.170
SAN FELIPE OAXACA	SFO-115	115.0	4.49	3.93	3.688+j14.316	4.863+j20.526	5.08	4.43	3.462+j13.964	4.830+j20.145
SAN JACINTO TLACOTEPEC	JTL-115	115.0	1.67	1.03	10.577+j38.318	24.997+j110.452	1.85	1.15	10.225+j38.033	24.554+j108.620
SAN JERÓNIMO	JRN-115	115.0	1.74	1.37	11.510+j36.447	21.511+j65.719	2.79	2.14	6.861+j25.214	16.312+j47.648
SAN JOSÉ CHIAPA	JOC-230	230.0	4.87	3.41	4.367+j26.926	15.760+j60.556	5.71	3.94	3.735+j25.311	15.070+j57.969
SAN LORENZO	LRZ-115	115.0	39.18	34.62	0.281+j1.671	0.284+j2.374	47.85	41.78	0.210+j1.512	0.264+j2.201
SAN LORENZO CACAOTEPEC	SLZ-115	115.0	6.04	6.17	2.659+j10.669	1.731+j10.191	6.89	7.04	2.437+j10.312	1.695+j9.805
SAN LUIS	SNL-115	115.0	2.58	1.45	6.208+j24.967	23.524+j82.670	3.27	2.13	5.112+j21.776	16.512+j55.867
SAN LUIS ACATLÁN	SLU-115	115.0	1.20	0.69	19.496+j51.890	47.079+j171.386	1.34	0.77	18.482+j51.092	46.861+j170.668
SAN LUIS MORELIA	SSM-115	115.0	1.13	0.66	17.950+j55.741	43.825+j181.729	1.25	0.72	17.824+j55.586	43.825+j181.574
SAN LUIS SAN PEDRO	SLS-115	115.0	1.05	0.72	18.742+j60.498	39.626+j144.005	2.28	1.73	8.414+j30.847	23.831+j58.239
SAN MARTIN	SMT-115	115.0	4.42	2.88	3.500+j14.609	9.900+j37.737	5.13	3.27	3.147+j13.871	9.906+j37.312
SAN MARTIN	MAR-115	115.0	24.19	20.59	0.438+j2.710	0.649+j4.150	27.76	23.28	0.379+j2.603	0.647+j4.112
SAN MARTIN POTENCIA	MPT-400	400.0	16.98	14.39	2.062+j13.440	3.275+j20.812	20.70	16.79	1.421+j12.192	3.265+j20.645
SAN MARTIN POTENCIA	MPT-115	115.0	27.15	24.63	0.374+j2.417	0.390+j3.189	31.13	27.88	0.319+j2.324	0.389+j3.156
SAN MIGUEL	SMG-115	115.0	12.77	8.59	0.881+j5.124	4.555+j12.076	14.31	9.57	0.828+j5.036	4.504+j11.985
SAN MIGUEL SANTA FLOR	SMF-115	115.0	1.35	0.84	12.150+j47.633	45.864+j132.266	1.50	0.92	11.939+j47.343	45.840+j131.938
SAN PABLO HUIXTEPEC	HTP-115	115.0	4.43	4.27	3.474+j14.593	2.473+j16.574	4.99	4.81	3.243+j14.265	2.411+j16.089
SAN RAFAEL DOS	RFD-115	115.0	2.25	1.59	7.739+j28.437	23.360+j62.295	2.57	1.80	7.310+j27.441	22.968+j60.621
SANTA ANITA	STN-115	115.0	16.02	14.39	0.907+j4.045	1.535+j5.456	18.23	16.15	0.836+j3.918	1.528+j5.445
SANTA ELENA	SEL-115	115.0	1.38	0.87	17.217+j44.896	36.862+j127.900	1.53	0.98	16.851+j44.628	35.722+j122.870
SANTA FE	SNF-115	115.0	9.67	7.17	1.177+j6.765	2.806+j13.787	11.67	8.27	0.967+j6.183	2.801+j13.692
SANTA ROSA	RSO-115	115.0	1.28	0.75	18.606+j48.579	40.635+j155.839	1.42	0.84	18.169+j48.301	39.877+j152.914
SANTA SOFÍA	SNS-115	115.0	4.02	2.73	2.946+j16.258	9.102+j38.959	4.58	3.07	2.752+j15.713	8.984+j38.418



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			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SANTO DOMINGO	STD-115	115.0	3.57	2.52	4.648+j18.015	9.455+j40.876	4.21	2.86	4.217+j16.825	9.452+j40.851
SARABIA	SRB-115	115.0	5.33	4.74	2.796+j12.134	3.418+j16.831	6.23	5.41	2.567+j11.448	3.382+j16.730
SCHPOINA	SCH-115	115.0	2.76	1.94	6.734+j23.112	20.513+j50.768	3.24	2.24	5.982+j21.734	20.125+j48.677
SIMOJOVEL	SMJ-115	115.0	1.16	0.72	16.051+j54.763	47.411+j155.855	1.29	0.79	15.847+j54.409	47.396+j155.762
SÍNTESIS ORGÁNICAS, TLAXCALA	SIA-115	115.0	10.75	7.90	1.381+j6.020	3.049+j12.561	12.17	8.81	1.291+j5.861	3.044+j12.541
SIVESA	SIV-115	115.0	10.77	9.99	1.645+j5.940	1.625+j7.458	13.49	12.26	1.349+j5.245	1.539+j6.868
SN. LORENZO POTENCIA	LRP-400	400.0	21.73	22.10	1.914+j10.453	1.188+j10.193	28.62	27.70	1.173+j8.799	1.107+j9.777
SN. LORENZO POTENCIA	LRP-115	115.0	46.94	46.80	0.238+j1.394	0.105+j1.453	58.68	58.60	0.167+j1.233	0.084+j1.273
SN. LORENZO POTENCIA	LRP-115B	115.0	46.94	46.80	0.238+j1.394	0.105+j1.453	58.68	58.60	0.167+j1.233	0.084+j1.273
SOLEDAD DE DOBLADO	SOD-115	115.0	4.04	2.32	3.893+j15.975	12.140+j51.528	4.65	2.60	3.643+j15.275	12.130+j51.388
SOYALÓ	SOY-115	115.0	5.36	3.66	2.826+j12.071	6.326+j29.010	6.27	4.15	2.519+j11.376	6.328+j28.822
SWITCHEO ARRIAGA	SWA-115	115.0	2.49	2.57	7.478+j25.571	3.639+j24.282	2.90	2.94	6.755+j24.287	3.625+j24.048
SWITCHEO VILLACOMALTITLAN	SWV-115	115.0	3.11	2.17	6.383+j20.400	16.424+j46.234	3.66	2.53	5.587+j19.152	15.911+j44.000
TABACHINES	TBH-85	85.0	5.55	4.70	1.411+j8.729	1.574+j13.558	6.34	5.32	1.272+j8.419	1.572+j13.323
TABASCO POTENCIA	TSP-400	400.0	9.31	9.17	3.677+j24.528	2.712+j25.896	13.35	11.95	1.846+j18.941	2.781+j25.571
TABASCO POTENCIA	TSP-230	230.0	14.09	15.68	1.453+j9.312	0.621+j6.663	19.53	20.41	0.796+j7.437	0.629+j6.547
TABASQUILLO	TBQ-115	115.0	1.96	1.36	9.208+j32.625	31.606+j72.902	2.18	1.50	9.037+j32.304	31.604+j72.881
TACOTALPA	TCT-115	115.0	2.57	1.68	7.260+j24.752	22.100+j63.025	2.88	1.87	7.066+j24.388	22.086+j62.932
TAJÍN	TAJ-115	115.0	13.42	13.94	0.646+j4.907	1.238+j4.241	16.67	16.69	0.543+j4.346	1.238+j4.216
TALLERES Y ACEROS S.A. (TYASA)	TYS-400	400.0	11.81	12.26	2.956+j19.334	1.663+j17.492	18.04	16.75	1.806+j13.964	1.661+j17.308
TALLERES Y ACEROS S.A. (TYASA)	TYS-115	115.0	11.66	8.44	0.391+j5.683	0.086+j12.224	13.64	9.64	0.295+j5.347	0.085+j12.035
TAMARINDO DOS	TDD-115	115.0	5.45	4.06	2.206+j11.972	4.511+j24.344	6.16	4.53	2.062+j11.667	4.506+j24.266
TAMAZULAPAN DOS	TAD-115	115.0	1.70	1.04	11.530+j37.395	29.772+j110.053	1.88	1.14	11.358+j37.203	29.759+j109.868
TAMSA DOS	TSD-230	230.0	12.07	10.77	1.810+j10.854	3.033+j14.736	16.31	13.40	1.145+j8.882	3.057+j14.479
TAMSA DOS	TSD-230B	230.0	12.07	10.77	1.810+j10.854	3.033+j14.736	16.31	13.40	1.145+j8.882	3.057+j14.479
TAMULTE	TAT-115	115.0	14.55	12.31	0.832+j4.487	1.667+j7.106	17.19	14.08	0.715+j4.188	1.664+j7.070
TAMULTE MANIOBRAS	TMM-115	115.0	13.77	11.45	0.812+j4.753	1.574+j7.877	16.14	13.04	0.705+j4.469	1.570+j7.836
TAPACHULA	TCH-115	115.0	4.74	3.63	3.454+j13.580	5.045+j26.408	5.94	4.51	2.588+j12.018	4.445+j23.535
TAPACHULA AEROPUERTO	TAE-115	115.0	7.07	6.24	2.166+j9.142	1.862+j13.032	9.16	7.87	1.467+j7.839	1.799+j11.718
TAPACHULA NORTE	TNE-115	115.0	4.88	3.90	3.360+j13.193	4.347+j23.535	6.22	5.01	2.427+j11.496	3.428+j19.936
TAPACHULA ORIENTE	TOE-115	115.0	5.03	3.85	3.105+j12.834	4.580+j24.940	6.28	4.71	2.307+j11.394	4.238+j22.810
TAPACHULA POTENCIA	THP-400	400.0	3.57	3.68	13.786+j63.174	6.144+j58.814	5.19	5.06	7.522+j48.337	6.805+j51.777
TAPACHULA POTENCIA	THP-115	115.0	8.34	8.34	1.623+j7.796	0.579+j8.008	10.98	10.66	1.003+j6.573	0.639+j7.206
TAPANATEPEC	TNP-115	115.0	2.33	1.78	8.048+j27.370	11.398+j53.976	2.67	2.00	7.477+j26.273	11.392+j53.846
TAPIJULAPA	TPJ-115	115.0	1.90	1.25	9.812+j33.532	31.539+j84.159	2.11	1.38	9.615+j33.171	31.524+j84.066
TAXCO	TXO-115	115.0	2.35	2.01	6.973+j27.376	7.424+j42.200	2.89	2.36	5.099+j24.715	7.412+j41.787
TEAPA, TABASCO.	TTB-115	115.0	3.42	2.41	5.360+j18.636	17.150+j40.789	3.85	2.67	5.170+j18.269	17.135+j40.697
TEAPA, VERACRUZ	TEA-115	115.0	19.04	14.92	0.539+j3.444	1.091+j6.419	23.58	18.75	0.433+j3.067	0.888+j5.510
TECALI	TCL-400	400.0	20.51	21.23	1.912+j11.096	1.305+j10.202	28.66	27.39	1.136+j8.792	1.308+j10.058
TECALI	TCL-230	230.0	16.12	17.75	0.915+j8.185	0.395+j6.011	18.91	20.43	0.671+j7.694	0.393+j6.003



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TECALI	TCL-115	115.0	26.18	25.94	0.401+j2.504	0.133+j2.629	31.52	31.46	0.311+j2.296	0.159+j2.336
TECAMACHALCO	TML-115	115.0	7.51	4.85	2.159+j8.577	4.857+j22.898	8.45	5.41	2.058+j8.391	4.876+j22.676
TECAMACHALCO II	TLD-115	115.0	7.18	4.65	2.146+j8.996	5.004+j23.875	8.08	5.19	2.048+j8.806	5.025+j23.635
TECNOLÓGICO	TNL-115	115.0	3.66	3.16	3.795+j17.726	6.205+j26.494	4.62	3.76	2.897+j15.535	6.133+j26.256
TECOMAXTLAHUACA	TCX-115	115.0	0.80	0.46	22.438+j79.870	61.695+j261.325	0.88	0.51	22.310+j79.718	61.695+j261.168
TECPAN	TCA-115	115.0	1.26	0.90	15.740+j50.117	32.014+j111.748	2.39	1.76	8.139+j29.489	21.301+j59.842
TEHUACÁN	THN-115	115.0	5.20	3.25	3.603+j12.243	8.182+j34.925	5.83	3.60	3.471+j12.043	8.174+j34.793
TEHUANTEPEC	THT-115	115.0	3.66	3.01	4.317+j17.634	8.556+j29.258	4.52	3.53	3.575+j15.757	8.486+j29.051
TEJALPA	TJA-115	115.0	10.57	9.43	1.060+j6.194	1.244+j8.467	11.98	10.60	0.926+j6.026	1.231+j8.393
TELMAC	TLM-115	115.0	15.56	13.68	0.872+j4.176	1.159+j5.953	17.94	15.58	0.770+j3.998	1.134+j5.822
TEMASCAL DOS	TMD-400	400.0	17.83	19.33	2.253+j12.757	1.251+j10.069	29.75	28.64	1.010+j8.478	1.161+j9.458
TEMASCAL DOS	TMD-230	230.0	14.34	16.47	1.167+j9.187	0.311+j5.739	20.25	22.88	0.586+j7.191	0.277+j4.641
TEMASCAL UNO	TMU-230	230.0	11.67	11.50	1.543+j11.274	1.857+j11.801	16.48	17.59	0.840+j8.823	0.707+j7.025
TEMASCAL UNO	TMU-115	115.0	13.79	7.08	0.662+j4.768	3.551+j18.213	20.42	18.31	0.347+j3.559	0.309+j4.672
TEMAXCALAC	TXB-115	115.0	19.36	15.21	0.548+j3.386	1.253+j6.130	21.92	17.03	0.494+j3.295	1.253+j6.095
TEMIXCO	TMX-85	85.0	5.93	4.65	1.343+j8.167	1.802+j15.013	6.79	5.26	1.206+j7.853	1.800+j14.778
TENOSIQUE	TNQ-115	115.0	2.07	1.53	9.281+j30.775	25.157+j61.273	2.40	1.74	8.459+j29.223	25.035+j60.679
TEPALCINGO	TPL-115	115.0	5.86	3.65	2.249+j11.111	6.303+j31.227	6.51	4.04	2.190+j10.998	6.303+j31.206
TEPEACA	TPE-115	115.0	7.49	5.05	1.408+j8.755	4.820+j21.227	8.44	5.65	1.316+j8.549	4.846+j20.933
TEPEJI	TPI-115	115.0	3.78	2.30	4.660+j16.930	11.170+j50.120	4.21	2.55	4.553+j16.751	11.184+j49.910
TEPEYAC, VERACRUZ	TPY-115	115.0	9.15	6.96	1.055+j7.180	2.974+j13.822	11.81	8.27	0.859+j6.123	2.974+j13.804
TEREFTALATOS	TRT-115	115.0	6.69	4.22	3.006+j9.466	6.541+j26.673	7.76	4.77	2.844+j8.978	6.508+j26.376
TERNIUM MÉXICO - LARGOS PUEBLA	TRP-230	230.0	6.74	5.04	2.901+j19.491	8.393+j38.756	7.61	5.62	2.637+j19.020	8.382+j38.709
TEZIUTLAN	TZT-115	115.0	7.50	7.01	1.771+j8.670	0.985+j10.730	9.75	9.30	1.290+j7.376	0.952+j8.507
TEZIUTLAN	TZT-69	69.0	3.14	3.25	0.712+j12.652	0.203+j11.425	4.30	4.47	0.486+j10.189	0.379+j8.949
TEZIUTLAN DOS	TZD-115	115.0	6.00	4.04	2.179+j10.841	4.719+j26.837	7.46	4.86	1.732+j9.641	4.691+j24.988
TEZOYUCA	TEZ-115	115.0	10.55	9.09	1.182+j6.181	1.527+j9.218	11.99	10.23	1.053+j6.001	1.503+j9.120
TIERRA BLANCA	TBL-115	115.0	4.23	2.39	3.867+j15.199	11.737+j50.509	4.99	2.94	3.533+j14.210	10.193+j43.950
TIERRA COLORADA	TIE-115	115.0	2.96	2.22	6.586+j21.422	9.537+j44.075	3.74	2.61	4.798+j18.920	9.554+j43.948
TIHUATLAN DOS	THD-115	115.0	8.19	5.64	1.456+j7.975	6.110+j18.205	9.45	6.36	1.356+j7.612	6.094+j18.080
TILAPA	TIL-69	69.0	0.97	0.79	14.674+j38.479	24.579+j64.500	1.06	0.86	14.643+j38.715	24.580+j64.817
TIXTLA	TIT-115	115.0	4.25	4.36	4.277+j15.030	2.834+j14.162	5.82	5.57	2.431+j12.317	2.831+j13.882
TLACOACHISTLAHUACA	THU-115	115.0	1.18	0.68	19.290+j52.802	46.220+j172.745	1.32	0.76	18.412+j52.138	45.954+j171.865
TLACOLULA	TLL-115	115.0	2.38	1.62	7.347+j26.952	15.074+j65.142	2.65	1.80	7.114+j26.613	15.043+j64.784
TLACOTALPAN	TTA-115	115.0	2.41	1.40	8.390+j26.294	25.403+j83.387	2.78	1.71	7.700+j25.156	21.735+j72.684
TLACOTEPEC	TTP-115	115.0	2.76	1.62	4.956+j23.523	17.432+j72.812	3.06	1.79	4.854+j23.343	17.451+j72.589
TLACOTEPEC	TCE-115	115.0	1.34	0.87	14.603+j47.461	34.005+j125.853	1.57	0.98	12.722+j44.900	33.975+j125.131
TLALTIZAPAN	TLZ-85	85.0	3.67	2.39	2.249+j13.170	5.550+j34.327	4.14	2.67	2.105+j12.865	5.548+j34.090
TLAPA NUEVA	TAN-115	115.0	1.43	0.94	14.238+j44.299	27.355+j116.917	1.68	1.06	12.176+j41.792	27.348+j116.621
TLAPACOYAN	TLY-115	115.0	4.72	5.79	3.284+j13.666	0.569+j6.342	5.74	7.05	2.756+j12.428	0.464+j5.626



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Oriental**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TLATLAUQUITEPEC	TUQ-115	115.0	1.83	1.27	10.771+j34.697	19.155+j81.757	2.19	1.46	8.759+j32.131	19.149+j81.465
TLAXIACO	TXI-115	115.0	1.03	0.63	19.619+j61.265	48.174+j182.619	1.14	0.69	19.426+j61.063	48.158+j182.399
TONALÁ	TNA-115	115.0	1.67	1.44	11.555+j38.050	17.555+j55.869	1.90	1.62	10.817+j36.812	17.541+j55.634
TONANTZINTLA	TNZ-115	115.0	15.27	8.90	0.854+j4.264	3.343+j13.306	17.49	10.01	0.773+j4.105	3.328+j13.157
TRANSISTMICA (MANIOBRAS SEDENA)	TST-115	115.0	4.53	4.30	3.255+j14.302	4.936+j16.963	5.66	5.13	2.639+j12.622	4.863+j16.781
TRES ESTRELLAS	TTE-400	400.0	19.74	19.42	0.802+j11.671	0.868+j11.883	30.54	31.73	0.355+j8.311	0.333+j6.873
TRES VALLES	TVS-115	115.0	8.07	5.81	1.688+j8.057	3.265+j17.573	10.38	8.47	1.294+j6.918	1.827+j11.813
TROY	TOY-115	115.0	7.37	4.55	1.567+j8.872	4.985+j25.384	8.95	7.81	1.365+j8.044	1.051+j11.808
TULIPÁN	TLN-115	115.0	7.03	6.02	2.365+j9.140	4.520+j13.568	8.02	6.79	2.242+j8.827	4.469+j13.411
TUXPAN DOS	TUD-115	115.0	3.51	2.81	4.558+j18.340	10.621+j31.381	3.94	3.13	4.451+j17.991	10.595+j31.211
TUXPAN VAPOR	TUV-400	400.0	17.26	18.82	0.968+j13.347	0.615+j10.014	29.67	35.12	0.344+j8.555	0.123+j4.447
TUXPANGO	TPG-115	115.0	9.85	7.85	1.294+j6.615	2.207+j11.717	12.42	10.04	0.982+j5.797	1.664+j9.931
TUXTEPEC DOS	TXD-115	115.0	5.97	4.16	2.041+j10.938	4.512+j25.436	6.93	4.74	1.871+j10.373	4.489+j24.831
TUXTEPEC TRES	TPS-115	115.0	8.19	5.81	1.463+j7.970	3.665+j17.809	9.85	6.86	1.260+j7.303	3.638+j16.792
TUXTLA GUTIÉRREZ	TGU-115	115.0	10.63	8.07	1.357+j6.098	2.225+j11.988	13.24	9.53	1.059+j5.414	2.215+j11.721
TUXTLA GUTIÉRREZ DOS	TGD-115	115.0	9.34	6.66	1.667+j6.907	3.081+j15.398	11.50	7.80	1.352+j6.203	3.057+j15.048
TUXTLA NORTE	TXN-115	115.0	10.71	8.08	1.324+j6.054	2.204+j12.063	13.37	9.56	1.023+j5.366	2.191+j11.771
TUXTLA ORIENTE	TXO-115	115.0	7.41	4.98	2.167+j8.689	4.448+j21.617	8.95	5.77	1.836+j7.954	4.408+j21.180
TUXTLA SUR	TXS-115	115.0	12.53	10.27	0.952+j5.214	1.353+j8.695	15.97	12.38	0.670+j4.524	1.344+j8.422
UNILIVER	UNL-115	115.0	3.95	4.64	3.621+j16.395	1.415+j9.247	4.40	5.16	3.486+j16.227	1.403+j9.173
UNIÓN CARBIDE TEAPA	UCT-115	115.0	13.58	9.36	0.946+j4.795	2.217+j11.418	16.24	11.17	0.838+j4.420	2.014+j10.509
UXPANAPA DOS	UXD-115	115.0	6.02	3.86	2.608+j10.726	6.298+j28.979	6.86	4.32	2.494+j10.344	6.288+j28.799
UXPANAPA III	UXT-115	115.0	1.62	0.94	11.470+j39.352	30.294+j125.927	1.81	1.04	11.278+j38.856	30.224+j125.577
UXPANAPA UNO	UXU-115	115.0	3.14	1.85	5.322+j20.450	14.527+j64.145	3.52	2.05	5.209+j20.068	14.517+j63.964
VALLE NACIONAL	VAN-115	115.0	3.12	2.00	4.696+j20.777	11.822+j55.787	3.51	2.23	4.519+j20.323	11.792+j55.337
VALSEQUILLO	VSE-115	115.0	7.94	4.81	1.488+j8.232	5.357+j24.121	8.93	5.36	1.400+j8.054	5.363+j23.946
VEGA DE ALATORRE	VDA-115	115.0	1.37	0.97	15.899+j45.786	31.166+j103.770	1.54	1.09	15.463+j44.796	30.772+j102.092
VENTA	VEN-69	69.0	2.42	2.86	6.044+j15.289	10.107+j4.805	3.96	4.75	2.766+j10.727	2.597+j5.041
VERACRUZ DOS	VRD-230	230.0	14.21	15.85	1.596+j9.210	0.784+j6.457	21.61	22.79	0.786+j6.712	0.705+j5.631
VERACRUZ DOS	VRD-115	115.0	21.82	26.19	0.512+j2.999	0.167+j1.527	31.76	36.50	0.274+j2.284	0.157+j1.388
VERACRUZ UNO	VRU-115	115.0	16.98	13.20	0.757+j3.837	1.267+j7.169	23.57	16.74	0.488+j3.060	1.176+j6.781
VETROTEX	VET-115	115.0	14.47	12.47	0.923+j4.495	1.159+j6.735	16.62	14.18	0.819+j4.317	1.129+j6.583
VIDRIERA DE TIERRA BLANCA	VTB-115	115.0	5.44	3.08	2.211+j11.997	9.508+j39.105	6.70	4.12	1.782+j10.753	7.237+j30.592
VILLA FLORES DOS	VFD-115	115.0	1.55	0.91	12.214+j40.968	36.095+j127.457	1.74	1.01	11.886+j40.364	36.091+j127.262
VILLAHERMOSA CENTRO	VHC-115	115.0	13.05	9.43	1.095+j4.967	2.418+j10.901	15.34	10.70	0.970+j4.661	2.415+j10.861
VILLAHERMOSA DOS	VID-115	115.0	14.19	11.97	0.870+j4.598	1.319+j7.280	17.02	13.82	0.708+j4.233	1.315+j7.235
VILLAHERMOSA NORTE	VHN-230	230.0	10.50	10.28	2.075+j12.474	1.832+j13.659	13.29	12.35	1.486+j10.892	1.849+j13.583
VILLAHERMOSA NORTE	VHN-115	115.0	16.79	18.52	0.702+j3.891	0.277+j2.970	20.32	21.79	0.552+j3.551	0.275+j2.950
VILLAHERMOSA PONIENTE	VIP-115	115.0	13.55	11.09	0.953+j4.806	1.954+j8.110	16.01	12.68	0.820+j4.487	1.952+j8.079
VILLAHERMOSA UNO	VIU-115	115.0	10.10	7.65	1.218+j6.457	2.498+j12.768	11.78	8.66	1.059+j6.111	2.496+j12.738



**Niveles de cortocircuito de la Red Nacional de Transmisión
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			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
VISTAMAR	VIS-115	115.0	10.63	7.96	1.533+j6.055	2.524+j12.418	12.61	9.26	1.410+j5.618	2.510+j11.911
VOLKSWAGEN	VWG-115	115.0	41.45	37.74	0.270+j1.579	0.255+j2.085	51.01	46.04	0.199+j1.418	0.234+j1.906
XALAPA DE DÍAZ	JDD-230	230.0	5.42	4.21	3.446+j24.249	12.226+j44.291	6.50	4.88	2.795+j22.306	12.209+j43.329
XICOTENCATL	XIT-115	115.0	17.37	16.37	0.719+j3.755	0.653+j4.514	20.12	18.80	0.617+j3.577	0.624+j4.366
XICOTEPEC	XIP-85	85.0	6.84	1.34	1.482+j7.018	20.075+j93.653	10.11	9.03	0.967+j5.252	1.548+j7.023
XOCHICALCO	XCH-85	85.0	2.90	1.41	3.102+j16.661	13.200+j69.154	3.25	1.57	2.953+j16.360	13.198+j68.916
XOXTLA-CORONANGO	XCR-115	115.0	16.79	10.70	0.702+j3.892	2.459+j10.452	19.30	12.10	0.627+j3.733	2.441+j10.288
YAUTEPEC POTENCIA	YTP-400	400.0	24.05	24.00	1.658+j9.457	1.327+j9.625	30.60	29.00	1.044+j8.236	1.329+j9.596
YAUTEPEC POTENCIA	YTP-230	230.0	19.03	21.62	1.046+j6.898	0.353+j4.486	22.78	25.28	0.704+j6.374	0.353+j4.500
YAUTEPEC POTENCIA	YTP-115	115.0	23.50	23.29	0.305+j2.809	0.188+j2.901	27.76	26.90	0.228+j2.621	0.187+j2.878
YECAPIXTLA	YCP-230	230.0	10.61	9.35	1.753+j12.392	2.608+j17.388	12.18	10.57	1.432+j11.912	2.574+j17.285
YOLOMECATL	YOL-115	115.0	1.42	0.88	14.087+j44.521	35.814+j128.825	1.57	0.97	13.900+j44.314	35.799+j128.608
YUCUDAA	YUC-115	115.0	1.74	1.09	11.461+j36.345	29.614+j101.968	1.93	1.21	11.277+j36.135	29.600+j101.752
ZACAPOAXTLA	ZXP-115	115.0	2.61	1.97	5.840+j24.751	17.203+j47.142	2.99	2.23	5.540+j23.786	17.288+j46.257
ZACATEPEC	ZTP-115	115.0	2.02	1.24	7.784+j31.912	21.982+j92.471	2.25	1.37	7.589+j31.525	22.010+j92.259
ZANATEPEC	ZNT-115	115.0	2.50	1.70	7.261+j25.516	14.223+j62.316	2.88	1.91	6.804+j24.469	14.219+j62.256
ZAPATA	ZAP-230	230.0	14.66	14.59	1.802+j8.879	1.381+j9.099	18.12	17.36	1.215+j7.967	1.369+j9.009
ZAPATA	ZAP-115	115.0	15.62	17.62	0.619+j4.205	0.172+j2.814	17.99	20.14	0.488+j4.031	0.165+j2.757
ZAPATA	ZAP-85	85.0	7.56	7.51	0.828+j6.437	0.189+j6.657	8.76	8.65	0.695+j6.120	0.187+j6.422
ZAPATA DOS	ZPD-115	115.0	7.24	8.03	1.629+j9.024	0.606+j6.429	9.88	10.62	0.948+j7.328	0.495+j5.851
ZAPATA ORIENTE	ZPO-115	115.0	4.31	3.44	3.515+j15.005	9.948+j25.350	5.16	3.98	3.021+j13.825	9.899+j25.048
ZAPATA PONIENTE	EZA-115	115.0	3.93	3.32	4.014+j16.416	8.686+j24.677	4.83	3.93	3.276+j14.772	8.572+j24.093
ZIHUATANEJO	ZIH-115	115.0	3.74	2.77	2.816+j17.514	7.579+j35.521	5.37	3.71	2.512+j13.374	7.320+j30.958
ZIHUATANEJO DOS	ZHD-115	115.0	3.79	2.80	2.775+j17.313	7.151+j35.177	5.67	3.97	2.394+j12.649	6.715+j28.610
ZINACATEPEC	ZIP-115	115.0	2.79	1.64	6.730+j22.849	18.234+j71.586	3.10	1.81	6.593+j22.643	18.229+j71.468
ZINACATEPEC	ZIP-69	69.0	1.77	2.02	2.812+j22.317	0.000+j14.167	1.93	2.20	2.774+j22.557	0.000+j14.482
ZOCAC	ZOC-230	230.0	13.02	12.67	1.970+j10.011	2.206+j10.895	15.92	15.02	1.535+j9.044	2.124+j10.593
ZOCAC	ZOC-115	115.0	18.07	17.65	0.688+j3.609	0.524+j3.939	20.99	20.36	0.586+j3.429	0.494+j3.787
ZONGOLICA	ZGL-115	115.0	4.15	2.40	2.711+j15.783	12.560+j49.426	5.49	4.92	1.900+j13.176	2.558+j17.723

Gerencia de Control Regional Occidental



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Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ABASOLO	ABS-115	115.0	9.51	9.54	1.505+j6.815	1.150+j6.828	10.69	10.78	1.378+j6.693	1.101+j6.565
ABASOLO DOS	ABA-230	230.0	6.33	5.57	4.133+j20.573	4.095+j29.354	7.19	6.30	3.622+j20.000	3.907+j28.680
ABASOLO DOS	ABA-115	115.0	9.99	10.46	1.389+j6.500	0.639+j5.728	11.23	11.86	1.262+j6.378	0.587+j5.459
ABASTOS	ABT-115	115.0	7.93	7.11	2.274+j8.061	2.499+j11.105	9.18	8.13	2.015+j7.701	2.478+j10.908
ACÁMBARO	AQM-110	115.0	5.20	3.69	3.523+j12.277	7.388+j27.618	6.02	4.22	3.229+j11.695	7.253+j27.050
ACAPONETA	ACP-115	115.0	1.23	0.83	20.080+j50.301	52.879+j122.054	1.38	0.92	19.204+j49.279	52.814+j121.659
ACATIC (EL REFUGIO)	RFJ-115	115.0	3.53	2.73	5.724+j17.907	8.025+j34.525	3.95	3.04	5.403+j17.703	7.919+j34.126
ACATLÁN	ATN-400	400.0	11.22	12.96	7.575+j19.133	1.634+j12.507	21.22	21.16	1.907+j11.816	1.685+j11.958
ACATLÁN	ATN-230	230.0	14.94	18.27	3.088+j8.337	0.405+j4.110	23.86	26.91	1.045+j6.033	0.409+j4.025
ACATLÁN	ATN-115	115.0	12.11	14.73	1.039+j5.384	0.112+j2.578	14.87	17.65	0.512+j4.884	0.114+j2.595
ACATLÁN	ATN-69	69.0	22.27	25.36	0.396+j1.744	0.057+j1.148	27.86	30.76	0.203+j1.560	0.056+j1.129
ACERLAN SA	ACR-69	69.0	11.59	10.20	0.933+j3.309	1.043+j4.729	13.83	11.84	0.720+j3.086	1.038+j4.649
ACUEDUCTO	ACU-69	69.0	12.93	8.82	0.911+j2.944	1.556+j7.232	15.44	10.09	0.690+j2.753	1.551+j7.189
ACUEDUCTO II	AUD-115	115.0	2.96	2.55	3.881+j22.112	5.524+j32.813	3.76	3.17	2.777+j19.243	4.981+j29.734
AEROESPACIAL	ARL-115	115.0	17.69	13.78	0.701+j3.687	1.390+j6.801	20.16	15.47	0.642+j3.565	1.380+j6.773
AEROPUERTO	AER-115	115.0	5.08	4.11	3.570+j12.579	6.626+j21.559	5.86	4.69	3.253+j12.029	6.537+j21.112
AEROPUERTO ZACATECAS	AEZ-115	115.0	6.50	5.54	2.656+j9.860	3.198+j15.243	7.51	6.27	2.290+j9.455	3.187+j15.155
AEROTECH	AET-115	115.0	16.65	12.80	0.734+j3.919	1.500+j7.430	18.93	14.53	0.676+j3.798	1.423+j7.224
AGAVE	AVE-115	115.0	2.72	2.31	8.146+j23.006	13.365+j34.901	3.03	2.57	7.817+j22.795	13.326+j34.730
AGOSTADERITO	AGO-115	115.0	13.55	10.57	1.063+j4.785	1.173+j8.987	15.91	12.05	0.825+j4.515	1.166+j8.942
AGROINDUSTRIAL	AIL-115	115.0	6.56	4.08	2.744+j9.744	9.019+j27.154	7.32	4.52	2.621+j9.628	9.005+j27.030
AGUA AZUL	AGZ-230	230.0	9.03	7.97	4.229+j14.079	4.842+j20.040	12.13	9.92	2.125+j11.850	4.751+j19.559
AGUAMILPA	AGM-400	400.0	5.98	5.42	9.664+j37.422	9.175+j49.751	14.12	16.20	1.485+j17.932	0.627+j11.018
AGUAMILPA	AGM-115	115.0	2.42	2.17	6.880+j26.523	10.358+j35.684	2.78	2.46	6.237+j25.529	10.132+j34.984
AGUAPRIETA	APR-230	230.0	8.99	8.32	4.261+j14.144	3.412+j18.076	13.84	13.16	1.644+j10.422	1.721+j12.070
AGUASCALIENTES NORTE	AGN-115	115.0	17.98	13.06	0.918+j3.577	0.664+j7.887	21.43	14.92	0.692+j3.337	0.663+j7.879
AGUASCALIENTES ORIENTE	AGS-230	230.0	16.75	17.70	2.021+j7.666	1.181+j6.573	22.07	22.04	1.118+j6.523	1.181+j6.561
AGUASCALIENTES ORIENTE	AGS-115	115.0	23.01	24.85	0.676+j2.805	0.212+j2.251	28.01	29.32	0.452+j2.568	0.211+j2.259
AGUASCALIENTES PONIENTE	AGP-115	115.0	13.22	10.35	1.076+j4.905	0.814+j9.208	15.47	11.77	0.841+j4.646	0.804+j9.169
AGUASCALIENTES POTENCIA	APT-400	400.0	15.36	17.19	4.251+j14.426	1.413+j10.236	22.20	23.01	1.746+j11.311	1.413+j10.173
AGUASCALIENTES POTENCIA	APT-230	230.0	18.74	21.39	1.843+j6.842	0.561+j4.455	25.18	27.30	0.951+j5.723	0.559+j4.432
AGUASCALIENTES POTENCIA	APT-115	115.0	22.51	23.11	0.637+j2.880	0.212+j2.731	27.94	27.70	0.396+j2.584	0.208+j2.683
AGUASCALIENTES SUR	ASS-115	115.0	13.64	10.01	1.103+j4.741	1.659+j10.033	16.02	11.38	0.864+j4.477	1.657+j10.013
AGUASCALIENTES UNO	AGT-230	230.0	12.62	11.40	2.444+j10.235	2.738+j13.629	15.79	13.57	1.538+j9.120	2.709+j13.552
AGUASCALIENTES UNO	AGT-115	115.0	16.60	15.64	0.826+j3.914	0.545+j4.716	19.64	18.06	0.596+j3.672	0.528+j4.671
AGYDSA	AGY-69	69.0	19.66	18.64	0.629+j1.926	0.376+j2.349	24.45	22.41	0.417+j1.743	0.356+j2.257
AHRESTY	ART-115	115.0	7.30	6.49	2.661+j8.697	3.123+j12.115	8.41	7.38	2.330+j8.362	3.102+j11.985
AHUACATLÁN	AHN-110	115.0	0.90	0.57	26.376+j68.884	70.030+j187.436	1.39	1.22	14.076+j50.484	21.732+j71.227
ALAMEDA	ALA-69	69.0	9.01	7.35	1.225+j4.247	1.967+j7.163	10.58	8.42	0.998+j4.020	1.947+j7.065
ALAMOS	ALS-230	230.0	9.14	8.08	4.213+j13.910	4.259+j19.821	12.32	10.08	2.103+j11.672	4.161+j19.337



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ALAMOS	ALS-69	69.0	10.64	12.03	0.824+j3.651	0.167+j2.462	12.63	14.25	0.609+j3.415	0.153+j2.292
ALFA NISSAN MANIOBRAS	AIS-115	115.0	15.75	15.26	0.923+j4.114	0.466+j4.620	18.79	17.80	0.681+j3.827	0.453+j4.526
ALMERIA	ALM-69	69.0	3.27	2.07	5.152+j11.048	11.996+j31.011	3.72	2.31	4.806+j10.763	11.995+j30.992
ALZA	ALZ-115	115.0	7.02	5.94	2.689+j9.062	3.993+j14.074	8.09	6.75	2.353+j8.717	3.948+j13.864
ALZADA	AZA-115	115.0	3.20	2.62	6.259+j19.804	8.969+j33.411	3.72	2.97	5.563+j18.841	8.947+j33.303
AMATITÁN	AMT-69	69.0	3.08	2.38	4.708+j12.055	6.532+j23.415	4.03	3.32	3.454+j10.322	4.963+j17.144
AMECA	AMK-115	115.0	2.31	1.47	6.610+j27.996	19.768+j75.209	2.57	1.63	6.160+j27.764	19.591+j74.899
AMISTAD BAJÍO	AMB-115	115.0	18.32	9.76	0.623+j3.570	3.080+j12.811	20.82	10.94	0.542+j3.465	3.072+j12.685
ANDARES	ADS-69	69.0	13.36	11.25	0.872+j2.852	0.715+j4.628	16.00	13.01	0.651+j2.659	0.709+j4.581
ANGAMACUTIRO DOS	ARD-115	115.0	3.16	2.11	7.319+j19.679	16.678+j49.570	3.61	2.56	6.825+j19.056	13.212+j43.088
ANTEA	NTA-115	115.0	18.36	17.60	0.969+j3.483	0.293+j4.125	21.05	19.87	0.886+j3.354	0.295+j4.122
ANTÚNEZ	ANN-115	115.0	4.75	4.05	3.476+j13.535	3.680+j20.890	5.76	4.73	2.824+j12.352	3.687+j20.676
ANTÚNEZ	ANN-69	69.0	3.78	3.98	2.081+j10.329	0.347+j9.004	5.05	5.22	1.651+j8.527	0.497+j7.927
APA	APA-115	115.0	15.92	15.98	0.886+j4.076	0.593+j4.094	19.25	18.86	0.639+j3.740	0.579+j3.996
APASCO	APP-115	115.0	5.23	3.96	3.863+j12.086	8.846+j23.266	6.37	4.60	3.175+j11.020	8.838+j23.124
APASEO	APS-110	115.0	16.61	13.46	0.675+j3.941	1.340+j6.667	18.72	15.09	0.601+j3.855	1.340+j6.602
APASEO ORIENTE	APO-115	115.0	13.94	11.31	1.278+j4.589	2.098+j7.809	15.63	12.61	1.216+j4.513	2.080+j7.754
APATZINGÁN	APZ-161	161.0	4.09	3.81	3.731+j22.432	3.552+j27.430	5.10	4.59	2.860+j19.826	3.425+j26.605
APATZINGÁN	APZ-115	115.0	8.34	8.27	1.656+j7.788	1.349+j8.028	10.50	10.20	1.184+j6.856	1.245+j7.478
ARANDAS	ARS-115	115.0	2.69	2.25	8.271+j23.229	13.858+j36.791	3.00	2.49	7.942+j23.019	13.819+j36.625
ARBOLEDAS	ABL-115	115.0	7.39	5.94	2.365+j8.662	4.276+j14.963	8.45	6.69	2.081+j8.388	4.260+j14.883
ARELLANO	ARE-115	115.0	12.63	9.43	1.130+j5.135	1.661+j10.482	14.77	10.71	0.892+j4.862	1.659+j10.455
ARIO DE ROSALES	ADR-69	69.0	2.14	1.03	6.240+j17.568	22.049+j75.241	3.15	2.01	4.190+j13.257	9.706+j36.565
ARMERÍA	AIA-115	115.0	4.89	3.48	3.536+j13.106	9.707+j28.535	5.92	4.01	2.851+j12.006	9.694+j28.377
ARRAYANAL	AYL-115	115.0	5.65	4.24	3.165+j11.326	7.292+j22.254	6.95	4.95	2.497+j10.204	7.286+j22.124
ASCENTY MANIOBRAS	AVM-115	115.0	32.44	33.33	0.363+j2.014	0.391+j1.836	38.50	38.67	0.302+j1.873	0.389+j1.829
ASMOLES	ASM-115	115.0	5.36	4.34	3.823+j11.771	7.940+j19.670	6.53	5.05	3.137+j10.737	7.932+j19.553
ASUNCIÓN	ASU-115	115.0	17.76	14.49	0.846+j3.641	0.950+j6.205	21.05	16.58	0.627+j3.413	0.949+j6.209
ATEQUIZA	ATQ-400	400.0	11.31	12.46	7.275+j19.087	2.085+j14.906	21.75	22.06	1.757+j11.544	1.530+j11.088
ATEQUIZA	ATQ-230	230.0	15.27	18.49	3.000+j8.162	0.473+j4.228	24.06	27.49	1.048+j5.980	0.391+j3.785
ATEQUIZA	ATQ-69	69.0	16.73	21.64	0.614+j2.301	0.032+j0.774	20.73	26.74	0.402+j2.076	0.027+j0.694
ATOTONILCO	ATO-115	115.0	4.80	6.06	4.328+j13.151	0.655+j5.219	5.40	6.84	4.000+j12.918	0.610+j5.029
AUTLÁN	AUT-115	115.0	3.13	2.24	5.952+j20.329	15.787+j43.943	3.62	2.52	5.350+j19.463	15.789+j43.728
AYALA	AYA-115	115.0	12.45	9.19	1.178+j5.200	2.761+j10.659	14.27	10.34	1.002+j5.018	2.751+j10.607
AYOTLAN	AYN-115	115.0	3.50	3.01	5.949+j18.027	8.700+j26.917	3.91	3.35	5.622+j17.800	8.665+j26.767
AYOTLAN NORTE	ANT-115	115.0	3.31	3.16	6.425+j19.033	7.834+j21.540	3.69	3.52	6.096+j18.811	7.792+j21.357
AYUNTAMIENTO	AYU-115	115.0	12.89	9.21	1.145+j5.024	1.844+j11.185	15.08	10.44	0.906+j4.756	1.842+j11.162
AZUFRES SWITCHEO	AZS-115	115.0	8.60	9.71	1.688+j7.532	0.694+j5.450	11.10	13.55	1.223+j6.463	0.446+j3.655
AZUFRES SWITCHEO SUR	AZW-115	115.0	7.78	8.98	1.848+j8.337	0.627+j5.559	10.03	12.42	1.343+j7.154	0.448+j3.798
Alten Maniobras	FAM-230	230.0	9.92	7.80	2.276+j13.197	4.795+j23.808	12.99	11.20	1.543+j11.140	2.591+j16.277



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
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			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
Américas	AMS-69	69.0	12.51	10.42	1.015+j3.017	0.922+j5.046	14.85	12.00	0.802+j2.840	0.912+j4.983
BANDERAS	BAN-115	115.0	4.25	4.19	5.232+j14.730	5.145+j15.489	5.08	4.86	4.286+j13.734	5.144+j15.461
BARRACUDA	BCD-115	115.0	12.57	9.54	1.312+j5.118	1.904+j10.141	15.36	11.13	0.975+j4.653	1.892+j10.011
BAÑÓN	BON-110	115.0	2.67	2.61	10.464+j22.604	5.596+j26.202	3.05	3.05	9.671+j21.876	5.006+j23.949
BICENTENARIO	BCT-115	115.0	7.26	7.37	2.359+j8.837	1.701+j8.573	9.11	8.89	1.690+j7.839	1.685+j8.439
BMW	BMW-230	230.0	9.70	9.00	3.449+j13.253	3.607+j16.519	13.17	11.70	2.086+j10.896	3.310+j14.922
BOCAS	BOC-115	115.0	4.72	3.82	3.105+j13.714	7.694+j22.783	5.37	4.28	2.879+j13.302	7.695+j22.769
BOLAÑOS	BLA-110	115.0	0.90	0.57	34.387+j65.392	61.459+j192.690	0.99	0.63	34.137+j65.191	61.440+j192.642
BOQUILLA	BOQ-115	115.0	2.34	1.28	8.546+j27.073	26.039+j95.465	2.61	1.43	8.345+j26.744	25.211+j93.879
BOTELLO	BOT-115	115.0	4.07	2.78	4.842+j15.591	11.110+j37.496	4.74	3.74	4.258+j14.810	5.791+j27.198
BUENA VISTA NORTE	BVN-115	115.0	14.29	11.16	1.170+j4.497	2.174+j8.264	16.40	12.61	1.068+j4.324	2.164+j8.184
BUENAVISTA	BNA-115	115.0	16.77	13.36	1.006+j3.830	1.572+j6.810	19.31	15.11	0.910+j3.672	1.565+j6.749
BUGAMBILIAS	BUG-69	69.0	10.50	9.90	1.078+j3.638	0.571+j4.483	12.18	11.47	0.883+j3.488	0.526+j4.259
C. H. SANTA ROSA	SRO-69	69.0	2.80	2.59	5.571+j13.096	4.121+j17.266	4.05	4.55	3.219+j10.334	0.842+j7.284
C.H. LA YESCA	LYE-400	400.0	4.68	3.22	9.550+j48.393	27.620+j112.948	10.18	9.39	1.595+j24.915	2.473+j31.100
CALERA	CAL-230	230.0	6.18	7.01	6.069+j20.626	1.722+j13.899	7.42	8.27	4.749+j19.099	1.681+j13.681
CALERA	CAL-115	115.0	10.03	12.61	1.872+j6.351	0.236+j2.592	11.95	14.91	1.504+j5.926	0.225+j2.499
CALERA INDUSTRIAL	CAI-115	115.0	6.98	5.19	2.417+j9.203	4.095+j18.935	8.32	6.13	1.951+j8.560	3.709+j17.837
CALVILLO	CVO-115	115.0	4.11	2.53	3.689+j15.733	7.523+j45.927	4.60	2.80	3.448+j15.508	7.505+j45.881
CAMPESTRE	CPE-115	115.0	8.09	7.70	2.197+j7.910	1.870+j9.357	9.32	8.78	1.953+j7.593	1.859+j9.226
CAMPOS	CAO-115	115.0	10.53	8.98	1.326+j6.166	1.761+j9.415	14.57	11.28	0.699+j4.964	1.750+j9.235
CAPILLA DE GUADALUPE	CIA-115	115.0	2.36	2.12	8.645+j26.820	5.676+j37.319	2.62	2.37	8.324+j26.624	5.453+j36.425
CAPULÍN	CPL-230	230.0	12.51	13.16	3.478+j10.027	1.620+j8.984	18.18	17.51	1.472+j7.898	1.611+j8.820
CARAPAN DISTRIBUCIÓN	CRD-115	115.0	12.06	7.86	1.150+j5.383	3.016+j14.017	13.61	8.75	1.033+j5.267	3.013+j13.985
CARAPAN POTENCIA	CRP-400	400.0	10.06	9.90	4.901+j22.429	2.756+j23.886	13.18	12.16	2.467+j19.121	2.811+j23.925
CARAPAN POTENCIA	CRP-230	230.0	13.66	16.22	2.135+j9.481	0.466+j5.129	17.27	19.92	1.239+j8.367	0.466+j5.086
CARAPAN POTENCIA	CRP-115	115.0	14.65	17.32	0.946+j4.431	0.189+j2.445	17.50	20.47	0.684+j4.117	0.183+j2.364
CARTONES PONDEROSA S.A. DE	PON-115	115.0	12.76	11.98	1.277+j5.046	1.181+j6.109	16.26	16.07	1.006+j4.377	0.758+j4.595
CASTILLO	CST-69	69.0	16.63	15.48	0.697+j2.292	0.689+j2.851	20.40	18.30	0.493+j2.091	0.688+j2.806
CASTRO DEL RIO	CDR-115	115.0	13.65	9.09	1.036+j4.753	2.560+j11.917	15.45	10.14	0.919+j4.638	2.557+j11.884
CATARINA	CTA-69	69.0	4.37	2.84	3.785+j8.299	8.246+j22.425	5.03	3.18	3.439+j8.013	8.245+j22.407
CAÑADA	KDA-400	400.0	14.12	16.01	4.294+j15.788	1.399+j10.547	19.63	20.90	1.932+j12.793	1.410+j10.557
CAÑADA	KDA-230	230.0	17.37	20.83	1.800+j7.429	0.370+j3.862	22.95	26.39	0.927+j6.296	0.373+j3.884
CAÑADA	KDA-115	115.0	20.56	19.99	0.640+j3.166	0.266+j3.497	24.19	23.07	0.450+j2.985	0.265+j3.481
CD. HIDALGO	CDH-115	115.0	5.27	3.94	3.409+j12.127	8.775+j24.084	6.09	4.53	3.148+j11.572	8.710+j23.192
CELANECE (OCOTLAN)	CME-115	115.0	5.03	3.64	4.292+j12.488	9.078+j26.847	5.78	4.37	3.900+j12.023	7.483+j23.676
CELAYA AEROPUERTO	CAE-110	115.0	13.40	11.27	1.128+j4.823	1.743+j7.568	15.11	12.67	1.042+j4.720	1.725+j7.445
CELAYA DOS	CYA-230	230.0	15.19	13.51	1.777+j8.560	1.809+j11.881	17.72	15.63	1.450+j8.116	1.713+j11.450
CELAYA DOS	CYA-115	115.0	22.07	23.41	0.584+j2.952	0.309+j2.475	25.90	27.87	0.478+j2.780	0.277+j2.243
CELAYA I	CLY-115	115.0	14.54	11.55	1.035+j4.447	1.977+j7.876	16.41	12.95	0.951+j4.348	1.968+j7.786



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CELAYA III	CEY-230	230.0	16.40	14.23	1.749+j7.905	2.064+j11.626	19.26	16.45	1.419+j7.451	2.005+j11.317
CELAYA III	CEY-115	115.0	17.13	17.74	0.765+j3.800	0.381+j3.463	19.44	20.21	0.679+j3.695	0.359+j3.326
CELAYA INDUSTRIAL	CYI-110	115.0	17.27	16.94	0.803+j3.759	0.971+j3.954	19.95	19.52	0.698+j3.595	0.963+j3.818
CELAYA PONIENTE	CLP-115	115.0	12.10	9.28	1.345+j5.322	2.830+j10.088	13.68	10.44	1.252+j5.190	2.811+j9.942
CELAYA SUR	CYS-115	115.0	11.22	7.93	1.433+j5.740	3.688+j12.761	12.59	8.84	1.348+j5.640	3.683+j12.680
CENTRO	CTR-115	115.0	4.22	4.22	5.096+j14.884	3.524+j15.357	5.05	4.91	4.085+j13.878	3.516+j15.293
CENTRO LOGÍSTICO JALISCO	CLJ-115	115.0	5.88	4.98	2.907+j10.915	6.047+j16.339	6.84	5.66	2.366+j10.417	6.041+j16.334
CERRO BLANCO	CBL-400	400.0	7.61	7.34	8.736+j29.048	6.681+j33.112	15.16	13.01	1.844+j16.657	5.457+j24.491
CERRO GORDO	GOC-115	115.0	16.45	13.55	0.974+j3.918	1.375+j6.484	19.12	15.47	0.796+j3.735	1.357+j6.387
CERRO HUECO	CHC-69	69.0	1.12	0.61	15.731+j32.016	40.718+j119.069	1.39	0.86	13.668+j28.309	30.218+j85.535
CH ZIMAPAN	ZMN-230	230.0	4.16	3.73	5.755+j31.377	6.351+j42.658	7.61	8.82	2.111+j19.076	0.654+j11.246
CH ZIMAPAN	ZMN-115	115.0	4.28	5.04	2.230+j15.352	0.712+j8.507	5.85	7.20	1.178+j12.437	0.169+j5.430
CHAMELA	CML-115	115.0	1.54	1.18	12.195+j41.386	32.021+j77.072	1.74	1.31	11.508+j40.345	32.008+j76.917
CHAPALA	CHA-69	69.0	4.57	2.85	2.661+j8.296	6.132+j23.745	5.19	3.18	2.443+j8.085	6.128+j23.665
CHAPALILLA	CPI-115	115.0	1.10	0.70	20.833+j56.696	54.298+j153.591	1.88	1.88	8.981+j37.719	7.118+j38.452
CHAPAROSA	CHA-115	115.0	1.98	1.89	13.931+j30.470	9.472+j37.351	2.25	2.24	13.137+j29.760	7.307+j32.353
CHARAPAN	CHN-115	115.0	4.33	3.19	4.506+j14.668	10.806+j29.953	4.89	3.56	4.197+j14.324	10.800+j29.902
CHARCAS	CAK-110	115.0	5.51	6.28	2.917+j11.695	1.782+j7.417	6.99	7.73	2.200+j10.213	1.770+j7.241
CHARCAS POTENCIA	CHK-230	230.0	3.47	3.81	8.253+j37.402	2.473+j28.073	4.32	4.60	5.973+j33.259	2.423+j27.613
CHARCAS POTENCIA	CHK-115	115.0	6.21	7.69	2.399+j10.427	0.340+j4.536	8.03	9.72	1.685+j8.942	0.328+j4.360
CHILATÁN	CHL-115	115.0	2.36	2.18	7.797+j27.066	7.068+j34.572	3.18	3.25	5.270+j22.381	3.183+j21.162
CHIPILO	CHI-115	115.0	10.17	8.56	1.443+j6.365	3.008+j9.779	11.72	9.68	1.316+j6.089	3.003+j9.743
CICLO COMBINADO TIERRA MOJADA S. DE R.L. DE C.V.	TIM-400	400.0	10.85	11.12	7.274+j20.012	3.591+j19.615	21.48	22.64	1.625+j11.714	1.066+j9.955
CIENEGUILLAS	CGS-115	115.0	5.28	4.31	3.448+j12.082	5.631+j20.369	6.03	4.84	3.087+j11.719	5.621+j20.275
CIHUATLAN	CHT-115	115.0	3.44	2.90	5.211+j18.602	10.951+j28.191	4.04	3.31	4.543+j17.508	10.941+j28.040
CIMATARIO	CIM-115	115.0	13.69	11.31	1.179+j4.704	0.436+j7.975	15.55	12.66	1.093+j4.567	0.436+j7.970
CIUDAD GUZMÁN	CGM-230	230.0	4.84	4.68	7.296+j26.460	4.252+j30.144	6.06	5.63	4.953+j23.608	4.051+j29.360
CIUDAD GUZMÁN	CGM-115	115.0	7.07	8.02	2.443+j9.065	0.631+j6.083	8.48	9.53	1.834+j8.419	0.578+j5.770
COAHUAYANA	CHY-115	115.0	1.92	1.28	10.874+j32.765	30.022+j81.141	2.19	1.43	10.149+j31.779	30.013+j81.008
COALCOMÁN	CMN-115	115.0	1.25	1.07	20.444+j49.166	21.284+j76.515	1.40	1.19	19.738+j48.208	21.394+j76.733
COBANO	CBN-161	161.0	4.12	3.54	4.029+j22.175	6.234+j33.014	6.03	5.02	2.475+j16.780	5.085+j26.914
COBANO	CBN-69	69.0	2.90	1.58	4.195+j13.100	12.786+j46.513	6.39	6.49	1.207+j6.755	0.596+j6.712
COCULA	CLA-115	115.0	5.43	4.37	3.245+j11.787	7.675+j19.770	6.35	5.01	2.648+j11.196	7.498+j19.461
COENEO	CNE-115	115.0	10.11	7.43	1.540+j6.382	2.486+j13.471	12.09	8.55	1.205+j5.918	2.469+j13.334
COLIMA DOS	CMD-230	230.0	6.10	6.33	5.460+j21.067	2.870+j19.240	8.52	8.21	2.982+j16.881	2.838+j18.877
COLIMA DOS	CMD-115	115.0	8.75	10.50	1.876+j7.356	0.380+j3.800	11.30	13.20	1.212+j6.350	0.363+j3.667
COLIMA NORTE	CNO-115	115.0	6.18	5.75	2.888+j10.355	3.084+j12.784	7.59	6.79	2.215+j9.367	3.067+j12.650
COLIMILLA	CLL-69	69.0	10.41	8.72	1.092+j3.666	1.335+j5.920	13.23	12.38	0.762+j3.223	0.653+j3.946
COLINAS	COI-115	115.0	10.86	8.19	1.461+j5.936	2.193+j11.920	13.07	9.46	1.126+j5.472	2.176+j11.783
COLINAS DEL RINCÓN PARQUE INDUSTRIAL	RPI-115	115.0	13.76	10.70	0.969+j4.727	1.824+j8.782	15.80	12.03	0.804+j4.552	1.826+j8.781



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
COLOMO	COL-230	230.0	8.81	10.53	3.281+j14.706	1.034+j7.634	15.03	16.60	0.945+j9.670	0.996+j6.893
COLOMO	COL-115	115.0	13.75	16.70	1.069+j4.709	0.177+j2.281	20.64	23.78	0.437+j3.512	0.169+j2.132
COLOMO DISTRIBUCIÓN	CDI-115	115.0	13.60	16.42	1.089+j4.761	0.206+j2.369	20.33	23.28	0.458+j3.563	0.198+j2.220
COLON	CLN-230	230.0	11.29	11.32	3.962+j11.072	2.092+j11.591	15.95	14.60	1.895+j8.960	2.091+j11.516
COMALA	COM-115	115.0	5.48	4.89	3.214+j11.690	4.355+j15.870	6.64	5.72	2.539+j10.699	4.340+j15.745
COMPOSTELA	CMP-110	115.0	3.24	2.62	7.939+j18.905	10.270+j33.588	3.84	3.01	6.973+j17.689	10.229+j33.256
CONDEMBARO	CON-115	115.0	3.36	2.55	5.198+j19.087	13.992+j36.061	3.90	2.91	4.683+j18.137	13.864+j35.465
CONDUCTORES MONTERREY	CDM-115	115.0	17.63	16.65	1.037+j3.620	0.742+j4.388	22.43	20.16	0.712+j3.177	0.737+j4.301
CONIN	CNI-230	230.0	17.17	17.87	1.551+j7.577	0.684+j6.805	20.77	21.00	1.190+j6.932	0.690+j6.765
CONIN	CNI-115	115.0	29.59	34.61	0.451+j2.198	0.083+j1.270	34.91	40.16	0.368+j2.059	0.083+j1.272
CORONEO	COO-110	115.0	2.07	1.45	12.666+j29.531	29.499+j67.361	2.34	1.61	12.014+j28.816	29.491+j67.325
CORTÁZAR	CZR-115	115.0	7.11	6.46	2.129+j9.091	2.959+j11.783	7.92	7.19	2.042+j8.994	2.948+j11.684
COTIJA	CTJ-115	115.0	5.09	3.34	3.616+j12.546	8.734+j32.444	5.75	3.72	3.318+j12.263	8.733+j32.415
CRUCERO	CCR-115	115.0	3.13	2.63	5.782+j20.416	7.300+j32.380	4.05	3.58	4.221+j17.529	5.666+j24.458
CRUZ AZUL	CZA-230	230.0	5.75	4.17	4.923+j22.548	12.818+j47.778	6.70	4.72	3.937+j21.451	12.804+j47.714
CUADRO DE MANIOBRAS PESMA	CDM-230	230.0	8.83	6.15	2.259+j14.876	8.224+j33.714	9.99	6.87	2.020+j14.477	8.228+j33.643
CUADRO DE MANIOBRAS VIDANTA	CMV-115	115.0	4.91	5.52	4.176+j12.862	2.262+j8.759	5.94	6.52	3.220+j11.873	2.260+j8.726
CUAUHTÉMOC	SCC-115	115.0	3.39	2.64	5.694+j18.758	9.648+j35.028	3.95	2.99	5.001+j17.792	9.632+j34.918
CUERÁMARO	CUE-110	115.0	7.52	5.22	1.925+j8.618	6.927+j19.343	8.41	5.80	1.801+j8.498	6.911+j19.270
CUITZEO MORELIA	CTZ-115	115.0	5.04	3.64	3.794+j12.613	9.521+j26.801	5.66	4.07	3.611+j12.396	9.439+j26.524
CUITZEO OCOTLAN	CZO-115	115.0	8.10	6.56	2.486+j7.811	3.579+j13.519	9.30	7.42	2.153+j7.555	3.537+j13.338
CUITZILLOS	CZS-115	115.0	5.93	5.15	3.075+j10.776	4.304+j15.808	6.84	5.90	2.782+j10.310	4.233+j15.454
CUMBRES	CUB-115	115.0	17.67	17.86	0.848+j3.660	0.451+j3.624	21.01	20.67	0.622+j3.420	0.451+j3.631
CUPATITZIO	CPT-161	161.0	4.57	4.36	3.201+j20.101	3.228+j23.032	6.72	6.85	1.796+j15.115	1.373+j14.379
CUQUIO	CUQ-115	115.0	2.08	1.42	9.171+j30.604	27.603+j70.991	2.31	1.57	8.850+j30.395	27.554+j70.819
Cinco de Mayo	MYO-T1	115.0	4.67	3.47	3.705+j13.716	7.685+j27.966	5.66	4.03	2.889+j12.578	7.627+j27.581
DAIDO METAL	DAI-69	69.0	6.10	3.82	1.784+j6.286	3.980+j17.790	6.92	4.26	1.585+j6.132	3.977+j17.769
DAÑU	DAN-230	230.0	12.03	10.60	1.862+j10.884	2.474+j15.301	16.43	14.39	1.170+j8.810	2.139+j12.440
DE ACERO MORELIA	DEO-115	115.0	8.11	7.41	2.226+j7.874	2.437+j10.366	9.44	8.54	1.956+j7.481	2.404+j10.113
DESCANSADERO	DSC-69	69.0	1.49	1.18	11.242+j24.262	15.136+j45.594	1.75	1.39	10.777+j22.639	14.336+j42.263
DESTILADERAS	DST-115	115.0	3.80	3.45	5.499+j16.569	5.095+j22.384	4.50	3.96	4.535+j15.589	5.094+j22.351
DOLORES HIDALGO	DHD-115	115.0	6.95	4.69	2.823+j9.123	4.955+j22.918	7.81	5.22	2.727+j8.947	4.934+j22.771
DOMINICA	DMN-115	115.0	3.06	3.75	2.769+j21.536	0.257+j9.704	3.98	4.75	1.820+j18.241	0.249+j9.434
DON VASCO	VCO-115	115.0	2.76	2.05	7.884+j22.741	15.136+j46.480	3.08	2.28	7.603+j22.433	15.125+j46.406
EL ARBOLITO	ABO-115	115.0	4.31	3.01	5.931+j14.200	12.293+j33.131	4.95	3.39	5.564+j13.675	12.229+j32.819
EL CAJÓN	CJN-400	400.0	6.70	5.96	9.073+j33.272	10.156+j46.159	12.11	9.48	2.175+j20.872	8.927+j37.526
EL CAMPANARIO	CAM-115	115.0	18.10	14.37	0.773+j3.585	1.368+j6.377	20.75	16.22	0.692+j3.451	1.350+j6.321
EL COLEGIO	ELC-115	115.0	7.33	6.88	2.560+j8.684	2.529+j10.629	8.41	7.91	2.323+j8.372	2.382+j10.205
EL GRANJENO	EGJ-115	115.0	13.28	11.13	1.339+j4.818	2.054+j7.618	15.16	12.52	1.183+j4.671	2.050+j7.591
EL GRULLO	GRU-110	115.0	3.66	2.66	4.992+j17.445	14.638+j35.921	4.31	3.82	4.212+j16.399	5.890+j22.794



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			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
EL MARQUÉS	MRQ-115	115.0	20.51	15.91	0.792+j3.138	2.140+j5.672	23.73	17.96	0.710+j2.995	2.140+j5.674
EL MARQUÉS ORIENTE	MQO-115	115.0	19.00	12.25	0.710+j3.422	1.784+j9.099	21.88	13.73	0.628+j3.278	1.784+j9.101
EL MIRADOR	MRR-115	115.0	6.51	5.42	2.607+j9.862	3.743+j15.903	7.61	6.21	2.210+j9.335	3.690+j15.665
EL MONTEON	MTN-115	115.0	2.81	2.29	9.120+j21.764	16.107+j36.290	3.28	2.60	8.150+j20.724	16.098+j36.228
EL PALMAR	EPM-115	115.0	4.21	2.24	4.923+j14.992	15.024+j55.495	4.74	2.53	4.723+j14.662	14.200+j53.913
EL PARDILLO	PRL-110	115.0	3.51	2.53	5.287+j18.144	11.506+j39.334	3.97	2.82	4.916+j17.724	11.494+j39.241
EL POTOSÍ	EPS-400	400.0	11.06	11.88	4.529+j20.382	1.896+j16.605	14.25	14.57	2.522+j17.649	1.926+j16.632
EL POTOSÍ	EPS-230	230.0	14.52	17.21	2.113+j8.899	0.483+j4.884	19.06	21.72	1.221+j7.566	0.494+j4.850
EL POTOSÍ	EPS-115	115.0	24.27	26.80	0.521+j2.685	0.159+j1.973	29.59	31.71	0.337+j2.445	0.160+j1.976
EL REALITO	ELR-115	115.0	2.49	1.45	5.089+j26.151	16.127+j82.658	2.76	1.60	5.001+j25.963	16.112+j82.490
EL SALTO	ESJ-69	69.0	14.18	10.78	0.749+j2.708	0.996+j5.385	16.92	12.36	0.554+j2.530	0.995+j5.362
EL SAUCITO	MSU-115	115.0	6.94	6.50	2.820+j9.135	1.657+j11.503	7.98	7.34	2.491+j8.812	1.658+j11.485
EL SAUZ	SAU-400	400.0	15.41	12.95	1.613+j14.902	2.485+j23.365	17.73	14.62	1.160+j14.280	2.482+j23.325
EL SAUZ	SAU-230	230.0	15.14	14.30	1.652+j8.613	1.283+j10.232	18.95	17.71	1.147+j7.624	1.067+j9.247
EL SAUZ	SAU-115	115.0	20.43	21.18	0.713+j3.170	0.273+j2.907	29.98	32.62	0.400+j2.403	0.128+j1.844
EL SOL	SOL-69	69.0	12.96	9.46	0.970+j2.916	1.674+j6.279	15.39	10.83	0.763+j2.743	1.662+j6.225
EL SOL (BUS B)	SOL-69B	69.0	16.70	12.72	0.707+j2.278	1.030+j4.513	20.24	14.74	0.504+j2.105	1.024+j4.474
EL SOL (CARAPAN)	ESO-115	115.0	4.37	2.99	4.643+j14.474	12.038+j34.213	4.94	3.33	4.291+j14.147	12.033+j34.153
EL TARAY	TAY-115	115.0	4.43	2.81	3.838+j14.501	2.291+j41.271	4.96	3.11	3.601+j14.269	2.273+j41.226
EL TORO	TOO-115	115.0	10.57	5.71	1.336+j6.138	5.874+j21.521	12.47	6.44	1.086+j5.757	5.877+j21.527
ENCARNACIÓN DE DÍAZ	ENC-110	115.0	5.04	3.41	3.267+j12.772	8.191+j31.055	5.89	3.86	2.800+j12.084	8.148+j30.942
ENVASES UNIVERSALES	EVS-69	69.0	12.15	11.09	0.900+j3.152	0.913+j4.131	14.57	12.93	0.687+j2.929	0.908+j4.051
ENVASES Y TAPAS	EYT-115	115.0	6.76	4.98	2.502+j9.499	4.376+j19.856	8.04	5.87	2.036+j8.856	3.991+j18.759
ESTADIO CORREGIDORA	ECO-115	115.0	14.33	9.93	0.878+j4.550	1.093+j10.741	16.19	11.07	0.805+j4.439	1.093+j10.732
ESTANCIA DE ANIMAS	EDA-115	115.0	3.83	2.64	5.993+j16.281	14.419+j38.008	4.28	2.94	5.751+j16.067	14.416+j37.954
ESTANCITA	ETA-115	115.0	0.79	0.55	29.199+j78.782	14.850+j193.910	0.96	0.64	22.361+j72.543	14.659+j190.181
EXPERIENCIA	EXP-69	69.0	7.95	5.29	1.197+j4.866	3.202+j12.156	9.24	5.98	0.974+j4.643	3.188+j12.080
EZEQUIEL MONTES	EZM-110	115.0	7.71	5.55	2.429+j8.267	4.123+j18.236	8.87	6.55	2.235+j7.928	3.320+j16.676
El Gallo	ELG-115	115.0	14.52	10.41	1.063+j4.448	2.412+j9.685	16.59	11.76	0.986+j4.290	2.348+j9.547
El TUITO	ETU-115	115.0	2.74	2.18	6.947+j23.197	9.395+j41.839	3.18	2.47	5.901+j22.169	9.384+j41.771
FLAMINGOS	FLA-115	115.0	5.30	6.25	3.927+j11.897	1.408+j6.689	6.46	7.45	2.983+j10.905	1.407+j6.668
FLUVIAL	FLU-115	115.0	4.68	4.97	4.495+j13.458	2.422+j11.476	5.64	5.83	3.513+j12.472	2.415+j11.414
FRESNILLO INDUSTRIAL	FRI-110	115.0	6.89	6.69	2.975+j9.165	2.511+j10.228	7.91	7.57	2.652+j8.843	2.511+j10.213
FRESNILLO NORTE	FRN-115	115.0	7.87	9.27	2.369+j8.102	0.591+j4.627	9.06	10.56	2.059+j7.797	0.591+j4.620
FRESNILLO POTENCIA	FSO-230	230.0	4.50	5.56	8.039+j28.383	0.971+j12.803	5.23	6.40	6.826+j27.105	0.973+j12.775
FRESNILLO POTENCIA	FSO-115	115.0	8.14	10.13	2.268+j7.834	0.226+j3.422	9.39	11.58	1.960+j7.531	0.227+j3.415
FRESNILLO SUR	FNO-115	115.0	7.45	7.15	2.716+j8.483	1.997+j9.890	8.61	8.11	2.383+j8.145	1.997+j9.867
FRESNO	FRE-69	69.0	12.64	10.80	0.940+j3.007	0.899+j4.698	14.95	12.44	0.736+j2.837	0.883+j4.631
GENERAL TIRE	GRP-115	115.0	6.40	4.14	2.542+j10.061	7.935+j26.248	7.12	4.58	2.440+j9.967	7.929+j26.214
GÓMEZ PORTUGAL	GOP-115	115.0	9.33	6.47	1.544+j6.947	3.519+j16.147	10.63	7.25	1.333+j6.741	3.509+j16.112



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Occidental

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
GRÁN JARDÍN	GJA-115	115.0	12.46	9.44	1.171+j5.199	2.088+j10.238	14.48	10.82	0.969+j4.949	2.028+j9.966
GUADALAJARA DOS	GUD-230	230.0	13.17	15.28	3.414+j9.489	0.820+j5.940	19.48	21.09	1.415+j7.364	0.803+j5.726
GUADALAJARA DOS	GUD-161	161.0	5.54	7.55	2.288+j16.615	0.121+j3.420	6.58	8.94	1.278+j15.488	0.114+j3.223
GUADALAJARA DOS	GUD-69	69.0	26.29	30.79	0.390+j1.464	0.073+j0.858	33.62	38.18	0.204+j1.287	0.071+j0.836
GUADALAJARA INDUSTRIAL	GUI-230	230.0	10.69	10.97	3.995+j11.759	1.796+j11.463	14.77	13.98	1.933+j9.698	1.806+j11.424
GUADALAJARA INDUSTRIAL	GUI-69	69.0	20.15	23.40	0.580+j1.890	0.084+j1.176	24.55	27.75	0.392+j1.742	0.084+j1.174
GUADALAJARA NORTE	GUN-230	230.0	9.96	9.81	4.044+j12.705	2.227+j13.865	15.71	15.61	1.488+j9.181	1.152+j9.399
GUADALAJARA NORTE	GUN-69	69.0	19.07	22.12	0.504+j2.027	0.102+j1.235	24.50	28.03	0.272+j1.768	0.074+j1.113
GUADALAJARA ORIENTE	GDO-230	230.0	12.24	13.34	3.487+j10.276	1.218+j8.160	18.65	18.68	1.314+j7.719	1.181+j7.711
GUADALAJARA ORIENTE	GDO-69	69.0	21.30	24.24	0.426+j1.821	0.088+j1.199	27.33	30.15	0.217+j1.589	0.085+j1.151
GUADALAJARA UNO	GDU-230	230.0	12.07	13.06	3.754+j10.343	1.351+j8.493	17.38	17.31	1.682+j8.233	1.346+j8.411
GUADALAJARA UNO	GDU-69	69.0	25.98	28.72	0.461+j1.462	0.110+j1.108	33.22	35.28	0.266+j1.292	0.108+j1.088
GUADALCAZAR	GDL-115	115.0	1.45	1.63	20.426+j40.888	3.772+j32.223	1.65	1.88	19.360+j39.895	3.217+j29.111
GUADALUPE	GPE-110	115.0	7.92	6.98	2.369+j8.041	3.152+j11.344	9.16	7.97	2.039+j7.705	3.116+j11.162
GUANAJUATO	GTO-115	115.0	8.54	5.32	1.656+j7.594	5.444+j21.189	9.56	5.92	1.533+j7.481	5.423+j21.064
GUANAJUATO SUR	GSU-115	115.0	9.89	6.35	1.446+j6.553	4.266+j17.457	11.11	7.06	1.323+j6.439	4.254+j17.377
GUASCARO	GSO-115	115.0	5.60	3.78	3.335+j11.372	7.776+j27.864	6.35	4.22	3.039+j11.086	7.774+j27.829
GUAYABITOS	GYS-115	115.0	2.73	2.17	9.524+j22.356	17.284+j39.613	3.18	2.46	8.554+j21.309	17.272+j39.535
GUEVARA	GVA-115	115.0	0.88	0.64	26.810+j70.637	8.266+j163.655	1.08	0.75	20.007+j64.276	8.076+j159.930
HACIENDA	HDA-115	115.0	12.58	9.60	1.352+j5.102	2.786+j9.816	14.27	10.82	1.256+j4.961	2.766+j9.662
HACIENDA NUEVA	HNV-115	115.0	4.84	3.99	3.746+j13.189	5.906+j21.743	5.52	4.53	3.370+j12.786	5.721+j21.152
HIGUERILLAS	HIG-69	69.0	14.86	9.18	1.046+j2.469	1.482+j7.580	17.66	10.42	0.865+j2.326	1.476+j7.554
HIROTEC MÉXICO S.A. DE C.V.	AVT-115	115.0	7.58	7.26	2.324+j8.442	3.833+j9.209	8.48	8.09	2.201+j8.328	3.828+j9.164
HORUS MANIOBRAS	HOM-230	230.0	8.40	6.43	3.199+j15.478	8.234+j29.223	10.30	7.48	2.183+j14.006	8.236+j29.230
HUACANA	HUC-69	69.0	1.53	0.87	11.511+j23.404	27.440+j80.454	1.99	1.29	9.775+j19.673	20.209+j54.618
HUANACAXTLE	HUA-115	115.0	4.06	3.86	5.248+j15.481	4.289+j18.541	4.83	4.45	4.291+j14.496	4.288+j18.513
HUANIMARO	HNM-115	115.0	3.69	2.84	4.740+j17.350	12.194+j31.979	4.09	3.15	4.612+j17.232	12.142+j31.710
HUENTITÁN	HUN-69	69.0	10.02	7.79	1.158+j3.802	1.992+j7.130	12.34	10.00	0.884+j3.440	1.653+j5.816
HUICHAPAN	HCH-115	115.0	1.66	0.91	12.602+j37.909	39.507+j132.860	1.84	1.01	12.396+j37.596	38.672+j131.268
HUMEDADES	HUM-115	115.0	1.42	1.01	15.882+j44.116	31.477+j99.448	1.66	1.16	14.670+j41.422	30.915+j96.336
IBM-ALKA	IBA-69	69.0	24.56	26.70	0.412+j1.569	0.175+j1.226	31.08	32.57	0.226+j1.392	0.173+j1.204
INDEPENDENCIA	INE-115	115.0	7.82	7.28	2.236+j8.194	2.131+j10.219	8.97	8.28	1.997+j7.892	2.120+j10.094
INDUSTRIAL SAN FRANCISCO	ISF-115	115.0	11.32	8.74	1.278+j5.726	1.669+j10.941	12.94	9.85	1.078+j5.539	1.652+j10.868
INGENIO TALA	ING-69	69.0	0.96	0.58	21.041+j35.755	44.006+j115.209	1.17	0.77	19.291+j32.080	36.745+j89.340
INNOPACK	INN-115	115.0	10.06	7.26	1.562+j6.413	3.665+j13.743	11.39	8.11	1.403+j6.258	3.656+j13.710
IRAPUATO II	IRA-230	230.0	21.69	21.16	1.278+j5.989	1.155+j6.480	26.43	25.08	0.888+j5.454	1.141+j6.323
IRAPUATO II	IRA-115	115.0	27.61	29.63	0.476+j2.357	0.197+j1.910	32.18	34.19	0.371+j2.239	0.190+j1.863
IRAPUATO INDUSTRIAL	IRI-115	115.0	13.56	10.12	1.137+j4.764	2.825+j9.492	15.37	11.32	1.023+j4.641	2.822+j9.457
IRAPUATO PONIENTE	IPP-115	115.0	15.15	10.37	0.923+j4.285	2.139+j10.220	17.19	11.59	0.808+j4.171	2.136+j10.191
IRAPUATO UNO	IRP-110	115.0	23.36	18.95	0.621+j2.774	0.997+j4.723	27.00	21.47	0.508+j2.657	0.994+j4.693



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
IRAPUATO VILLAS	IRV-115	115.0	17.52	12.58	0.808+j3.702	1.701+j8.080	19.99	14.11	0.694+j3.586	1.698+j8.050
IXTLAHUACAN	ITC-400	400.0	8.38	6.83	7.680+j26.475	9.245+j45.451	15.46	11.78	1.764+j16.341	6.025+j31.305
IXTLAN	ITL-115	115.0	6.29	4.69	2.993+j10.127	7.176+j20.075	7.15	5.26	2.696+j9.857	7.167+j20.014
JACONA	JCN-115	115.0	9.52	7.73	1.752+j6.754	2.731+j11.484	11.00	8.76	1.466+j6.475	2.720+j11.421
JALOSTOTITLAN	JLT-115	115.0	7.54	6.06	2.088+j8.549	3.638+j14.837	8.59	6.79	1.828+j8.302	3.635+j14.823
JALPA	JAP-115	115.0	2.26	1.35	9.519+j27.788	9.689+j88.709	2.51	1.50	9.273+j27.579	9.670+j88.662
JARAL DEL PROGRESO	JDP-115	115.0	4.85	3.01	3.647+j13.190	11.364+j37.214	5.38	3.32	3.545+j13.097	11.358+j37.179
JARRETADERAS	JDA-115	115.0	4.94	5.62	4.157+j12.768	2.173+j8.348	5.98	6.64	3.202+j11.780	2.172+j8.317
JATCO	JAT-115	115.0	11.34	8.20	1.296+j5.708	2.036+j12.444	13.19	9.26	1.058+j5.435	2.033+j12.418
JATCO II	JTC-115	115.0	12.43	10.65	1.064+j5.236	1.329+j7.912	14.56	12.25	0.822+j4.949	1.291+j7.756
JEREZ	JRZ-115	115.0	2.06	1.46	11.047+j30.298	22.930+j68.306	2.30	1.62	10.683+j29.956	22.919+j68.211
JESÚS DEL MONTE	JEM-110	115.0	11.10	8.41	1.336+j5.831	2.839+j11.381	12.63	9.42	1.172+j5.662	2.831+j11.355
JESÚS MARÍA	JMA-115	115.0	2.91	2.43	7.452+j21.598	12.393+j34.265	3.24	2.69	7.125+j21.380	12.357+j34.108
JIQUILPAN	JIQ-115	115.0	7.64	5.35	2.198+j8.410	4.844+j19.208	8.75	6.01	1.897+j8.126	4.844+j19.181
JOCOTEPEC	JCT-69	69.0	3.76	2.22	3.259+j10.078	9.060+j31.313	4.23	2.47	3.064+j9.905	9.059+j31.294
JOYUELAS	JYU-110	115.0	5.45	3.75	3.429+j11.686	8.560+j27.482	6.08	4.16	3.298+j11.556	8.546+j27.423
JUAN JOSÉ ARREOLA	JUJ-115	115.0	6.25	6.27	2.871+j10.233	2.609+j10.169	7.41	7.32	2.265+j9.590	2.565+j9.891
JUAN RULFO	JRU-115	115.0	7.33	5.89	2.289+j8.760	4.860+j14.971	8.90	6.88	1.733+j8.018	4.855+j14.697
JULIÁN CARRILLO	JCR-115	115.0	5.12	3.39	4.065+j12.309	9.984+j31.246	5.77	3.77	3.876+j12.061	9.986+j31.248
JUPITER MANIOBRAS	JPM-400	400.0	19.36	22.08	1.817+j11.792	0.535+j7.436	23.10	25.88	1.266+j10.922	0.533+j7.385
JUPITER MANIOBRAS	JPM-115	115.0	40.18	59.94	0.262+j1.631	0.000+j0.013	47.63	71.05	0.208+j1.519	0.000+j0.013
JUPITER MANIOBRAS DOS	JMD-115	115.0	22.02	18.35	0.556+j2.963	1.026+j4.711	25.40	20.78	0.494+j2.833	1.016+j4.684
JURICA	JUR-110	115.0	17.14	17.57	0.963+j3.753	0.579+j3.548	19.56	19.81	0.883+j3.627	0.579+j3.554
LA BARCA	BRC-115	115.0	7.78	6.43	2.689+j8.098	4.167+j13.291	8.93	7.28	2.357+j7.831	4.122+j13.098
LA BUFA MANIOBRAS	BFM-230	230.0	4.95	4.01	6.216+j26.075	11.523+j44.218	5.97	4.64	4.778+j23.990	11.496+j44.085
LA CALIFORNIA	CLF-115	115.0	11.49	8.92	1.347+j5.618	2.109+j10.569	13.09	10.08	1.259+j5.434	2.077+j10.378
LA CUEVA	CUV-115	115.0	5.86	4.28	3.090+j10.902	7.259+j22.775	6.70	4.80	2.775+j10.544	7.249+j22.744
LA ESPERANZA	LAE-115	115.0	7.17	6.06	2.534+j8.902	3.451+j13.940	8.43	6.96	2.141+j8.396	3.414+j13.758
LA ESPIGA	ESP-115	115.0	17.45	14.11	0.784+j3.723	1.236+j6.383	19.94	16.02	0.704+j3.594	1.188+j6.238
LA ESTRELLA	ELA-115	115.0	3.39	2.99	5.649+j18.757	5.734+j26.900	3.96	3.41	4.956+j17.784	5.706+j26.789
LA FRAGUA	FRA-115	115.0	13.29	10.75	1.113+j4.870	2.106+j8.274	15.31	12.16	1.003+j4.662	2.103+j8.221
LA GRIEGA	GRI-115	115.0	9.57	8.10	1.838+j6.693	2.387+j10.450	10.77	9.06	1.760+j6.551	2.353+j10.362
LA HUERTA	LHT-115	115.0	3.10	2.40	5.912+j20.610	10.894+j38.626	3.59	2.72	5.260+j19.624	10.887+j38.477
LA JOYA	LJY-115	115.0	17.73	15.98	0.884+j3.640	1.016+j4.869	20.71	18.37	0.707+j3.455	0.998+j4.770
LA LOMA	LLM-115	115.0	14.02	10.83	1.042+j4.621	1.725+j8.745	15.86	12.61	0.971+j4.503	1.479+j8.021
LA MANGA	MAN-230	230.0	8.70	6.13	2.600+j15.040	8.534+j33.462	10.13	6.99	2.204+j14.247	8.410+j32.822
LA MANSIÓN	MNS-115	115.0	12.68	9.81	1.090+j5.120	1.943+j9.637	16.12	11.91	0.814+j4.458	1.905+j9.138
LA MORA	MRA-115	115.0	10.84	8.11	1.394+j5.962	3.393+j11.834	12.32	9.08	1.231+j5.798	3.394+j11.822
LA PALMA	PLM-115	115.0	25.10	16.12	0.523+j2.593	1.478+j6.907	29.53	18.28	0.449+j2.432	1.473+j6.884
LA PIEDAD	LPI-115	115.0	4.96	3.58	4.067+j12.742	9.734+j27.214	5.62	4.00	3.735+j12.438	9.728+j27.154



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
LA PIEDAD PONIENTE	LPP-115	115.0	4.29	2.91	4.708+j14.754	12.751+j35.295	4.84	3.24	4.362+j14.432	12.746+j35.235
LA PILA	SPI-230	230.0	11.41	12.25	2.799+j11.291	1.407+j9.197	15.65	16.16	1.572+j9.198	1.324+j8.367
LA PILA	SPI-115	115.0	19.75	21.68	0.899+j3.240	0.315+j2.465	25.84	27.41	0.568+j2.769	0.299+j2.328
LA PRIMAVERA (BAJÍO)	PRI-230	230.0	8.80	8.26	4.231+j14.485	3.619+j17.719	12.06	10.45	1.997+j11.943	3.569+j17.352
LA RESOLANA	LRE-115	115.0	8.58	8.35	1.719+j7.547	2.519+j8.001	10.23	9.69	1.185+j7.039	2.514+j7.999
LA SOLEDAD	SDD-115	115.0	10.31	8.28	1.460+j6.269	3.879+j10.531	11.77	9.33	1.363+j6.054	3.873+j10.437
LA VEGA	LVG-69	69.0	2.12	1.35	6.053+j17.823	11.643+j49.299	2.43	1.66	5.499+j17.189	9.972+j41.806
LA VENTA	LVT-69	69.0	5.36	3.89	2.366+j7.042	3.735+j15.447	6.72	4.92	1.763+j6.281	3.239+j13.265
LA VENTILLA	VLT-115	115.0	5.30	4.17	3.501+j12.024	6.100+j21.895	6.15	4.77	3.140+j11.460	5.956+j21.398
LA VIRGEN	LVR-115	115.0	9.60	7.26	1.475+j6.755	3.012+j13.272	11.49	10.11	1.165+j6.247	1.914+j8.757
LAGOS DE MORENO	LGS-110	115.0	8.04	5.56	1.816+j8.058	4.373+j18.787	9.37	6.92	1.535+j7.643	3.674+j15.667
LAGOS GALERA	LGG-115	115.0	11.19	9.11	1.197+j5.814	2.078+j9.767	13.44	12.20	0.915+j5.357	1.312+j6.970
LAGUNA COLORADA	LAC-115	115.0	1.04	0.64	25.653+j58.454	63.979+j170.552	1.15	0.71	25.339+j58.218	63.979+j170.544
LAGUNA LARGA	LGL-115	115.0	2.01	1.16	10.435+j31.398	31.275+j100.272	2.22	1.28	10.306+j31.280	31.222+j100.000
LAGUNA SAN VICENTE	LSV-230	230.0	11.41	11.76	3.179+j11.191	1.773+j10.530	15.77	15.52	1.858+j9.077	1.650+j9.572
LAGUNA SECA	LAS-110	115.0	4.78	4.17	4.886+j13.001	5.861+j19.137	5.50	4.76	4.434+j12.527	5.814+j18.646
LAGUNA VICENTE DOS	LVD-230	230.0	11.47	11.88	3.172+j11.129	1.710+j10.306	15.87	15.71	1.852+j9.019	1.590+j9.361
LAGUNA VICENTE DOS	LVD-115	115.0	19.08	20.76	0.932+j3.353	0.355+j2.635	25.02	26.43	0.591+j2.859	0.328+j2.435
LAGUNILLAS	LAG-115	115.0	3.85	3.06	5.023+j16.482	9.900+j29.056	4.33	3.41	4.755+j16.185	9.893+j28.981
LALA DERIVADOS LÁCTEOS S.A. DE C.V.	LAL-115	115.0	11.28	7.96	1.330+j5.734	4.010+j12.659	12.72	8.87	1.216+j5.611	4.008+j12.623
LAMPOTAL	LPL-115	115.0	5.30	4.25	3.575+j12.008	5.625+j21.093	6.06	4.80	3.203+j11.620	5.620+j20.842
LAPEM	LPM-115	115.0	11.02	8.13	1.586+j5.812	3.659+j11.911	12.43	9.06	1.472+j5.689	3.657+j11.876
LAS BRISAS	BRI-115	115.0	7.41	6.87	2.268+j8.673	2.176+j10.877	9.62	8.46	1.421+j7.458	2.138+j10.507
LAS COLINAS	LCN-115	115.0	10.75	9.70	1.520+j5.985	1.619+j8.027	12.10	10.98	1.390+j5.874	1.524+j7.743
LAS DELICIAS	LDE-230	230.0	21.48	24.31	0.965+j6.107	0.355+j3.976	25.90	28.86	0.718+j5.594	0.346+j3.858
LAS FAJAS	FAJ-110	115.0	0.86	0.52	31.361+j70.295	77.744+j211.946	0.95	0.58	31.049+j70.067	77.744+j211.938
LAS FRESAS	LFR-400	400.0	16.40	16.36	3.201+j13.711	2.210+j14.040	21.13	20.09	1.733+j11.894	2.204+j13.729
LAS FRESAS	LFR-115	115.0	31.29	30.57	0.390+j2.086	0.251+j2.263	36.73	35.24	0.273+j1.970	0.249+j2.228
LAS PINTAS	LPS-69	69.0	14.85	10.48	0.868+j2.538	1.125+j5.967	17.61	11.91	0.680+j2.394	1.124+j5.965
LAS TORRES	LTL-115	115.0	14.21	11.30	1.057+j4.550	3.399+j7.642	16.28	12.76	0.895+j4.395	3.383+j7.586
LAS VARAS	VRS-115	115.0	2.64	2.01	10.081+j23.011	17.632+j45.370	3.08	2.28	9.112+j21.910	17.610+j45.215
LEÓN ALFARO	LNA-115	115.0	11.34	8.97	1.449+j5.673	2.226+j10.265	12.88	10.05	1.287+j5.523	2.219+j10.217
LEÓN CUATRO	LNC-230	230.0	10.81	10.38	2.756+j11.972	2.312+j13.645	12.57	11.81	2.178+j11.414	2.321+j13.667
LEÓN CUATRO	LNC-115	115.0	17.12	18.37	0.890+j3.774	0.430+j3.068	19.63	20.82	0.741+j3.645	0.429+j3.060
LEÓN MALECÓN	LNМ-115	115.0	12.09	10.28	1.518+j5.278	1.645+j8.247	13.82	11.61	1.349+j5.111	1.623+j8.148
LEÓN NORTE	LNN-115	115.0	15.32	12.59	0.996+j4.218	2.665+j6.687	17.67	14.30	0.826+j4.049	2.641+j6.610
LEÓN ORIENTE	LNO-110	115.0	12.79	11.46	1.279+j5.031	1.437+j6.857	14.51	12.86	1.131+j4.905	1.429+j6.829
LEÓN PONIENTE	LNP-110	115.0	14.38	10.91	1.055+j4.494	2.170+j8.756	16.61	12.35	0.878+j4.309	2.156+j8.682
LEÓN TRES	LNT-230	230.0	12.77	12.61	2.448+j10.109	1.804+j10.649	15.39	14.88	1.736+j9.330	1.739+j10.322
LEÓN TRES	LNT-115	115.0	21.39	23.37	0.746+j3.013	0.329+j2.302	25.37	27.53	0.566+j2.822	0.306+j2.185



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
LEÓN UNO	LNU-230	230.0	15.35	15.92	2.055+j8.402	1.264+j7.638	18.38	18.57	1.480+j7.809	1.260+j7.606
LEÓN UNO	LNU-115	115.0	20.42	22.53	0.691+j3.177	0.233+j2.342	23.75	25.87	0.535+j3.028	0.228+j2.315
LINDAVISTA	LIV-115	115.0	8.04	6.92	2.086+j7.985	3.027+j11.904	9.22	7.82	1.808+j7.711	3.006+j11.809
LOGISTIK	LOG-115	115.0	14.36	13.96	1.253+j4.451	0.966+j4.943	18.11	17.12	0.895+j3.931	0.906+j4.651
LOMAS	LMS-69	69.0	12.26	9.24	0.952+j3.107	1.927+j6.146	14.45	10.54	0.750+j2.939	1.923+j6.117
LOMBARDÍA	LMB-69	69.0	2.78	1.55	4.524+j13.581	12.761+j46.651	5.68	5.32	1.720+j7.518	1.536+j9.351
LORETO	LOR-115	115.0	4.64	3.01	4.578+j13.561	10.258+j36.112	5.19	3.34	4.372+j13.383	10.257+j36.092
LOS CHARCOS	LCH-115	115.0	5.83	4.14	3.271+j10.911	7.386+j24.182	6.61	4.63	2.958+j10.651	7.374+j24.107
LOS FRESNOS	FRS-115	115.0	10.56	7.57	1.334+j6.145	3.194+j13.362	11.88	8.44	1.207+j6.028	3.187+j13.309
LOS HERNÁNDEZ	HDZ-110	115.0	1.42	1.22	19.250+j42.464	23.880+j66.091	1.60	1.40	18.456+j41.776	21.709+j61.088
LOS OLIVOS (IRAPUATO)	OLV-115	115.0	14.30	9.62	0.948+j4.546	2.312+j11.185	16.20	10.74	0.832+j4.431	2.310+j11.156
LOS REYES	RYS-115	115.0	4.11	2.74	4.718+j15.440	11.982+j38.503	4.63	3.05	4.418+j15.142	11.979+j38.467
LOS SAUCES	LSA-115	115.0	9.94	6.91	2.032+j6.363	4.034+j14.919	11.20	7.70	1.891+j6.243	4.023+j14.872
LUIS MOYA	LMY-110	115.0	5.27	3.67	4.683+j11.693	6.696+j28.520	5.93	4.10	4.455+j11.481	6.687+j28.478
La Villa	VLL-115	115.0	5.07	3.57	3.661+j12.562	9.036+j28.150	5.70	3.98	3.369+j12.353	9.012+j28.047
Las Flores	LFL-115	115.0	12.84	10.08	1.292+j5.007	1.708+j9.279	15.71	11.77	0.958+j4.550	1.698+j9.164
MAHLE	MAH-115	115.0	11.34	9.36	1.489+j5.663	3.197+j9.036	13.11	10.59	1.265+j5.427	3.196+j9.044
MALPASO	MPO-115	115.0	3.07	2.26	7.677+j20.231	11.828+j43.286	3.45	2.52	7.315+j19.878	11.818+j43.191
MANIOBRAS AISIN TAKAOKA	MTK-115	115.0	12.32	8.04	1.129+j5.272	2.929+j13.672	13.90	8.96	1.012+j5.157	2.926+j13.640
MANIOBRAS ANTARES	MAT-230	230.0	9.43	8.46	3.135+j13.732	4.272+j18.452	12.79	11.07	1.810+j11.277	3.825+j16.348
MANIOBRAS BMW	MBM-230	230.0	9.72	9.03	3.445+j13.220	3.588+j16.442	13.21	11.74	2.082+j10.862	3.290+j14.844
MANIOBRAS GENERAL MOTORS	MGM-230	230.0	10.61	8.52	2.578+j12.244	4.802+j21.183	12.27	9.65	2.109+j11.720	4.788+j21.088
MANIOBRAS GETRAG	MGT-115	115.0	8.05	5.12	1.684+j8.079	4.694+j21.906	9.00	5.72	1.563+j7.965	4.593+j21.623
MANIOBRAS GKN	MGK-115	115.0	8.93	7.54	1.595+j7.266	2.727+j11.224	9.97	8.41	1.508+j7.166	2.710+j11.106
MANIOBRAS HONDA	MHN-115	115.0	13.91	10.22	0.917+j4.684	2.336+j9.666	15.65	11.42	0.838+j4.590	2.334+j9.596
MANIOBRAS HUIMILÁN	MHU-115	115.0	2.97	2.24	8.061+j20.812	18.941+j39.997	3.41	2.52	7.412+j20.075	18.933+j39.960
MANIOBRAS IBERDROLA	MIB-115	115.0	13.45	10.66	1.162+j4.799	1.978+j8.587	18.43	15.78	0.772+j3.887	1.012+j5.869
MANIOBRAS KASAI	MKI-115	115.0	17.52	17.62	0.790+j3.707	0.688+j3.661	20.21	20.05	0.634+j3.558	0.683+j3.634
MANIOBRAS MEXSOLAR	MMX-115	115.0	10.15	9.13	1.282+j6.412	2.047+j8.487	11.82	10.42	1.134+j6.071	2.028+j8.438
MANIOBRAS SOLEM	MSL-230	230.0	8.20	8.91	3.244+j15.863	1.721+j12.217	10.26	10.77	2.166+j14.073	1.704+j12.110
MANIOBRAS TOYOTA	TOM-230	230.0	16.62	13.95	1.467+j7.852	2.445+j12.339	19.23	16.00	1.207+j7.498	2.389+j11.977
MANIOBRAS VESTA PARK	MVP-115	115.0	23.09	17.60	0.523+j2.828	1.174+j5.436	26.72	19.88	0.460+j2.694	1.173+j5.431
MANIOBRAS WORLD TRADE CENTER DOS	MWD-230	230.0	9.35	8.34	3.439+j13.779	4.313+j18.921	12.61	10.77	2.066+j11.398	3.939+j17.071
MANZANILLO	MNZ-400	400.0	7.44	9.06	7.692+j30.077	1.073+j14.552	18.99	23.29	1.093+j13.335	0.252+j5.960
MANZANILLO	MNZ-230	230.0	8.44	10.31	3.251+j15.400	0.572+j7.180	14.10	16.20	0.936+j10.314	0.490+j6.314
MARABIS CONMONFORT	MRC-115	115.0	8.27	5.65	2.326+j7.680	6.622+j18.045	9.30	6.31	2.229+j7.526	6.607+j17.900
MARAVATIO	MAV-115	115.0	2.19	1.89	8.794+j28.965	9.852+j43.846	2.46	2.13	8.491+j28.398	9.526+j42.851
MARGARITAS	MRS-115	115.0	14.96	11.00	0.980+j4.329	1.542+j9.102	17.47	12.46	0.767+j4.111	1.542+j9.101
MATANCHEN	MEN-115	115.0	2.94	1.91	4.471+j22.150	12.158+j57.889	3.43	2.16	3.677+j20.983	12.102+j57.508
MATEHUALA SUBESTACIÓN	MHS-110	115.0	2.17	1.99	11.187+j28.449	8.300+j38.552	2.68	2.58	9.091+j25.662	5.558+j30.264



Subestación Eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MATEHUALA SUR	MHR-115	115.0	2.17	2.15	10.678+j28.635	5.088+j31.337	2.65	2.68	8.806+j26.081	4.072+j26.820
MAZAMITLA	MTA-400	400.0	9.33	7.90	6.153+j23.974	8.120+j37.302	13.72	10.19	2.243+j18.374	8.172+j36.939
MAZDA MANIOBRAS	MMZ-115	115.0	13.83	9.76	0.916+j4.712	2.389+j10.543	15.60	10.88	0.820+j4.611	2.385+j10.508
MELAHUE	MLQ-115	115.0	4.26	4.76	3.990+j15.049	2.524+j10.401	5.08	5.58	3.320+j13.984	2.511+j10.247
MEXICHEM DERIVADOS	MCH-115	115.0	11.21	8.74	1.627+j5.693	3.540+j10.356	12.79	9.83	1.522+j5.505	3.534+j10.290
MÉXICO	MXJ-69	69.0	12.32	10.94	1.041+j3.060	0.659+j4.451	14.60	12.62	0.829+j2.884	0.651+j4.393
MEXTICACAN	MXT-115	115.0	3.17	2.03	5.214+j20.318	14.051+j54.412	3.53	2.25	4.946+j20.100	14.049+j54.377
MEZQUITÁN	MZI-110	115.0	3.07	2.19	6.149+j20.714	18.473+j44.074	3.64	2.87	5.148+j19.388	11.925+j34.226
MICHELÍN MANIOBRAS	MMH-115	115.0	9.93	7.08	1.922+j6.404	3.603+j14.311	11.18	7.89	1.779+j6.283	3.590+j14.262
MICROPARQUE	MPQ-115	115.0	20.14	20.01	0.835+j3.189	0.738+j3.276	23.09	22.62	0.758+j3.071	0.739+j3.276
MIGUEL AUZA	MGU-115	115.0	0.74	0.45	37.758+j82.013	92.415+j249.551	0.81	0.49	37.447+j81.790	92.416+j249.543
MINA SAN JAVIER	MSJ-115	115.0	6.92	4.96	2.376+j9.297	5.566+j20.217	7.93	5.58	2.128+j8.961	5.553+j20.118
MINAS	MNA-69	69.0	4.79	3.78	2.799+j7.836	3.431+j14.624	6.20	5.18	1.969+j6.784	2.565+j10.982
MINATITLÁN	MTC-115	115.0	6.09	4.49	2.929+j10.509	6.089+j21.658	7.55	5.25	2.252+j9.406	6.084+j21.533
MIRAMAR	MRM-115	115.0	8.36	7.20	2.058+j7.671	3.826+j11.153	10.97	8.79	1.410+j6.508	3.818+j11.004
MIRAVALLE	MIL-69	69.0	15.38	8.77	1.008+j2.385	1.821+j8.311	18.40	9.93	0.817+j2.237	1.820+j8.305
MOCTEZUMA	MZM-115	115.0	6.57	5.71	2.252+j9.848	2.865+j14.391	7.72	6.54	1.955+j9.251	2.870+j14.330
MOJONERA	MOJ-69	69.0	15.34	10.80	0.733+j2.491	1.155+j5.768	18.69	13.10	0.520+j2.286	0.994+j5.259
MONARCA	MNC-115	115.0	6.05	4.03	3.294+j10.471	8.035+j26.353	6.82	4.50	3.180+j10.218	8.040+j26.158
MONTENEGRO	MNG-115	115.0	18.43	21.14	0.824+j3.506	0.185+j2.226	21.08	23.92	0.745+j3.383	0.186+j2.237
MORALETE	MTE-115	115.0	6.20	5.82	2.937+j10.299	3.345+j12.360	7.62	6.88	2.264+j9.312	3.328+j12.226
MORELIA	MEL-115	115.0	9.47	10.05	1.907+j6.746	1.204+j5.758	10.96	11.56	1.669+j6.449	1.188+j5.621
MORELIA DOS	MRD-115	115.0	8.22	7.97	2.139+j7.790	1.711+j8.758	9.45	9.07	1.903+j7.495	1.700+j8.638
MORELIA INDUSTRIAL	MOI-115	115.0	8.50	7.86	2.120+j7.515	2.111+j9.612	9.92	9.08	1.852+j7.129	2.080+j9.366
MORELIA NORTE	MOR-115	115.0	8.95	8.71	2.045+j7.130	1.808+j7.915	10.37	10.02	1.800+j6.806	1.777+j7.719
MORELIA POTENCIA	MRP-230	230.0	5.92	5.87	4.875+j21.907	2.725+j22.997	6.88	6.73	3.978+j20.860	2.670+j22.725
MORELIA POTENCIA	MRP-115	115.0	10.18	11.91	1.642+j6.310	0.376+j3.756	11.81	13.78	1.410+j6.023	0.361+j3.629
MORELOS	MRE-115	115.0	14.03	10.85	1.064+j4.611	1.558+j8.756	16.45	12.33	0.833+j4.362	1.557+j8.751
MORELOS (LEÓN)	MRL-115	115.0	13.54	11.75	1.137+j4.769	1.366+j7.022	15.42	13.20	0.983+j4.632	1.365+j7.004
MOROLEÓN	MLO-110	115.0	5.04	3.18	3.789+j12.620	11.170+j34.477	5.62	3.53	3.645+j12.473	11.125+j34.334
MUELLE	MLE-115	115.0	4.30	4.52	4.985+j14.629	4.146+j12.507	5.14	5.28	3.992+j13.632	4.140+j12.445
Maniobras Mesas Moreno	MMN-230	230.0	5.35	4.72	5.072+j24.284	8.227+j33.800	6.77	5.65	3.526+j21.289	8.159+j33.499
Maniobras Zapotillo	ZSU-115	115.0	3.27	2.08	4.760+j19.757	13.350+j53.397	3.64	2.30	4.493+j19.538	13.347+j53.363
Montenegro	MNG-230	230.0	12.06	11.52	2.231+j10.784	1.811+j12.417	13.98	13.06	1.920+j10.270	1.844+j12.507
NISSAN MANIOBRAS	NSS-115	115.0	11.72	8.62	1.228+j5.531	1.884+j11.625	13.62	9.75	0.993+j5.268	1.883+j11.608
NIÑOS HÉROES	NHE-230	230.0	8.43	7.64	4.408+j15.127	4.221+j20.231	11.41	9.55	2.160+j12.620	4.173+j19.874
NOGALES	NGA-115	115.0	11.92	10.34	1.111+j5.456	1.451+j7.984	13.71	11.68	1.001+j5.232	1.448+j7.965
NOGALITO	NGT-115	115.0	3.97	3.94	5.450+j15.829	3.917+j16.715	4.73	4.57	4.409+j14.792	3.907+j16.647
NUCOR MANIOBRAS	NUM-115	115.0	7.89	7.59	2.236+j8.110	3.668+j8.729	8.83	8.46	2.113+j7.996	3.662+j8.684
NUEVA ITALIA	NVI-69	69.0	3.30	2.18	3.405+j11.569	6.870+j29.939	5.39	4.42	2.123+j7.853	3.211+j13.185



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
NUEVA JAUJA	JAU-115	115.0	6.36	6.15	2.886+j10.038	2.541+j11.254	8.18	7.60	1.944+j8.711	2.488+j10.688
NUEVA PEDREGAL	NPD-115	115.0	8.45	5.82	1.756+j7.657	3.353+j18.213	9.47	6.46	1.672+j7.529	3.355+j18.210
NUEVA PEDREGAL	PDL-115	115.0	10.29	8.17	1.755+j6.209	3.043+j11.073	12.09	9.32	1.485+j5.855	3.040+j11.027
NUEVO VALLARTA POTENCIA	NVT-230	230.0	3.21	4.28	12.752+j39.287	0.783+j10.628	4.02	5.27	9.066+j35.158	0.790+j10.579
NUEVO VALLARTA POTENCIA	NVT-115	115.0	5.96	8.12	3.477+j10.580	0.148+j2.310	7.37	9.92	2.538+j9.581	0.148+j2.291
Nextipac	NEX-230	230.0	11.57	11.61	3.556+j10.908	2.371+j11.172	17.29	15.63	1.375+j8.337	2.361+j10.899
OBLATOS	OBL-69	69.0	11.14	10.08	0.946+j3.447	0.721+j4.671	13.97	13.19	0.665+j3.065	0.535+j3.658
OCOTLÁN	OCN-230	230.0	7.08	6.34	4.563+j18.181	3.946+j25.076	8.51	7.39	3.189+j16.874	3.801+j24.642
OCOTLÁN	OCN-115	115.0	12.41	12.99	1.512+j5.131	0.618+j4.627	14.60	15.15	1.180+j4.862	0.573+j4.435
OJO CALIENTE	OCL-110	115.0	7.18	5.28	3.068+j8.727	5.638+j18.360	8.17	5.94	2.806+j8.484	5.630+j18.284
OJO SECO	OJO-110	115.0	10.34	7.19	1.504+j6.243	4.243+j14.266	11.60	8.01	1.417+j6.133	4.240+j14.184
OJUELOS	OJU-115	115.0	1.99	1.13	11.164+j31.468	25.320+j106.047	2.20	1.25	11.030+j31.324	25.321+j106.003
OMEGA	OMG-115	115.0	8.18	5.96	1.786+j7.918	3.177+j16.871	9.62	6.81	1.453+j7.448	3.133+j16.709
Otomí	OTO-230	230.0	14.65	13.66	1.480+j8.946	1.636+j10.901	16.81	15.48	1.237+j8.601	1.651+j10.794
Otomí	OTO-115	115.0	20.19	23.17	0.559+j3.241	0.184+j2.010	22.77	26.01	0.500+j3.169	0.182+j2.001
P. H. TROJES	TJS-115	115.0	1.78	1.59	13.391+j34.766	12.538+j49.779	2.02	1.77	12.690+j33.800	12.597+j49.880
PABELLÓN	PAB-115	115.0	7.54	5.01	2.141+j8.537	4.001+j21.815	8.51	5.60	1.947+j8.359	4.001+j21.797
PACHAMAMA MANIOBRAS	MPM-400	400.0	12.33	12.76	4.410+j18.200	2.468+j16.721	16.81	16.18	1.936+j14.986	2.486+j16.735
PALO ALTO	PAO-115	115.0	5.76	3.68	3.739+j10.897	7.419+j30.296	6.50	4.09	3.520+j10.663	7.419+j30.273
PÁNFILO NATERA	PFN-115	115.0	3.15	2.05	4.652+j20.545	25.346+j49.700	3.52	2.27	4.387+j20.308	25.337+j49.624
PARACHO II	POD-115	115.0	6.81	5.84	2.948+j9.287	4.041+j14.020	7.86	6.62	2.633+j8.908	4.028+j13.955
PARÁCUARO	PAR-400	400.0	6.40	5.89	6.223+j35.530	8.158+j44.496	8.72	7.47	3.245+j28.946	8.311+j42.865
PARÁCUARO	PAR-115	115.0	13.42	14.02	0.784+j4.884	0.549+j4.257	16.95	17.11	0.476+j4.283	0.555+j4.147
PARQUE INDUSTRIAL	PQI-69	69.0	19.25	17.93	0.583+j1.986	0.466+j2.493	23.67	21.17	0.394+j1.809	0.462+j2.465
PARQUE INDUSTRIAL COLINAS DE APASEO	API-115	115.0	14.61	12.18	0.928+j4.447	1.578+j7.088	16.39	13.57	0.867+j4.372	1.574+j7.064
PARQUE INDUSTRIAL COLINAS DE LEÓN	ICL-115	115.0	15.06	11.23	1.008+j4.292	1.819+j8.734	17.39	12.70	0.836+j4.116	1.809+j8.671
PARQUE INDUSTRIAL FINSA QUERETARO	PFQ-115	115.0	18.09	20.11	0.851+j3.571	0.312+j2.550	20.68	22.74	0.772+j3.446	0.312+j2.559
PARQUE INDUSTRIAL GUANAJUATO CENTRAL	IGC-115	115.0	13.84	10.48	1.120+j4.663	2.754+j9.010	15.70	11.73	1.007+j4.540	2.751+j8.974
PARQUE INNOVACIÓN	PQN-115	115.0	17.85	10.11	0.813+j3.631	3.465+j11.776	20.53	11.30	0.733+j3.482	3.465+j11.777
PARQUE PIEL	PAP-115	115.0	14.78	12.94	1.045+j4.369	1.591+j6.208	16.95	14.61	0.888+j4.217	1.588+j6.185
PARQUE SOLAR SANTIAGO MANIOBRAS	MSG-230	230.0	5.62	5.12	4.973+j23.114	6.214+j29.824	7.18	6.19	3.392+j20.053	6.130+j29.462
PÁTZCUARO NORTE	PTN-115	115.0	3.46	3.15	5.648+j18.322	5.508+j24.436	3.89	3.51	5.341+j17.978	5.487+j24.342
PÁTZCUARO SUR	PCS-115	115.0	3.46	2.92	5.675+j18.335	7.543+j29.019	3.89	3.25	5.379+j18.009	7.527+j28.937
PEDREGAL	PDG-115	115.0	6.96	6.42	2.580+j9.187	3.765+j11.400	7.93	7.25	2.341+j8.903	3.753+j11.289
PELETIZADORA ALZADA	PAL-115	115.0	3.19	2.58	6.274+j19.878	9.340+j34.232	3.70	2.93	5.577+j18.917	9.318+j34.124
PENAL	PNL-69	69.0	9.03	6.11	1.084+j4.277	2.590+j10.403	10.54	6.92	0.871+j4.064	2.587+j10.360
PÉNJAMO	PNJ-115	115.0	3.89	2.71	5.089+j16.288	10.737+j37.970	4.32	3.00	4.962+j16.173	10.685+j37.700
PERIBAN	PBN-115	115.0	3.89	2.65	5.033+j16.332	13.168+j38.894	4.37	2.94	4.730+j16.024	13.165+j38.855
PEÑA COLORADA	PEC-115	115.0	5.84	4.26	3.083+j10.941	6.477+j23.103	7.21	4.97	2.405+j9.841	6.471+j22.979
PEÑASCO	PNS-115	115.0	10.88	7.69	1.369+j5.948	2.742+j13.423	12.57	8.66	1.172+j5.689	2.743+j13.413



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
PEÑITAS	PEN-115	115.0	3.26	2.20	5.538+j19.590	14.848+j47.377	3.83	2.51	4.694+j18.490	14.787+j46.987
PEÑUELAS	PEN-115	115.0	6.84	5.14	2.171+j9.455	3.451+j19.033	8.09	5.90	1.776+j8.856	3.370+j18.761
PINAR	PNR-69	69.0	15.45	11.14	0.680+j2.486	0.930+j5.504	18.78	12.99	0.477+j2.285	0.900+j5.377
PINZÁNDARO	PIZ-115	115.0	3.08	2.32	6.047+j20.660	11.439+j41.070	3.76	2.83	5.047+j18.768	10.870+j36.891
PITILLAL	PTL-115	115.0	4.94	5.48	4.144+j12.790	1.754+j9.330	5.98	6.47	3.175+j11.799	1.747+j9.267
PONCITLAN	PNC-115	115.0	3.98	2.62	4.934+j15.941	11.311+j41.010	4.47	2.92	4.600+j15.690	11.268+j40.829
POTOSÍ SOLAR MANIOBRAS	MFP-400	400.0	6.29	5.43	5.044+j36.382	10.033+j53.227	7.99	6.49	2.960+j31.662	9.999+j53.057
POTRERILLOS	POS-400	400.0	14.10	14.32	3.822+j15.929	2.148+j15.514	18.20	17.49	2.029+j13.813	2.177+j15.524
POTRERILLOS	POS-230	230.0	15.51	18.08	1.893+j8.347	0.439+j4.933	18.67	21.31	1.287+j7.718	0.441+j4.916
POTRERILLOS	POS-115	115.0	21.35	21.63	0.584+j3.054	0.309+j2.984	25.17	24.88	0.418+j2.871	0.312+j2.990
POTRERO SOLAR MANIOBRAS	POM-400	400.0	9.59	9.57	4.586+j23.639	2.680+j24.191	12.23	11.56	2.391+j20.640	2.700+j24.260
PRADERA	PAD-115	115.0	7.49	6.82	2.067+j8.625	2.977+j11.046	9.34	8.29	1.559+j7.663	2.849+j10.451
PRIMERO DE MAYO	PMY-400	400.0	8.16	9.15	3.990+j28.021	1.578+j19.077	10.86	11.62	2.230+j23.280	1.542+j18.790
PROCTER & GAMBLE MANIOBRAS (IRAPUATO)	PGM-115	115.0	13.05	5.18	1.288+j4.921	7.499+j27.262	14.77	5.75	1.169+j4.804	7.498+j27.196
PRODUCTOS GATORADE	GAT-69	69.0	4.83	3.03	2.506+j7.851	5.731+j22.316	5.50	3.38	2.290+j7.638	5.726+j22.236
PUEBLO NUEVO	PNV-115	115.0	6.38	4.39	2.787+j10.020	8.184+j23.243	7.12	4.87	2.663+j9.903	8.164+j23.081
PUENTE GRANDE	PGN-69	69.0	7.82	6.95	1.319+j4.919	0.948+j6.969	9.18	8.39	1.084+j4.650	0.767+j6.100
PUENTE GRANDE DOS	PTD-115	115.0	2.76	1.03	6.727+j23.141	47.894+j136.175	3.08	1.14	6.270+j22.882	47.843+j135.994
PUENTE GRANDE DOS	PTD-69	69.0	7.88	7.01	1.309+j4.881	0.932+j6.919	9.25	8.45	1.075+j4.614	0.757+j6.063
PUERTA GRANDE	PUG-115	115.0	7.85	6.09	2.239+j8.159	4.183+j15.237	8.99	6.85	1.952+j7.884	4.172+j15.171
PUERTA QUERÉTARO	PQO-115	115.0	12.62	9.85	1.244+j5.111	2.247+j9.440	14.33	11.03	1.173+j4.961	2.236+j9.405
PUERTO INTERIOR	PTI-115	115.0	14.17	15.51	1.012+j4.576	0.381+j3.461	15.98	17.39	0.886+j4.484	0.378+j3.447
PUERTO INTERIOR (FONDEPORT)	FDP-115	115.0	8.98	7.94	1.912+j7.141	3.003+j9.871	11.96	9.80	1.265+j5.972	2.995+j9.722
PUNTA DE MITA	PMI-115	115.0	3.53	2.90	5.773+j17.874	6.171+j30.559	4.16	3.31	4.807+j16.896	6.170+j30.526
PURÉPECHA POTENCIA	PRH-400	400.0	8.48	7.67	6.143+j26.520	5.656+j35.425	11.43	9.49	2.778+j22.044	5.713+j35.382
PURÉPECHA POTENCIA	PRH-115	115.0	16.23	16.28	0.788+j4.013	0.435+j4.042	19.45	18.93	0.500+j3.721	0.437+j4.045
PURÉPERO	PRP-115	115.0	7.95	6.84	2.085+j8.086	4.278+j11.683	9.15	7.75	1.816+j7.777	4.273+j11.607
PURUANDIRO	PUR-115	115.0	2.96	1.94	7.296+j21.174	17.378+j55.010	3.39	2.39	6.746+j20.482	12.870+j46.766
PURUARÁN	PUU-69	69.0	1.65	0.87	9.921+j22.038	27.761+j85.541	2.21	1.40	7.927+j18.139	17.298+j52.053
Pedro Moreno	LMP-230	230.0	11.74	10.95	2.667+j10.994	2.336+j13.572	14.30	13.14	1.855+j10.047	2.179+j12.735
Pedro Moreno	LMP-115	115.0	15.34	16.39	0.854+j4.244	0.372+j3.487	18.44	20.00	0.617+j3.913	0.350+j3.018
Plataforma Park	PRG-230	230.0	12.47	13.34	3.455+j10.068	1.615+j8.478	18.11	17.88	1.466+j7.931	1.592+j8.232
Puerto Interior	PTI-230	230.0	9.86	9.42	3.023+j13.130	2.321+j15.178	11.36	10.68	2.497+j12.613	2.326+j15.171
QUERÉTARO I	QRO-230	230.0	18.61	20.11	1.492+j6.979	0.667+j5.496	22.29	23.50	1.177+j6.448	0.679+j5.492
QUERÉTARO I	QRO-115	115.0	27.71	33.87	0.507+j2.342	0.075+j1.091	32.26	39.00	0.430+j2.223	0.075+j1.091
QUERÉTARO INDUSTRIAL	QRI-110	115.0	8.96	8.92	1.719+j7.205	0.804+j7.523	10.05	9.95	1.631+j7.082	0.796+j7.487
QUERÉTARO MANIOBRAS	QMR-110	115.0	10.25	11.18	1.326+j6.341	0.475+j4.861	11.52	12.51	1.237+j6.218	0.467+j4.824
QUERÉTARO NORTE	QRN-115	115.0	15.04	14.44	1.281+j4.224	0.760+j4.935	17.10	16.22	1.200+j4.099	0.760+j4.932
QUERÉTARO ORIENTE	QRE-115	115.0	12.77	10.98	1.447+j4.993	0.487+j7.826	14.47	12.28	1.362+j4.861	0.487+j7.821
QUERÉTARO PONIENTE	QPE-115	115.0	14.38	11.81	0.857+j4.537	1.194+j7.539	16.12	13.16	0.795+j4.461	1.183+j7.488



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
QUERÉTARO POTENCIA	QRP-400	400.0	20.05	18.90	1.886+j11.362	1.775+j13.468	24.17	22.30	1.231+j10.436	1.655+j13.035
QUERÉTARO POTENCIA	QRP-230	230.0	23.47	26.69	0.984+j5.572	0.331+j3.589	27.61	32.00	0.744+j5.238	0.252+j3.105
QUERÉTARO POTENCIA	QRP-115	115.0	27.07	33.93	0.372+j2.424	0.055+j0.965	30.77	38.61	0.311+j2.353	0.047+j0.928
QUERÉTARO POTENCIA MANIOBRAS	QPM-400	400.0	22.16	21.74	1.685+j10.286	1.702+j10.834	26.73	25.51	1.106+j9.441	1.680+j10.700
QUERÉTARO SUR	QRS-115	115.0	18.31	13.18	0.625+j3.572	1.422+j7.726	20.61	14.70	0.563+j3.499	1.416+j7.691
QUINCEO	QNC-115	115.0	9.16	9.27	1.975+j6.977	1.515+j6.896	10.60	10.65	1.736+j6.670	1.495+j6.742
RANCHO GRANDE	RAG-115	115.0	2.59	1.79	8.334+j24.223	17.461+j57.299	2.89	1.99	8.016+j23.945	17.461+j57.291
REYMA	RYM-115	115.0	14.42	11.63	1.044+j4.485	1.851+j7.696	16.51	13.10	0.886+j4.333	1.844+j7.668
RÍO GRANDE	RGR-110	115.0	1.42	0.91	17.922+j43.276	45.383+j117.586	1.57	1.00	17.603+j43.025	45.383+j117.578
RIO GRANDE II	RIG-115	115.0	1.50	0.96	16.131+j41.367	42.042+j111.062	1.66	1.06	15.812+j41.114	42.043+j111.055
ROMITA	RTA-115	115.0	8.82	6.46	1.581+j7.356	3.132+j15.462	9.89	7.19	1.452+j7.240	3.122+j15.399
S.I.A.P.A. (TOLUQUILLA)	SPB-69	69.0	15.75	11.34	0.799+j2.400	1.245+j5.351	18.93	13.01	0.604+j2.234	1.243+j5.335
S.I.A.P.A. PLANTA 2	STO-69	69.0	4.70	3.38	2.361+j8.146	4.760+j17.742	5.34	3.80	2.143+j7.920	4.746+j17.572
S.I.A.P.A. PTA BOMBEO STA CRUZ	SCH-69	69.0	2.66	1.51	4.631+j14.235	12.328+j47.422	2.98	1.68	4.413+j14.025	12.323+j47.342
SAHUAYO	SHY-115	115.0	7.36	5.13	2.162+j8.758	4.561+j20.249	8.42	5.76	1.849+j8.479	4.551+j20.186
SALAHUA	SLH-115	115.0	8.72	7.11	1.987+j7.346	4.018+j12.151	11.55	8.67	1.339+j6.181	4.010+j12.002
SALAMANCA	SLM-400	400.0	20.68	21.71	2.287+j10.931	0.983+j9.557	27.39	28.65	1.115+j9.207	0.716+j8.033
SALAMANCA	SLM-230	230.0	30.46	36.10	0.771+j4.290	0.137+j2.325	38.67	45.56	0.446+j3.751	0.111+j2.068
SALAMANCA	SLM-115	115.0	24.13	27.13	0.453+j2.715	0.107+j1.843	27.75	31.01	0.362+j2.607	0.103+j1.804
SALAMANCA COGENERACIÓN	SCG-230	230.0	30.07	34.66	0.793+j4.344	0.246+j2.659	38.33	44.06	0.461+j3.783	0.194+j2.321
SALAMANCA DOS	SMD-400	400.0	19.87	20.30	2.545+j11.339	1.491+j10.798	26.36	26.03	1.236+j9.558	1.373+j9.911
SALAMANCA DOS	SMD-230	230.0	12.78	9.71	1.893+j10.213	4.932+j19.644	14.94	11.10	1.534+j9.659	4.890+j19.359
SALAMANCA DOS	SMD-115	115.0	21.01	20.68	0.515+j3.118	0.343+j3.301	23.94	23.35	0.417+j3.023	0.337+j3.266
SALAMANCA NORTE	SLN-115	115.0	15.82	10.57	0.940+j4.089	2.725+j10.103	17.93	11.80	0.847+j3.984	2.720+j10.067
SALAMANCA PONIENTE	SPO-115	115.0	17.43	14.73	0.650+j3.753	1.064+j5.808	19.75	16.52	0.552+j3.656	1.059+j5.773
SALAMANCA SUR	SSU-110	115.0	18.32	20.84	0.716+j3.552	0.154+j2.324	20.85	23.60	0.621+j3.448	0.150+j2.285
SALERO	SLR-400	400.0	6.97	5.16	5.010+j32.770	14.590+j66.599	8.37	5.93	3.706+j30.113	14.557+j66.410
SALINAS	SNA-115	115.0	1.65	0.95	10.141+j38.907	65.189+j113.005	1.83	1.05	9.875+j38.673	65.180+j112.928
SALITRE	STE-115	115.0	3.63	2.21	4.451+j17.726	7.135+j53.411	4.06	2.44	4.207+j17.506	7.117+j53.364
SALVATIERRA	SVT-110	115.0	5.43	3.74	3.345+j11.750	9.593+j27.311	6.12	4.18	3.196+j11.503	9.556+j27.096
SAN AGUSTÍN	SAG-69	69.0	11.46	8.72	1.062+j3.311	1.383+j6.628	13.40	9.95	0.866+j3.154	1.364+j6.537
SAN ANDRÉS	ADE-115	115.0	8.82	7.30	2.150+j7.216	2.731+j11.937	10.15	8.28	1.818+j6.960	2.688+j11.760
SAN ANTONIO	SAN-115	115.0	8.13	5.44	2.313+j7.834	4.225+j19.850	9.21	6.14	2.104+j7.643	4.224+j19.827
SAN CARLOS	SCA-115	115.0	11.39	9.55	1.482+j5.638	1.862+j9.017	12.87	10.70	1.335+j5.513	1.843+j8.958
SAN CLEMENTE	SCM-115	115.0	2.82	2.00	6.995+j22.469	20.585+j48.340	3.47	2.47	5.404+j20.352	17.336+j43.391
SAN CLEMENTE	SCM-69	69.0	1.22	0.01	5.000+j32.2801	2.208+j-14.886.32	11.53	0.01	3.788+j28.40112	2.208+j-14.886.321
SAN DIEGO PEÑUELAS	SDP-115	115.0	4.64	2.89	3.660+j13.829	10.173+j38.926	5.84	3.36	2.829+j12.191	10.193+j38.822
SAN FELIPE	SFL-115	115.0	1.89	1.25	10.676+j33.495	31.431+j82.769	2.09	1.38	10.580+j33.329	31.410+j82.622
SAN FRANCISCO	SFC-115	115.0	3.25	2.85	7.553+j18.999	11.942+j26.477	3.81	3.26	6.587+j17.976	11.939+j26.440
SAN FRANCISCO DE LOS ROMO	SFR-115	115.0	10.74	8.29	1.361+j6.033	1.777+j11.524	12.26	9.34	1.159+j5.845	1.755+j11.433



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SAN FRANCISCO DEL RINCÓN	SFQ-110	115.0	9.71	6.98	1.461+j6.678	3.300+j14.506	11.20	7.85	1.254+j6.397	3.303+j14.512
SAN GASPAR	GPR-69	69.0	20.29	22.05	0.455+j1.910	0.162+j1.493	25.84	27.13	0.246+j1.678	0.160+j1.446
SAN ILDEFONSO	SFS-115	115.0	29.05	25.13	0.455+j2.240	0.664+j3.284	35.35	29.49	0.378+j2.031	0.654+j3.230
SAN JERÓNIMO	SJE-115	115.0	2.52	1.83	8.857+j24.799	18.307+j53.206	2.81	2.03	8.544+j24.517	18.307+j53.199
SAN JORGE	SAJ-115	115.0	2.02	1.29	7.964+j31.836	22.001+j85.534	2.25	1.43	7.628+j31.587	21.958+j85.352
SAN JORGE	SAJ-69	69.0	7.40	5.13	1.632+j5.129	3.021+j12.161	8.57	5.80	1.417+j4.915	3.016+j12.081
SAN JOSÉ DE GRACIA	JOG-115	115.0	3.07	1.98	7.875+j20.151	18.434+j54.481	3.43	2.19	7.573+j19.872	18.435+j54.454
SAN JOSÉ ITURBIDE	SJI-230	230.0	11.32	10.81	1.849+j11.586	1.771+j13.248	13.21	12.32	1.532+j10.952	1.802+j13.312
SAN JOSÉ ITURBIDE	SJI-115	115.0	16.94	19.86	0.696+j3.858	0.204+j2.180	19.92	23.00	0.587+j3.620	0.206+j2.182
SAN JUAN ZITÁCUARO	SJZ-115	115.0	5.97	3.94	3.363+j10.593	8.144+j27.108	6.73	4.40	3.254+j10.351	8.150+j26.941
SAN JUAN DE LOS LAGOS	JDL-115	115.0	7.30	5.86	2.408+j8.775	4.897+j15.033	8.35	6.59	2.128+j8.485	4.892+j15.015
SAN JUAN DE LOS LAGOS II	SJD-230	230.0	7.46	7.94	3.768+j17.397	1.437+j14.598	8.82	9.17	2.809+j16.314	1.445+j14.651
SAN JUAN DE LOS LAGOS II	SJD-115	115.0	12.23	14.56	1.081+j5.319	0.223+j2.835	14.19	16.71	0.838+j5.077	0.221+j2.825
SAN JUAN DEL RÍO	SJR-110	115.0	14.17	11.95	1.067+j4.562	1.335+j7.174	19.31	16.92	0.711+j3.714	0.868+j5.314
SAN JUAN DEL RÍO MANIOBRAS	SJM-110	115.0	14.86	13.73	0.933+j4.371	1.142+j5.449	19.12	16.94	0.682+j3.759	1.182+j5.156
SAN JUAN DEL RIO ORIENTE	SJO-115	115.0	11.65	8.59	1.453+j5.509	3.191+j11.352	15.28	11.63	1.081+j4.656	2.412+j8.953
SAN JUAN POTENCIA	SJP-230	230.0	11.22	10.33	2.248+j11.623	1.810+j14.790	14.26	12.93	1.554+j10.121	1.647+j13.268
SAN JUAN POTENCIA	SJP-115	115.0	17.26	21.56	0.779+j3.767	0.126+j1.545	22.85	28.38	0.532+j3.152	0.111+j1.320
SAN LUIS DE LA PAZ	SAP-110	115.0	17.32	15.00	0.669+j3.775	0.973+j5.522	20.12	17.22	0.583+j3.582	0.961+j5.372
SAN LUIS DE LA PAZ II	SPA-230	230.0	19.64	20.96	1.107+j6.669	0.698+j5.408	23.88	25.00	0.821+j6.061	0.675+j5.227
SAN LUIS DE LA PAZ II	SPA-115	115.0	22.03	22.87	0.426+j2.984	0.238+j2.663	25.96	26.92	0.342+j2.793	0.223+j2.496
SAN LUIS DOS	SLD-230	230.0	12.28	12.71	2.531+j10.511	1.736+j9.603	16.11	15.84	1.519+j8.940	1.724+j9.380
SAN LUIS DOS	SLD-115	115.0	17.19	18.36	0.829+j3.771	0.328+j3.126	20.96	21.90	0.581+j3.435	0.315+j3.027
SAN LUIS I	SLP-230	230.0	12.14	13.12	3.111+j10.488	1.192+j8.480	16.52	16.96	1.871+j8.642	1.179+j8.086
SAN LUIS I (BUS A)	SLP-115	115.0	21.28	25.00	0.887+j2.992	0.188+j1.745	27.97	31.83	0.564+j2.550	0.183+j1.661
SAN LUIS INDUSTRIAL	SLI-110	115.0	16.04	14.78	1.133+j3.981	0.874+j5.148	20.17	17.73	0.802+j3.531	0.868+j5.051
SAN LUIS NORTE	SNE-115	115.0	8.69	6.41	1.689+j7.454	3.330+j15.456	9.94	7.19	1.477+j7.194	3.326+j15.439
SAN LUIS ORIENTE	SLO-110	115.0	13.95	11.42	1.205+j4.604	1.848+j7.716	16.90	13.27	0.915+j4.224	1.843+j7.646
SAN LUIS PONIENTE	SLW-110	115.0	10.13	8.77	1.665+j6.336	1.741+j9.462	11.78	9.98	1.426+j6.034	1.733+j9.418
SAN LUIS PROGRESO	SPR-110	115.0	11.48	8.85	1.501+j5.585	2.465+j10.671	13.62	10.15	1.219+j5.220	2.460+j10.598
SAN MARTIN	SMR-230	230.0	9.41	8.35	4.095+j13.505	4.167+j19.059	12.81	10.47	1.979+j11.227	4.088+j18.609
SAN MIGUEL	MIG-115	115.0	3.55	2.37	4.814+j18.098	11.716+j44.951	3.96	2.63	4.553+j17.855	11.714+j44.937
SAN MIGUEL ALLENDE SUR	SMS-115	115.0	9.16	6.14	2.007+j6.967	4.968+j17.256	10.37	6.88	1.901+j6.785	4.943+j17.075
SAN MIGUEL DE ALLENDE	MAL-115	115.0	11.19	8.00	1.434+j5.757	2.769+j12.717	12.79	9.05	1.320+j5.555	2.736+j12.486
SAN NICOLÁS	SNS-69	69.0	4.68	2.96	2.496+j8.132	5.810+j22.599	5.32	3.31	2.280+j7.917	5.805+j22.519
SAN PEDRO	PDR-115	115.0	12.39	9.99	1.214+j5.218	2.088+j8.987	14.74	11.50	0.947+j4.865	2.079+j8.906
SAN RAFAEL MANIOBRAS	SRM-115	115.0	2.96	2.85	5.513+j21.756	5.374+j24.363	3.42	3.28	4.871+j20.762	5.149+j23.664
SAN ROQUE	SRQ-115	115.0	11.28	8.70	1.214+j5.759	2.403+j10.869	13.27	9.89	0.983+j5.417	2.406+j10.875
SAN VICENTE	VTE-115	115.0	5.44	6.78	3.768+j11.604	1.116+j4.873	6.65	8.13	2.823+j10.610	1.115+j4.851
SANTA CRUZ	SCZ-115	115.0	6.01	4.02	3.616+j10.436	8.465+j26.087	6.73	4.48	3.510+j10.268	8.433+j25.856



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SANTA CRUZ	SCU-69	69.0	13.98	10.77	0.870+j2.714	1.256+j5.261	16.61	12.33	0.673+j2.550	1.253+j5.239
SANTA FE	STF-230	230.0	11.00	10.17	2.167+j11.874	2.187+j14.872	12.85	11.91	1.797+j11.220	1.962+j13.911
SANTA FE	STF-115	115.0	17.89	20.17	0.718+j3.641	0.241+j2.445	21.32	24.77	0.590+j3.374	0.194+j1.988
SANTA FE II	SFD-115	115.0	12.57	11.68	1.225+j5.140	1.262+j6.359	14.15	13.06	1.098+j5.042	1.258+j6.339
SANTA FÉ IV	STC-115	115.0	10.25	8.83	1.506+j6.300	1.900+j9.426	11.51	9.89	1.377+j6.194	1.852+j9.271
SANTA FE TRES	SFT-115	115.0	12.26	11.80	1.186+j5.283	1.002+j5.973	13.79	13.19	1.059+j5.187	0.994+j5.939
SANTA MARÍA	STM-400	400.0	19.67	17.84	2.017+j11.568	2.739+j15.071	24.12	21.17	1.225+j10.461	2.700+j14.693
SANTA MARÍA	STM-115	115.0	24.85	23.93	0.418+j2.639	0.409+j2.952	28.35	27.20	0.344+j2.553	0.409+j2.887
SANTA MARÍA	SNM-115	115.0	7.80	7.48	2.276+j8.207	1.802+j9.511	8.95	8.51	2.034+j7.898	1.793+j9.391
SANTIAGO	SNI-115	115.0	4.07	2.89	4.227+j15.748	11.334+j34.550	4.86	3.32	3.393+j14.633	11.274+j34.163
SANTIAGO	SNG-115	115.0	8.39	7.17	1.883+j7.687	2.029+j11.791	9.63	8.09	1.653+j7.404	2.020+j11.745
SANTIAGO UNDAMEO	SUN-115	115.0	5.46	4.61	3.395+j11.673	6.418+j17.809	6.18	5.17	3.150+j11.389	6.409+j17.711
SANTIAGUITO	STG-115	115.0	9.05	8.76	2.022+j7.056	1.734+j7.975	10.52	10.13	1.770+j6.714	1.687+j7.718
SATÉLITE	SEI-115	115.0	10.89	8.21	1.453+j5.919	2.146+j11.906	13.12	9.49	1.117+j5.455	2.130+j11.769
SATÉLITE	SAT-115	115.0	16.09	13.03	0.951+j4.015	1.696+j6.824	18.28	14.84	0.877+j3.898	1.605+j6.577
SAYULA	SYL-115	115.0	5.38	4.21	3.614+j11.795	7.370+j21.363	6.33	4.82	3.024+j11.138	7.352+j21.192
SCHAEFFLER MANIOBRAS	SFM-115	115.0	7.99	5.09	1.701+j8.137	4.724+j22.007	8.93	5.68	1.580+j8.023	4.616+j21.708
SENDERO	SDE-115	115.0	10.78	8.39	1.552+j5.961	2.670+j11.114	12.71	9.59	1.280+j5.604	2.662+j11.037
SERVICIOS AGUAMILPA	SEA-110	115.0	2.26	1.99	7.438+j28.367	12.214+j39.393	2.59	2.26	6.795+j27.373	11.989+j38.694
SERVICIOS EL CAJÓN	SCJ-115	115.0	1.98	1.27	10.505+j31.874	23.290+j86.757	2.77	2.12	6.499+j25.574	13.622+j48.735
SERVICIOS LA YESCA	SLY-115	115.0	0.63	0.40	37.152+j98.632	104.598+j263.490	0.87	0.67	24.477+j80.703	55.229+j146.267
SILAO	SIL-115	115.0	15.76	14.80	1.037+j4.084	1.204+j4.885	17.96	16.74	0.905+j3.965	1.188+j4.809
SILAO POTENCIA	SIP-230	230.0	13.65	13.51	2.282+j9.455	1.546+j9.939	16.04	15.56	1.789+j8.928	1.525+j9.840
SILAO POTENCIA	SIP-115	115.0	19.00	22.07	0.801+j3.402	0.215+j2.037	21.79	25.24	0.672+j3.284	0.205+j1.975
SISTEMAS JUÁREZ	SIS-69	69.0	18.61	14.99	0.670+j2.033	0.790+j3.616	22.77	17.46	0.475+j1.865	0.788+j3.598
SOLEDAD DE GRACIANO SÁNCHEZ	SGS-110	115.0	11.52	8.80	1.182+j5.642	1.773+j10.966	13.46	10.00	0.958+j5.341	1.768+j10.914
STIVA LEON	STI-115	115.0	4.12	3.28	4.618+j15.457	8.978+j26.964	4.67	3.68	4.269+j15.040	8.961+j26.852
San Cristobal	SCR-115	115.0	10.78	8.43	1.420+j5.996	2.635+j10.991	12.24	9.45	1.259+j5.834	2.615+j10.937
San Gerardo	SAG-115	115.0	12.32	9.00	1.173+j5.258	1.814+j11.229	14.40	10.20	0.933+j4.985	1.811+j11.199
Sierra Vieja	SIV-115	115.0	1.53	1.12	14.140+j41.107	19.309+j89.061	1.72	1.26	13.343+j40.386	18.714+j86.797
TABACALERA	TBK-110	115.0	6.75	6.18	2.662+j9.473	2.870+j12.244	8.71	7.59	1.759+j8.194	2.833+j11.775
TACUBAYA	TYA-115	115.0	2.28	1.46	9.176+j27.651	22.304+j74.901	2.52	1.61	9.048+j27.539	22.251+j74.630
TALA	TLA-69	69.0	4.37	3.71	2.996+j8.601	2.349+j13.934	5.27	5.71	2.448+j7.951	0.684+j6.453
TALA ELECTRIC	ELT-69	69.0	4.18	3.46	3.073+j9.028	2.723+j15.287	5.01	5.53	2.525+j8.378	0.558+j6.359
TALPA	TPA-69	69.0	0.54	0.01	26.767+j68.711	2.295+j-14,897.30	70.75	0.01	17.527+j55.353	2.295+j-14,897.30
TAMARINDOS	TMI-115	115.0	5.79	7.77	3.617+j10.873	0.327+j2.738	7.14	9.48	2.662+j9.873	0.320+j2.674
TAMAZULA	TAZ-115	115.0	2.89	2.07	6.426+j22.091	12.070+j48.707	3.28	2.32	5.815+j21.464	12.016+j48.393
TANGAMANGA	TMG-115	115.0	9.91	8.11	1.755+j6.468	2.490+j10.878	11.54	9.22	1.506+j6.148	2.485+j10.836
TANGANCÍCUARO	TGR-115	115.0	8.27	7.78	2.130+j7.737	2.908+j9.107	9.51	8.83	1.858+j7.451	2.892+j9.020
TANQUE TENORIO (DEGREMONT)	TQT-115	115.0	16.63	14.73	1.091+j3.841	0.934+j5.484	20.97	17.62	0.766+j3.397	0.929+j5.396



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
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			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TAPALPA	TLP-115	115.0	3.76	2.86	5.075+j16.894	11.583+j32.303	4.33	3.23	4.488+j16.264	11.549+j32.128
TAPEIXTLES	TAP-115	115.0	11.86	12.72	1.326+j5.440	0.744+j4.402	16.94	16.95	0.688+j4.256	0.729+j4.242
TAPEIXTLES	TAP-69	69.0	3.71	4.92	1.048+j10.672	0.099+j2.842	4.48	5.96	0.751+j9.748	0.088+j2.502
TAPEIXTLES POTENCIA	TPX-400	400.0	7.27	8.83	7.890+j30.792	1.173+j15.061	17.32	19.77	1.291+j14.609	0.950+j9.161
TAPEIXTLES POTENCIA	TPX-230	230.0	9.44	12.10	3.124+j13.722	0.324+j4.809	16.65	20.22	0.804+j8.736	0.292+j4.121
TAPEIXTLES POTENCIA	TPX-115	115.0	14.77	17.19	0.958+j4.391	0.208+j2.606	22.81	24.90	0.340+j3.184	0.191+j2.389
TARANDACUAO	TDC-115	115.0	2.77	2.24	6.896+j22.919	10.509+j40.040	3.13	2.52	6.594+j22.348	10.288+j39.260
TARETAN	TAR-69	69.0	2.26	0.96	5.306+j16.833	25.029+j85.280	3.18	2.04	3.891+j13.210	9.259+j35.877
TARIMBARO	TRB-115	115.0	6.75	6.01	2.797+j9.429	3.642+j13.058	7.70	6.85	2.567+j9.131	3.504+j12.654
TECNOLÓGICO	TAG-115	115.0	15.12	12.25	0.991+j4.279	1.348+j7.359	17.79	13.97	0.761+j4.034	1.347+j7.358
TECOLAPA	TOA-115	115.0	5.61	4.31	3.720+j11.238	8.096+j21.012	6.87	5.02	3.025+j10.191	8.088+j20.880
TECOLOTLAN	TCT-115	115.0	3.33	2.42	5.714+j19.125	16.426+j39.048	3.92	2.83	4.767+j17.990	15.268+j37.226
TECOMÁN	TEC-115	115.0	4.85	3.56	4.180+j13.025	10.227+j26.713	5.86	4.11	3.484+j11.966	10.217+j26.571
TECOMÁN SUR	TES-115	115.0	3.99	2.88	5.023+j15.851	13.214+j33.500	4.74	3.29	4.325+j14.795	13.204+j33.357
TECOMATES	TCS-115	115.0	2.91	2.11	6.424+j21.933	13.916+j46.707	3.35	2.38	5.786+j20.991	13.912+j46.547
TECOZAUTLA	TCZ-115	115.0	2.27	1.32	9.268+j27.807	29.222+j87.468	2.52	1.48	9.062+j27.489	28.390+j85.880
TECUALA	TEL-115	115.0	1.08	0.72	23.431+j56.958	61.349+j141.533	1.21	0.80	22.554+j55.942	61.284+j141.137
TECUAN	TCN-115	115.0	9.26	6.08	1.872+j6.920	3.688+j18.081	10.65	6.83	1.646+j6.658	3.685+j18.011
TEJEDA	TJD-115	115.0	10.56	13.88	1.254+j6.162	0.397+j1.725	11.85	15.59	1.171+j6.049	0.389+j1.689
TEOCALTICHE	TEO-115	115.0	4.76	3.23	3.724+j13.456	9.054+j32.424	5.34	3.59	3.480+j13.216	9.052+j32.414
TEOCUITATLAN	TTL-115	115.0	2.77	2.42	6.360+j23.099	7.918+j33.429	3.14	2.72	5.790+j22.545	7.744+j33.005
TEPALCATEPEC DOS	TPD-115	115.0	2.00	1.98	9.248+j31.803	5.350+j33.984	2.61	2.77	6.708+j27.142	3.330+j23.169
TEPATITLÁN	TPT-115	115.0	5.74	4.11	3.473+j11.044	6.980+j24.305	6.47	4.60	3.153+j10.831	6.932+j24.134
TEPETONGO	TGO-115	115.0	1.30	0.93	15.540+j48.792	38.868+j104.331	1.44	1.03	15.174+j48.452	38.857+j104.236
TEPEYAC	TPY-115	115.0	18.49	14.12	0.725+j3.516	1.483+j6.762	21.31	15.93	0.657+j3.364	1.475+j6.734
TEPIC DOS	TED-400	400.0	7.18	7.49	9.138+j30.832	4.164+j28.124	15.73	15.92	1.733+j16.059	2.314+j15.369
TEPIC DOS	TED-230	230.0	8.06	9.94	4.207+j15.934	0.747+j7.172	12.81	15.46	1.362+j11.317	0.464+j5.511
TEPIC DOS	TED-115	115.0	10.92	13.15	1.365+j5.927	0.216+j3.009	15.26	17.95	0.578+j4.750	0.161+j2.630
TEPIC INDUSTRIAL	TID-110	115.0	7.29	7.24	2.519+j8.758	1.692+j9.159	9.66	9.22	1.560+j7.399	1.615+j8.490
TEPIC UNO	TES-115	115.0	8.37	8.43	2.069+j7.661	1.440+j7.630	11.23	10.77	1.187+j6.393	1.399+j7.199
TEQUILA	TQA-115	115.0	0.95	0.62	24.721+j65.750	12.988+j181.264	1.18	0.73	17.942+j59.286	12.798+j177.537
TEQUILA	TQA-69	69.0	1.98	2.65	8.057+j18.388	0.349+j5.272	2.61	3.42	5.648+j15.825	0.366+j5.003
TEQUISQUIAPAN	TEQ-115	115.0	7.99	4.79	2.082+j8.039	8.759+j23.458	9.75	7.11	1.735+j7.289	4.228+j15.266
TERMINAL DE GAS MANZANILLO	TGM-115	115.0	10.53	8.98	1.326+j6.166	1.761+j9.415	14.57	11.28	0.699+j4.964	1.750+j9.235
TESISTAN	TSN-400	400.0	10.95	12.23	7.765+j19.615	2.049+j14.609	21.97	21.16	1.758+j11.429	1.950+j12.745
TESISTAN	TSN-230	230.0	13.80	16.78	3.270+j9.051	0.439+j4.589	22.40	25.28	1.067+j6.434	0.426+j4.275
TESISTAN	TSN-69	69.0	28.35	28.98	0.351+j1.361	0.107+j1.323	37.60	36.47	0.155+j1.155	0.103+j1.271
TESISTÁN (BUS B)	TSN-69B	69.0	18.94	21.35	0.370+j2.071	0.062+j1.397	24.08	26.46	0.155+j1.813	0.063+j1.328
TLAJOMULCO POTENCIA	TLJ-400	400.0	10.71	11.64	7.602+j20.175	2.385+j16.520	19.53	18.46	1.977+j12.855	2.329+j15.084
TLAJOMULCO POTENCIA	TLJ-230	230.0	13.15	15.30	3.332+j9.536	0.653+j5.913	19.43	21.01	1.325+j7.401	0.648+j5.796



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TLALTENANGO	TLO-110	115.0	1.86	1.11	9.967+j34.200	19.652+j106.094	2.07	1.23	9.717+j33.993	19.633+j106.047
TOLIMAN	TLI-115	115.0	4.30	2.91	3.514+j15.042	9.489+j36.267	5.00	3.30	2.955+j14.305	9.484+j35.993
TOTOTLAN	TTO-115	115.0	4.97	3.66	3.960+j12.763	9.340+j26.154	5.60	4.08	3.633+j12.530	9.305+j26.004
TREJO	TRJ-115	115.0	8.66	7.04	2.128+j7.368	5.069+j11.983	9.70	7.83	2.009+j7.253	5.067+j11.951
TREN LIGERO	TLD-69	69.0	6.38	4.03	1.464+j6.073	4.310+j16.631	7.31	4.52	1.251+j5.859	4.308+j16.587
TRES MARÍAS	TSM-115	115.0	7.22	5.97	2.306+j8.901	3.171+j14.753	8.34	6.82	2.041+j8.514	3.124+j14.462
TRES NACIONES	TEN-115	115.0	16.18	14.47	1.114+j3.949	0.942+j5.500	20.39	17.36	0.781+j3.496	0.930+j5.386
TRIARA	TTR-115	115.0	13.23	12.02	1.470+j4.797	0.611+j6.587	14.99	13.46	1.387+j4.670	0.611+j6.580
TRIGUILLOS	TGS-115	115.0	2.74	1.94	8.666+j22.665	17.891+j51.074	3.08	2.17	8.373+j22.200	17.820+j50.720
TURBORREACTORES S.A. DE C.V.	REA-115	115.0	18.36	19.83	0.950+j3.489	0.522+j2.763	20.97	22.42	0.872+j3.371	0.522+j2.763
TUXCACUESCO	TXC-400	400.0	6.46	6.21	8.807+j34.636	7.062+j39.610	10.40	8.74	2.719+j24.271	6.995+j37.728
TUXCACUESCO	TXC-115	115.0	11.96	11.65	1.043+j5.453	0.735+j5.960	15.53	14.54	0.507+j4.676	0.720+j5.615
TUXPAN	TUX-115	115.0	3.42	3.01	6.975+j18.089	9.303+j25.789	3.93	3.41	6.365+j17.464	9.249+j25.476
TUXPAN	TXP-115	115.0	5.55	3.79	3.348+j11.487	9.065+j27.226	6.30	4.27	3.186+j11.145	9.070+j26.758
TUZANIA	TUZ-230	230.0	12.01	12.62	3.579+j10.459	1.635+j9.412	18.73	17.97	1.299+j7.690	1.532+j8.651
UNIVERSIDAD AUTÓNOMA DE GUADALAJARA	UAG-69	69.0	16.15	13.70	0.736+j2.354	0.642+j3.759	19.66	16.04	0.521+j2.168	0.629+j3.691
UNIVERSIDAD DEL VALLE DE MÉXICO	UVM-69	69.0	18.61	14.99	0.670+j2.033	0.790+j3.616	22.77	17.46	0.475+j1.865	0.788+j3.598
URIANGATO	URG-115	115.0	5.09	3.42	3.759+j12.503	9.939+j30.526	5.67	3.79	3.617+j12.359	9.917+j30.453
URUAPAN ORIENTE	UOT-115	115.0	7.74	6.77	2.318+j8.255	2.880+j11.949	9.16	7.82	1.920+j7.735	2.845+j11.763
URUAPAN POTENCIA	UPP-230	230.0	5.05	4.90	4.710+j25.874	3.218+j28.499	6.49	6.30	3.043+j22.302	2.487+j24.467
URUAPAN POTENCIA	UPP-161	161.0	4.82	4.95	2.769+j19.075	1.555+j17.764	6.85	7.18	1.667+j14.831	1.045+j12.972
URUAPAN POTENCIA	UPP-115	115.0	9.82	10.79	1.560+j6.580	0.569+j4.917	11.92	12.99	1.163+j6.014	0.496+j4.612
URUAPAN TRES	UPT-115	115.0	9.40	9.37	1.845+j6.821	1.546+j6.954	11.33	11.07	1.441+j6.281	1.513+j6.763
URUAPAN TRES	UPT-69	69.0	3.06	1.10	2.801+j12.723	22.712+j79.046	4.58	3.15	1.785+j9.401	3.500+j22.378
VALLARTA POTENCIA	VTP-230	230.0	3.22	4.16	12.728+j39.237	1.367+j13.547	4.03	5.10	9.034+j35.108	1.352+j13.406
VALLARTA POTENCIA	VTP-115	115.0	5.85	7.95	3.580+j10.765	0.190+j2.439	7.22	9.71	2.625+j9.764	0.183+j2.375
VALLARTA UNO	VRT-115	115.0	4.72	5.08	4.530+j13.309	2.341+j10.891	5.70	5.97	3.544+j12.319	2.335+j10.829
VALLE DE AGUASCALIENTES	VAG-115	115.0	15.15	11.51	0.921+j4.285	1.449+j8.417	17.59	13.03	0.721+j4.088	1.449+j8.406
VALLE DE GUADALUPE	VGP-115	115.0	6.24	4.43	2.591+j10.313	5.863+j22.984	7.05	4.94	2.326+j10.092	5.860+j22.950
VALLE DE LAS DELICIAS	VDL-115	115.0	6.00	3.06	3.137+j10.617	16.509+j39.830	6.75	3.41	2.919+j10.418	16.503+j39.774
VALLE DE SANTIAGO	VAS-115	115.0	12.11	9.04	1.284+j5.330	3.060+j10.636	13.61	10.07	1.182+j5.234	3.054+j10.602
VALLE DE TECOMAN	VAT-115	115.0	2.74	1.83	7.616+j23.011	19.323+j56.945	3.17	2.06	6.900+j22.006	19.314+j56.811
VALLE DEL MEZQUITAL	VDM-230	230.0	5.75	4.86	4.201+j22.713	7.459+j35.039	7.33	5.84	2.840+j19.715	7.390+j34.414
VALLE DORADO	VDO-115	115.0	5.09	5.96	4.024+j12.403	1.836+j7.129	6.18	7.07	3.074+j11.412	1.835+j7.103
VALLE VERDE	VAV-115	115.0	7.07	6.40	2.181+j9.136	3.054+j11.933	8.78	7.75	1.668+j8.151	2.927+j11.284
VALLEJO (ANTES CARLOTA)	CAR-115	115.0	14.14	10.51	0.853+j4.616	1.719+j9.397	15.85	11.70	0.791+j4.540	1.711+j9.355
VALPARAISO	VPS-110	115.0	1.27	0.83	18.802+j48.819	44.095+j128.040	1.41	0.92	18.487+j48.544	44.096+j128.033
VAQUERÍAS MANIOBRAS	VQM-230	230.0	6.05	5.62	3.967+j21.578	4.116+j26.764	7.59	6.73	2.742+j19.043	4.045+j26.320
VENUSTIANO CARRANZA	VNC-115	115.0	5.37	3.59	3.211+j11.936	7.289+j29.887	6.08	4.01	2.894+j11.660	7.275+j29.802
VERGELES	VGL-115	115.0	3.54	2.50	6.747+j17.489	18.092+j38.017	4.04	2.80	6.274+j16.957	18.084+j37.980



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
VIDRIERA QUERÉTARO	VRR-115	115.0	10.87	8.63	1.507+j5.920	2.511+j10.562	12.22	9.60	1.428+j5.803	2.512+j10.562
VILLA DE ÁLVAREZ	VDA-115	115.0	7.13	7.14	2.426+j8.989	1.856+j9.101	8.92	8.58	1.756+j7.994	1.839+j8.968
VILLA DE ARISTA	VAR-115	115.0	2.85	2.36	9.291+j21.369	10.668+j36.621	3.35	2.70	8.263+j20.188	10.575+j36.024
VILLA DE REYES	VDR-230	230.0	12.67	12.49	2.614+j10.150	2.147+j10.739	20.63	22.73	1.110+j6.994	0.516+j5.101
VILLA DE REYES	VDR-115	115.0	9.84	10.60	1.301+j6.620	0.568+j5.293	11.97	12.94	0.931+j6.029	0.380+j4.727
VILLA HIDALGO	VHO-115	115.0	3.44	2.25	6.567+j18.120	15.405+j47.662	3.84	2.49	6.340+j17.927	15.404+j47.626
VILLA JIMÉNEZ	VIJ-115	115.0	5.25	3.77	3.752+j12.089	7.974+j26.263	6.10	4.78	3.304+j11.518	5.277+j21.204
VILLA JUÁREZ	VJU-115	115.0	8.97	6.29	1.579+j7.235	2.809+j16.592	10.16	7.03	1.384+j7.057	2.809+j16.576
VILLAGRÁN	VIG-110	115.0	7.84	6.62	1.986+j8.237	3.222+j12.749	8.74	7.37	1.898+j8.140	3.208+j12.640
VISTA HERMOSA	VIH-115	115.0	7.96	5.93	2.522+j7.947	5.229+j16.095	9.14	6.67	2.213+j7.679	5.220+j16.025
VIZARRÓN	VIZ-110	115.0	2.60	1.33	8.143+j24.234	26.022+j95.437	2.90	1.49	7.941+j23.908	25.195+j93.851
VOLCANES	VCS-69	69.0	0.74	0.01	16.724+j50.8672	4.77+j-14.917.972	0.98	0.01	12.271+j43.0402	4.77+j-14.917.972
VYNMSA	VYN-115	115.0	7.91	5.09	1.745+j8.211	4.723+j21.849	8.84	5.70	1.623+j8.098	4.568+j21.438
XALISCO	XLS-115	115.0	6.73	6.28	2.505+j9.540	2.104+j11.845	8.67	7.70	1.609+j8.274	2.064+j11.419
YERBABUENA	YER-115	115.0	4.82	3.17	3.331+j13.355	7.781+j34.480	5.43	3.53	3.007+j13.120	7.746+j34.334
YURÉCUARO	YUR-115	115.0	5.39	4.15	3.741+j11.727	6.213+j22.542	6.10	4.64	3.421+j11.474	6.194+j22.454
ZACAPU	ZCP-110	115.0	5.13	3.74	4.361+j12.175	9.138+j25.821	5.89	4.43	3.988+j11.742	7.849+j23.425
ZACATECAS	ZCT-115	115.0	6.60	5.49	3.004+j9.609	4.328+j15.541	7.58	6.21	2.654+j9.258	4.317+j15.440
ZACATECAS II	ZCD-230	230.0	6.66	6.88	5.371+j19.188	2.815+j17.909	7.96	8.06	4.170+j17.859	2.738+j17.618
ZACATECAS II	ZCD-115	115.0	9.96	11.42	1.846+j6.407	0.474+j4.119	11.65	13.31	1.525+j6.080	0.447+j3.963
ZACATECAS SUR	ZCS-115	115.0	6.73	5.67	2.981+j9.403	4.098+j14.883	7.74	6.41	2.636+j9.057	4.084+j14.776
ZALATITAN	ZLT-69	69.0	12.10	8.97	0.825+j3.188	1.408+j6.587	14.44	10.30	0.613+j2.972	1.404+j6.541
ZAMORA	ZMA-110	115.0	7.89	6.23	2.269+j8.099	4.263+j14.556	9.05	7.01	1.982+j7.826	4.251+j14.487
ZAMORA POTENCIA	ZRP-230	230.0	7.76	6.87	3.625+j16.732	4.337+j23.311	9.24	7.94	2.583+j15.593	4.296+j23.181
ZAMORA POTENCIA	ZRP-115	115.0	10.54	11.37	1.429+j6.136	0.649+j4.889	12.23	13.08	1.154+j5.859	0.624+j4.776
ZAPOPAN	ZPA-230	230.0	8.63	7.95	4.351+j14.761	3.833+j19.015	11.74	9.98	2.103+j12.258	3.780+j18.651
ZAPOPAN	ZPA-69	69.0	20.40	19.92	0.613+j1.854	0.306+j2.093	25.50	24.10	0.402+j1.671	0.286+j2.002
ZAPOTILTIC	ZTI-115	115.0	5.05	4.57	3.893+j12.559	4.935+j16.589	5.91	5.25	3.282+j11.921	4.881+j16.276
ZAPOTLANEJO	ZPO-400	400.0	9.79	9.99	7.788+j22.269	3.656+j22.111	17.60	16.10	1.972+j14.302	3.109+j18.197
ZAPOTLANEJO	ZPO-230	230.0	13.11	14.93	3.284+j9.586	0.806+j6.468	20.21	21.34	1.177+j7.132	0.744+j6.034
ZAPOTLANEJO DISTRIBUCIÓN	ZAD-115	115.0	2.87	1.42	7.069+j22.055	30.608+j88.958	3.20	1.57	6.641+j21.808	30.556+j88.777
ZARAGOZA	ZAG-115	115.0	5.30	4.34	2.609+j12.259	3.796+j20.531	6.08	4.89	2.276+j11.790	3.780+j20.417
ZIBATA	ZBT-115	115.0	14.33	11.10	1.063+j4.510	2.124+j8.416	16.30	12.44	0.982+j4.372	2.117+j8.383
ZIMAPAN	ZIM-115	115.0	2.34	1.92	6.786+j27.498	13.474+j45.228	2.88	2.31	5.626+j24.705	12.919+j42.128
ZINÁPARO	ZID-115	115.0	5.59	4.20	3.478+j11.367	8.344+j22.119	6.35	4.71	3.166+j11.063	8.340+j22.057
ZINAPÉCUARO	ZIN-115	115.0	7.34	6.31	2.010+j8.818	2.637+j13.530	8.91	7.64	1.629+j8.034	2.500+j12.490
ZITÁCUARO	ZIT-115	115.0	6.63	4.42	2.851+j9.597	7.262+j23.976	7.52	4.96	2.725+j9.323	7.263+j23.734
ZITÁCUARO DOS	ZTD-115	115.0	6.38	4.17	2.850+j10.013	7.454+j25.960	7.21	4.66	2.733+j9.747	7.455+j25.766
ZOQUIPAN	ZQP-69	69.0	13.56	10.39	0.774+j2.833	1.343+j5.462	16.43	12.08	0.552+j2.609	1.329+j5.387
ZUMPIMITO	ZMP-69	69.0	2.96	1.11	3.086+j13.101	22.324+j77.771	4.50	3.31	1.908+j9.540	2.762+j20.153

Gerencia de Control Regional Noroeste



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Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Noroeste

Subestación Eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ACUÍCOLA	ACU-115	115.0	2.06	1.40	8.578+j31.079	26.286+j73.223	2.34	1.57	8.077+j30.133	26.267+j73.099
AGRÍCOLA SONOYTA	AGS-115	115.0	0.70	0.47	25.838+j91.122	60.215+j224.246	0.82	0.53	23.062+j86.015	60.227+j224.319
AGUA PRIETA	AGI-115	115.0	4.69	3.10	2.677+j13.910	6.047+j35.337	5.53	3.55	2.289+j12.995	6.033+j34.939
AGUA PRIETA DOS	AGD-230	230.0	8.41	8.56	2.230+j15.627	2.432+j14.644	14.93	17.38	0.755+j9.753	0.507+j6.226
AGUA ZARCA	AGZ-115	115.0	4.43	4.25	4.586+j14.278	3.292+j16.574	5.95	5.28	2.930+j11.927	3.288+j16.565
AHOME	AHO-115	115.0	4.73	3.40	3.027+j13.707	8.725+j29.279	5.47	3.84	2.845+j13.036	8.713+j29.159
ÁLAMOS	AAM-115	115.0	1.77	1.17	17.584+j33.027	33.997+j89.071	2.09	1.45	16.288+j30.933	27.050+j76.440
ALTAR	ALT-115	115.0	2.57	1.82	7.344+j24.750	15.677+j55.639	3.45	2.29	5.156+j20.533	14.492+j51.213
ALTOZANO	ALZ-115	115.0	10.28	8.40	1.892+j6.174	2.441+j10.515	13.68	10.38	1.392+j5.153	2.468+j10.185
ANGOSTURA	ANG-115	115.0	4.64	3.32	4.083+j13.709	8.210+j30.282	5.73	3.97	3.569+j12.242	8.131+j28.457
ANTIMONIO	ANT-115	115.0	2.60	2.22	6.920+j24.548	9.853+j37.256	3.95	2.90	4.028+j18.056	9.851+j37.127
ARROYO SECO	ASE-115	115.0	1.80	1.24	10.117+j35.498	28.523+j82.623	2.40	1.60	7.266+j29.526	25.432+j71.625
BACHIGUALATO	BCH-115	115.0	4.56	2.38	2.903+j14.253	15.849+j52.309	5.34	2.68	2.552+j13.431	15.833+j52.049
BÁCUM	BAC-400	400.0	8.76	8.86	3.396+j26.152	3.077+j24.909	11.22	10.75	2.035+j22.551	3.126+j25.033
BÁCUM	BAC-230	230.0	12.23	13.16	1.521+j10.750	0.716+j8.441	16.19	16.46	0.946+j8.970	0.733+j8.415
BÁCUM	BAC-115	115.0	17.47	16.74	0.510+j3.767	0.337+j4.268	22.29	20.23	0.346+j3.259	0.353+j4.222
BACURATO	BRT-115	115.0	3.38	2.20	3.559+j19.323	10.715+j50.155	6.09	6.80	1.332+j11.917	0.335+j7.182
BAGOTES	BGT-115	115.0	13.02	12.44	1.551+j4.857	2.273+j5.350	18.32	16.39	1.056+j3.844	2.312+j4.971
BAMOA	BMO-115	115.0	2.70	1.76	8.687+j23.018	19.966+j60.716	3.14	2.00	8.227+j21.786	19.928+j59.437
BANDERAS	BND-115	115.0	12.42	10.59	0.923+j5.264	1.315+j7.991	15.67	12.69	0.705+j4.606	1.309+j7.785
BIZANI	BZI-115	115.0	3.61	3.34	5.044+j17.681	6.304+j21.918	6.26	5.00	2.208+j11.454	5.583+j19.625
BUENA VISTA	BNV-230	230.0	7.53	6.85	5.031+j16.903	4.408+j22.494	10.53	8.80	3.037+j13.541	4.367+j21.769
CABORCA	CBA-115	115.0	3.90	2.91	4.456+j16.421	6.938+j33.772	6.93	4.94	1.665+j10.404	3.884+j22.817
CAJEME	CAJ-115	115.0	12.98	11.26	0.837+j5.045	1.172+j7.345	16.37	13.46	0.631+j4.418	1.172+j7.209
CAMPO GOBIERNO	CMG-115	115.0	9.62	8.26	1.376+j6.761	1.988+j10.134	12.46	9.94	0.958+j5.784	1.999+j10.073
CARDONAL	CRD-115	115.0	2.07	1.45	8.542+j30.946	26.287+j68.752	2.35	1.62	8.040+j29.999	26.268+j68.628
CARRIZO	CRZ-115	115.0	3.57	3.50	5.798+j17.654	6.024+j18.876	4.50	4.34	4.838+j15.484	5.417+j17.167
CENTENARIO	CNT-115	115.0	10.98	9.79	1.109+j5.944	1.705+j8.069	13.70	11.67	0.917+j5.252	1.685+j7.904
CENTINELA	CLA-115	115.0	8.04	6.46	1.758+j8.071	4.230+j13.703	9.27	7.30	1.612+j7.711	4.228+j13.676
CERRO CAÑEDO	CCA-115	115.0	3.45	2.55	5.147+j18.547	8.933+j38.477	5.60	3.94	2.424+j12.816	6.230+j28.733
CHIMENEAS	CHS-230	230.0	2.49	3.04	15.825+j50.859	2.482+j24.722	3.45	3.99	9.341+j41.274	2.509+j24.840
CHIMENEAS	CHS-115	115.0	4.76	5.63	4.261+j13.269	0.605+j7.665	6.50	7.26	2.601+j10.928	0.612+j7.715
CHINITOS	CHI-115	115.0	2.20	1.48	8.815+j28.853	25.048+j70.365	2.51	1.65	8.437+j27.894	25.032+j69.786
CHOACAHUI	CHO-400	400.0	12.12	14.20	1.957+j18.952	0.670+j10.671	15.96	17.95	0.947+j15.886	0.664+j10.504
CHOACAHUI	CHO-230	230.0	17.97	20.56	0.685+j7.357	0.340+j4.590	24.38	26.60	0.357+j5.982	0.362+j4.421
CIUDAD OBREGÓN CUATRO	COC-230	230.0	10.05	10.41	2.093+j13.042	1.713+j11.662	13.88	13.39	1.295+j10.440	1.697+j11.387
CIUDAD OBREGÓN CUATRO	COC-115	115.0	14.99	13.38	0.740+j4.366	0.829+j5.954	19.43	16.35	0.527+j3.723	0.818+j5.773
CIUDAD OBREGÓN DOS	COD-115	115.0	15.63	14.53	0.672+j4.193	0.733+j5.141	20.16	17.72	0.478+j3.591	0.736+j5.016
CIUDAD OBREGÓN TRES	COT-230	230.0	8.67	8.71	2.430+j15.126	2.052+j14.908	11.62	10.94	1.598+j12.465	2.030+j14.583
CIUDAD OBREGÓN TRES	COT-115	115.0	15.30	14.35	0.674+j4.286	0.550+j5.159	19.97	17.83	0.462+j3.627	0.542+j4.887



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CIUDAD OBREGÓN UNO	OBU-115	115.0	13.28	11.68	0.889+j4.921	1.217+j6.930	16.93	14.11	0.668+j4.262	1.209+j6.740
COCORIT	CCI-115	115.0	11.22	7.96	0.973+j5.835	2.650+j12.905	13.88	9.31	0.768+j5.205	2.649+j12.706
COMEDERO	CMR-115	115.0	3.55	1.64	3.806+j18.306	20.778+j81.162	6.01	6.85	1.612+j12.053	0.301+j7.444
COMPUERTAS	CMP-115	115.0	10.34	8.30	1.103+j6.329	2.072+j10.957	12.83	9.78	0.902+j5.620	2.051+j10.803
COSTA RICA	CSA-115	115.0	5.62	4.19	2.904+j11.459	5.737+j23.231	6.78	4.82	2.453+j10.482	5.753+j23.169
CRUZ DE PIEDRA	CDP-115	115.0	6.31	5.95	2.509+j10.217	2.147+j12.241	7.54	6.93	2.166+j9.443	2.113+j12.047
CULIACÁN CENTRO	CCC-115	115.0	11.46	10.31	1.240+j5.660	1.732+j7.532	16.23	13.62	0.747+j4.438	1.667+j6.841
CULIACÁN CINCO	CUI-115	115.0	12.18	11.43	1.141+j5.329	1.415+j6.374	17.12	14.70	0.678+j4.213	1.436+j6.167
CULIACÁN CUATRO	CUC-115	115.0	12.91	12.49	1.084+j5.029	1.214+j5.534	18.07	15.97	0.640+j3.990	1.231+j5.460
CULIACÁN DOS	CUD-115	115.0	12.46	12.22	1.139+j5.203	1.203+j5.517	17.95	16.43	0.656+j4.015	1.173+j5.018
CULIACÁN LIBRAMIENTO	CLI-115	115.0	10.80	10.07	1.310+j6.004	1.865+j7.257	14.85	12.86	0.834+j4.848	1.866+j6.917
CULIACÁN MILENIUM	CMI-115	115.0	10.92	11.14	1.287+j5.941	1.722+j5.484	15.01	15.36	0.812+j4.797	1.476+j4.259
CULIACÁN NORTE	CUN-115	115.0	11.62	11.03	1.222+j5.579	1.478+j6.476	16.53	15.14	0.728+j4.359	1.272+j5.428
CULIACÁN ORIENTE	CUO-115	115.0	11.88	11.99	1.227+j5.454	1.263+j5.292	17.01	16.39	0.736+j4.231	1.207+j4.577
CULIACÁN PONIENTE	CPO-400	400.0	7.38	7.79	5.774+j30.734	3.575+j26.148	11.23	10.63	2.349+j22.498	3.623+j25.937
CULIACÁN PONIENTE	CPO-115	115.0	15.06	12.73	0.744+j4.347	0.877+j6.778	20.63	16.00	0.404+j3.517	0.860+j6.519
CULIACÁN SUR	CUS-115	115.0	11.13	10.03	1.227+j5.837	1.719+j7.747	15.10	12.49	0.778+j4.775	1.736+j7.626
CULIACÁN TRES	CUT-230	230.0	8.49	9.67	3.196+j15.308	1.435+j9.838	12.79	13.45	1.525+j11.317	1.381+j9.465
CULIACÁN TRES	CUT-115	115.0	13.73	14.11	0.992+j4.732	0.684+j4.395	20.79	20.80	0.493+j3.477	0.531+j3.410
CULIACÁN UNO	CUU-115	115.0	13.34	13.17	1.055+j4.863	1.062+j5.061	19.70	19.44	0.565+j3.665	0.646+j3.729
DEL MAR	DMA-115	115.0	12.22	11.79	1.170+j5.306	1.232+j5.906	20.00	17.49	0.560+j3.608	1.194+j5.036
DERIVACIÓN	DER-115	115.0	8.73	6.65	1.955+j7.352	4.112+j14.159	11.40	8.09	1.413+j6.246	4.089+j13.735
DYNATECH	DYN-115	115.0	9.69	10.90	1.608+j6.659	2.080+j4.152	13.49	14.96	0.993+j5.322	1.870+j3.539
EL DELFÍN (ANTES MAZATLÁN EL CID)	ELD-115	115.0	10.12	7.36	1.572+j6.370	2.446+j13.754	15.24	9.61	0.968+j4.694	2.447+j12.917
EL DORADO	EDR-115	115.0	1.70	1.11	11.259+j37.373	19.610+j99.290	1.92	1.24	10.779+j36.432	19.626+j99.227
EL FRESNAL	EFR-230	230.0	9.57	10.92	2.102+j13.722	0.564+j8.547	15.41	17.76	0.863+j9.437	0.529+j6.059
EL FRESNAL	EFR-115	115.0	7.41	5.68	0.961+j8.907	0.847+j17.083	9.15	6.74	0.617+j7.956	0.826+j16.615
EL FUERTE	EFU-115	115.0	2.99	2.04	6.875+j21.121	15.195+j50.761	4.65	5.02	3.641+j15.295	1.213+j12.229
EL FUERTE PENAL	EFP-115	115.0	2.84	2.05	7.352+j22.164	14.835+j48.319	4.01	3.52	4.914+j17.541	6.377+j25.041
EL HABAL	HBL-230	230.0	7.65	8.14	3.315+j17.047	1.625+j14.162	13.69	13.22	1.068+j10.618	1.575+j11.387
EL HABAL	HBL-115	115.0	12.09	11.73	1.037+j5.391	0.986+j5.922	19.36	17.07	0.450+j3.746	1.027+j5.128
EL LLANO	LNO-115	115.0	3.69	2.72	6.089+j16.937	10.817+j35.663	4.70	3.21	4.824+j14.779	10.816+j35.596
EL MAYO	EMY-230	230.0	5.78	6.03	4.279+j22.555	2.462+j19.931	8.50	8.06	2.503+j17.010	2.510+j19.514
EL MAYO	EMY-115	115.0	8.95	9.96	1.340+j7.293	0.548+j5.144	12.59	13.13	0.826+j5.741	0.560+j4.987
EMPALME	EPM-115	115.0	9.60	8.61	1.404+j6.774	1.574+j9.160	11.50	10.00	1.180+j6.239	1.565+j9.078
EMPALME CICLO COMBINADO	ECC-400	400.0	9.56	10.87	2.884+j23.972	1.083+j14.642	11.92	13.24	1.648+j21.254	1.037+j14.309
EMPALME CICLO COMBINADO	ECC-230	230.0	12.97	15.13	1.200+j10.171	0.359+j5.815	15.60	17.96	0.879+j9.321	0.346+j5.667
ESCUINAPA	EPA-115	115.0	1.62	0.99	9.032+j39.875	35.980+j114.362	1.87	1.12	8.292+j38.170	35.826+j112.934
ESPERANZA	ESP-230	230.0	5.67	5.53	5.058+j22.871	3.550+j24.977	7.71	7.13	3.013+j18.714	3.370+j23.492
ESPERANZA	ESP-115	115.0	9.67	8.74	1.573+j6.681	1.060+j9.033	12.52	10.65	1.079+j5.731	1.041+j8.910



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ESTACIÓN TORRES	ETO-115	115.0	3.65	2.34	5.945+j17.192	14.801+j46.556	4.30	2.69	5.468+j16.094	14.487+j45.139
ÉVORA	EVO-115	115.0	8.37	7.10	1.459+j7.799	1.567+j12.105	11.47	9.45	0.949+j6.298	1.491+j10.188
EL DESEO	DSE-115	115.0	2.32	1.90	8.352+j27.358	17.508+j44.277	3.34	2.46	5.496+j21.154	16.785+j41.982
FÁTIMA	FMA-115	115.0	10.06	9.19	1.277+j6.474	1.315+j8.376	11.80	10.53	1.125+j6.086	1.309+j8.329
FLORES MAGÓN	FMG-115	115.0	11.80	8.79	0.917+j5.549	2.241+j11.191	14.95	10.43	0.712+j4.834	2.216+j10.997
FUNDICIÓN	FUC-115	115.0	4.99	3.36	3.877+j12.733	9.341+j31.330	6.09	3.91	3.347+j11.519	9.209+j30.689
GRUPO MÉXICO (SE MINA)	SMI-230	230.0	5.36	4.02	6.770+j23.821	11.716+j48.224	6.84	4.79	4.717+j20.841	11.674+j47.498
GUAMÚCHIL	GML-115	115.0	7.58	6.07	1.664+j8.604	2.368+j15.100	10.11	7.81	1.152+j7.134	2.289+j13.275
GUAMÚCHIL DOS	GMD-230	230.0	6.38	6.03	3.998+j20.412	3.911+j24.122	8.76	7.74	2.483+j16.492	3.618+j22.725
GUAMÚCHIL DOS	GMD-115	115.0	8.87	7.83	1.336+j7.363	1.085+j10.433	12.39	10.71	0.826+j5.838	1.012+j8.445
GUASAVE	GSV-115	115.0	5.50	3.95	2.817+j11.728	7.635+j25.145	6.67	4.62	2.432+j10.673	7.639+j24.320
GUAYMAS CENTRO	SGC-115	115.0	9.29	7.11	1.418+j7.008	3.491+j13.264	10.79	8.05	1.273+j6.647	3.489+j13.236
GUAYMAS CERESO	GYC-230	230.0	10.51	11.12	1.858+j12.495	1.423+j10.416	12.92	13.26	1.352+j11.228	1.426+j10.337
GUAYMAS CERESO	GYC-115	115.0	15.48	14.57	0.610+j4.244	0.445+j5.072	18.62	16.96	0.472+j3.893	0.447+j5.065
HERMOSILLO AEROPUERTO	HAE-230	230.0	9.66	10.05	3.453+j13.304	2.612+j11.820	16.42	17.79	1.336+j8.794	0.982+j7.005
HERMOSILLO CERESO	HCE-115	115.0	12.04	12.19	1.568+j5.286	1.773+j4.994	17.63	17.01	0.968+j4.028	1.597+j4.378
HERMOSILLO CINCO	HLI-230	230.0	11.83	12.73	2.774+j10.877	1.438+j8.705	18.78	18.52	1.171+j7.688	1.327+j8.105
HERMOSILLO CINCO	HLI-115	115.0	15.71	16.10	1.003+j4.106	0.628+j3.867	27.44	31.32	0.378+j2.635	0.149+j1.717
HERMOSILLO CUATRO	HLC-230	230.0	10.45	11.59	3.105+j12.316	1.261+j8.869	16.80	17.36	1.311+j8.597	1.197+j7.915
HERMOSILLO CUATRO	HLC-115	115.0	17.67	19.36	0.930+j3.641	0.358+j2.754	27.46	28.61	0.437+j2.624	0.387+j2.345
HERMOSILLO DOS	HLD-115	115.0	13.44	12.16	1.189+j4.795	1.217+j6.383	19.01	15.72	0.678+j3.782	1.228+j6.177
HERMOSILLO LA MANGA	HMA-115	115.0	8.75	6.87	2.280+j7.239	3.148+j13.476	11.30	8.29	1.774+j6.213	3.172+j13.180
HERMOSILLO LOMA	HLM-230	230.0	9.91	11.09	3.517+j12.932	1.242+j9.036	16.12	16.84	1.504+j8.937	1.200+j7.976
HERMOSILLO LOMA	HLM-115	115.0	16.29	17.67	0.976+j3.957	0.350+j3.109	24.33	24.57	0.471+j2.965	0.371+j2.932
HERMOSILLO MANIOBRAS	HMB-115	115.0	8.77	8.34	1.826+j7.346	1.102+j8.696	12.60	11.36	1.118+j5.687	1.020+j7.689
HERMOSILLO MISIÓN	HMI-115	115.0	11.98	11.89	1.398+j5.363	1.407+j5.478	16.41	15.38	0.893+j4.361	1.436+j5.199
HERMOSILLO NUEVE	HLN-115	115.0	14.12	15.89	1.225+j4.540	0.773+j3.021	21.21	23.19	0.672+j3.376	0.694+j2.518
HERMOSILLO OCHO	HLO-115	115.0	12.77	11.94	1.239+j5.048	1.491+j6.094	19.37	17.10	0.639+j3.715	1.326+j5.164
HERMOSILLO SEIS	HLS-115	115.0	13.01	12.64	1.250+j4.947	1.295+j5.391	18.22	16.54	0.749+j3.939	1.318+j5.103
HERMOSILLO SIETE	HLE-115	115.0	12.32	9.42	1.246+j5.243	2.035+j10.147	17.22	11.86	0.722+j4.178	2.032+j9.820
HERMOSILLO TRES	HLT-230	230.0	10.62	11.44	3.356+j12.049	1.594+j9.675	17.12	16.84	1.455+j8.407	1.543+j8.960
HERMOSILLO TRES	HLT-115	115.0	14.65	12.30	1.035+j4.411	0.929+j7.074	21.82	16.42	0.507+j3.309	0.903+j6.625
HERMOSILLO UNO	HLU-115	115.0	14.60	16.32	1.180+j4.393	0.742+j3.006	22.38	24.20	0.618+j3.204	0.650+j2.491
HERNANDO DE VILLAFañE	HVF-115	115.0	5.01	3.47	2.927+j12.915	8.457+j29.831	6.05	4.03	2.524+j11.814	8.462+j28.894
HIERRO DE SONORA	HDS-115	115.0	5.58	3.75	3.137+j11.485	7.793+j28.199	6.66	4.30	2.845+j10.594	7.767+j27.890
HORNILLOS	HRS-115	115.0	2.55	1.71	8.297+j24.626	18.762+j61.636	3.86	3.71	4.733+j18.322	4.209+j20.846
HUATABAMPO	HPO-115	115.0	5.99	4.41	2.322+j10.846	6.524+j22.093	7.68	5.25	1.795+j9.334	6.490+j21.732
HUITES	HTS-230	230.0	2.99	1.64	6.870+j43.904	37.032+j149.667	8.75	9.21	1.028+j16.668	0.432+j11.725
HUMAYA	HYA-115	115.0	5.50	3.73	2.246+j11.850	6.255+j28.559	8.58	9.25	1.092+j8.437	0.421+j6.516
IMURIS	IMR-115	115.0	3.41	2.89	5.853+j18.552	10.183+j28.122	4.37	3.46	4.271+j16.138	10.178+j28.084



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Noroeste

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
INDUSTRIAL CABORCA	ICA-230	230.0	2.61	2.74	14.065+j48.845	7.695+j43.133	5.19	4.48	4.289+j27.819	6.585+j40.419
INDUSTRIAL CABORCA	ICA-115	115.0	4.17	3.31	4.142+j15.369	5.074+j27.981	7.85	6.29	1.344+j9.210	1.784+j15.999
INDUSTRIAL SAN CARLOS	ISC-115	115.0	4.10	4.10	4.984+j15.414	2.204+j16.171	5.40	5.05	3.294+j13.124	2.196+j16.165
ISLA MUSALÁ	ISM-115	115.0	13.37	14.21	1.079+j4.848	0.627+j4.044	20.04	20.83	0.582+j3.598	0.509+j3.129
JAIME SEVILLA POYASTRO	JSP-115	115.0	11.53	11.70	1.223+j5.626	1.483+j5.319	16.14	16.45	0.741+j4.464	1.171+j4.052
JOSÉ ÁNGEL ESPINOZA	JAE-115	115.0	1.65	1.04	12.458+j38.299	32.809+j106.167	2.43	2.07	7.326+j29.171	11.842+j44.000
JUAN JOSÉ RÍOS	JJR-115	115.0	7.23	5.43	1.603+j9.047	4.565+j17.783	8.72	6.29	1.355+j8.267	4.537+j17.524
LA CARIDAD	LCD-230	230.0	7.50	5.84	3.070+j17.440	8.443+j32.019	9.09	6.79	2.346+j15.904	8.435+j31.650
LA CARIDAD FUNDICIÓN	LCF-230	230.0	9.75	9.62	1.766+j13.507	2.196+j14.378	11.72	11.30	1.255+j12.403	2.187+j14.119
LA CARIDAD GENERACIÓN	LCG-230	230.0	11.46	12.78	1.496+j11.492	0.566+j8.346	14.00	15.35	0.989+j10.384	0.558+j8.088
LA CHOYA	LCH-115	115.0	2.92	2.97	5.343+j22.111	12.197+j18.860	4.23	3.91	2.897+j17.008	12.205+j18.919
LA CRUZ	LCZ-115	115.0	1.09	0.69	16.614+j58.679	51.955+j157.737	1.23	0.77	15.966+j57.046	51.988+j156.910
LA HIGUERA	HGA-400	400.0	7.04	7.68	6.254+j32.217	2.498+j24.551	10.88	10.65	2.477+j23.226	2.580+j24.423
LA HIGUERA	HGA-230	230.0	9.55	12.04	2.716+j13.630	0.317+j5.325	14.50	17.20	1.206+j10.002	0.329+j5.174
LA HIGUERA	HGA-115	115.0	15.46	19.58	0.837+j4.213	0.081+j1.594	22.37	27.03	0.428+j3.236	0.091+j1.532
LA MISA	LMA-115	115.0	3.54	2.68	5.520+j17.906	9.941+j35.612	4.08	3.02	5.171+j17.140	9.906+j35.417
LA PINTA	LPN-115	115.0	2.66	2.66	6.676+j24.064	6.209+j24.098	3.82	3.46	4.030+j18.694	6.221+j24.150
LA PRIMAVERA	PMV-115	115.0	11.00	9.62	1.221+j5.910	1.749+j8.453	15.11	12.09	0.755+j4.774	1.767+j8.232
LADRILLERAS	LAD-115	115.0	13.10	11.31	1.196+j4.924	1.515+j7.315	18.36	14.43	0.684+j3.918	1.530+j7.114
LEYVA SOLANO	LVS-115	115.0	4.52	3.34	3.006+j14.367	9.120+j28.957	5.32	3.82	2.677+j13.462	9.116+j28.477
LLANO BLANCO	LLB-115	115.0	2.65	1.77	7.036+j24.005	16.784+j59.999	3.68	2.28	4.661+j19.302	15.183+j54.153
LOS ALGODONES	ALG-115	115.0	4.27	2.75	3.706+j15.107	11.871+j39.714	4.81	3.05	3.559+j14.748	11.869+j39.687
LOS MOCHIS COLINAS	LMC-115	115.0	13.30	10.34	0.843+j4.919	1.719+j9.120	17.30	12.49	0.625+j4.176	1.691+j8.912
LOS MOCHIS DOS	LMD-230	230.0	9.56	8.68	2.236+j13.705	3.410+j17.798	13.46	11.17	1.352+j10.770	3.317+j17.094
LOS MOCHIS DOS	LMD-115	115.0	9.79	7.10	1.067+j6.698	1.622+j14.388	12.49	8.76	0.804+j5.793	1.571+j13.205
LOS MOCHIS INDUSTRIAL	LMI-230	230.0	9.67	9.21	1.973+j13.594	2.520+j15.576	14.30	12.99	1.099+j10.154	2.129+j13.031
LOS MOCHIS INDUSTRIAL	LMI-115	115.0	14.57	12.20	0.676+j4.506	0.928+j7.153	19.37	15.07	0.452+j3.744	0.888+j6.913
LOS MOCHIS TRES	LMT-115	115.0	12.12	10.36	0.904+j5.403	1.697+j8.104	15.43	12.45	0.695+j4.680	1.672+j7.936
LOS MOCHIS UNO	LMU-115	115.0	13.68	10.85	0.826+j4.781	1.625+j8.500	17.83	13.15	0.613+j4.051	1.599+j8.294
LOUISIANA	LOU-230	230.0	12.20	13.06	1.400+j10.793	1.154+j8.647	17.92	18.31	0.756+j8.117	1.045+j7.472
LOUISIANA	LOU-115	115.0	17.12	16.87	0.480+j3.848	0.294+j4.041	22.92	21.21	0.302+j3.173	0.282+j3.921
LUIS DONALDO COLOSIO	LDO-115	115.0	4.11	3.30	4.838+j15.393	8.094+j26.961	5.47	3.99	3.322+j12.937	8.091+j26.914
MANIOBRAS APASCO	MAP-115	115.0	6.62	4.46	2.147+j9.804	5.889+j23.905	9.23	6.04	1.355+j7.793	4.881+j19.779
MANIOBRAS AT SOLAR V	MNV-230	230.0	3.15	4.22	11.207+j40.600	0.892+j10.250	13.67	15.15	0.801+j10.657	0.663+j6.219
MANIOBRAS BLUEMEX	MBL-115	115.0	7.01	7.06	2.117+j9.227	1.142+j9.225	8.46	8.32	1.775+j8.451	1.108+j9.030
MANIOBRAS CERVECERA OBREGÓN	MCO-115	115.0	12.14	10.07	1.102+j5.357	1.768+j8.653	15.27	12.00	0.881+j4.701	1.759+j8.465
MANIOBRAS DON DIEGO	DDS-MAN	230.0	3.91	4.49	8.506+j32.859	2.956+j20.718	5.98	6.29	3.983+j24.118	2.888+j20.433
MANIOBRAS EL PILAR	MPR-115	115.0	4.86	5.17	4.063+j13.042	1.669+j11.168	6.67	6.61	2.435+j10.668	1.657+j11.117
MANIOBRAS FRESNILLO	MFN-115	115.0	2.41	2.05	8.523+j26.181	12.344+j40.402	3.43	2.58	5.578+j20.536	12.342+j40.376
MANIOBRAS GNH	MGN-115	115.0	12.41	11.23	1.229+j5.207	1.771+j6.805	19.00	16.80	0.615+j3.795	1.441+j5.225



Subestación Eléctrica	Acronímico	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MANIOBRAS MI RANCHITO SUR	MMR-115	115.0	6.61	7.03	3.223+j9.510	1.486+j8.150	8.29	8.54	2.650+j8.405	1.506+j7.970
MANIOBRAS MINA COBRE DEL MAYO	MCM-115	115.0	3.04	2.01	8.972+j19.918	17.875+j52.451	3.77	2.74	7.683+j17.802	10.951+j39.839
MANIOBRAS MUNISOL	MMU-115	115.0	5.77	4.88	3.684+j10.895	3.252+j17.634	7.10	5.73	3.113+j9.808	3.253+j17.479
MANIOBRAS OREJANA	MAO-230	230.0	3.70	4.09	7.063+j35.148	3.617+j25.470	5.80	5.82	3.048+j25.009	3.554+j24.582
MANIOBRAS PUERTO PEÑASCO	MPP-115	115.0	2.45	2.90	5.131+j26.589	1.242+j14.461	3.22	3.66	3.257+j22.428	1.234+j14.429
MANIOBRAS TASTIOTA	MTS-115	115.0	3.83	2.29	3.999+j16.848	14.134+j50.263	4.37	2.56	3.755+j16.288	14.127+j50.184
MAR DE CORTÉS	MDC-230	230.0	1.72	2.12	18.807+j74.980	2.688+j33.687	2.72	3.08	8.591+j52.990	2.738+j34.026
MAR DE CORTÉS	MDC-115	115.0	3.34	4.10	4.857+j19.258	0.787+j8.916	5.15	5.83	2.334+j14.000	0.800+j8.996
MARINA	MRN-115	115.0	9.64	7.24	1.614+j6.695	2.379+j13.558	14.24	9.41	1.013+j5.028	2.399+j12.741
MAZATLÁN AEROPUERTO	MAE-115	115.0	9.07	10.42	1.616+j7.138	1.612+j4.215	13.28	15.38	1.006+j5.408	1.515+j2.930
MAZATLÁN CENTRO	MAC-115	115.0	12.14	11.55	1.154+j5.346	1.511+j6.127	19.89	17.09	0.541+j3.633	1.456+j5.242
MAZATLÁN DOS	MZD-400	400.0	7.17	7.77	7.124+j31.418	2.605+j24.767	14.60	15.38	1.467+j17.342	1.071+j14.428
MAZATLÁN DOS	MZD-230	230.0	8.58	9.76	2.894+j15.212	0.548+j9.894	17.01	18.78	0.638+j8.565	0.231+j5.802
MAZATLÁN DOS	MZD-115	115.0	16.26	17.46	0.760+j4.012	0.174+j3.261	32.06	33.25	0.171+j2.271	0.081+j1.978
MAZATLÁN EMILIANO ZAPATA	MZZ-115	115.0	10.73	8.64	1.310+j6.045	1.900+j10.523	16.67	11.90	0.713+j4.323	1.832+j9.410
MAZATLÁN NORTE	MZN-115	115.0	12.75	12.26	1.109+j5.088	0.990+j5.750	21.25	18.39	0.504+j3.399	0.963+j4.889
MAZATLÁN ORIENTE	MZO-115	115.0	10.57	8.79	1.441+j6.112	2.164+j9.864	16.26	12.03	0.836+j4.413	2.121+j8.927
MAZATLÁN TECNOLÓGICO	MTE-115	115.0	12.01	10.71	1.223+j5.389	1.455+j7.403	19.61	15.67	0.623+j3.672	1.390+j6.327
MAZATLÁN UNO	MZU-115	115.0	13.95	12.87	0.913+j4.672	1.023+j5.867	24.69	20.32	0.313+j2.942	0.951+j4.729
MOCHIS CENTRO	MCE-115	115.0	12.94	10.40	1.032+j5.027	1.907+j8.683	16.68	12.54	0.823+j4.300	1.883+j8.478
MOCHIS LAS VILLAS	MLV-115	115.0	11.82	9.25	0.870+j5.548	1.818+j10.145	14.92	10.99	0.675+j4.848	1.794+j9.963
MOCUZARI	MRI-115	115.0	2.09	1.38	13.781+j28.628	27.866+j75.950	2.59	2.03	11.476+j25.714	12.121+j50.645
MORELOS-LA ATRAVESADA	MLA-115	115.0	4.21	3.34	4.442+j15.118	7.127+j27.171	4.89	3.79	4.095+j14.350	7.093+j26.976
NACÓZARI	NRI-230	230.0	12.36	11.73	1.736+j10.604	2.484+j12.427	16.06	14.52	1.039+j9.036	2.476+j12.058
NAINARI	NNR-115	115.0	13.60	11.72	0.772+j4.819	1.098+j7.131	17.30	14.12	0.568+j4.184	1.097+j6.927
NARANJO	NJO-115	115.0	3.93	2.56	3.531+j16.527	11.105+j42.488	4.59	2.91	3.187+j15.584	11.094+j41.913
NAVOJOA	NVJ-115	115.0	9.15	6.84	1.407+j7.116	2.863+j14.312	12.77	8.80	0.891+j5.648	2.612+j13.118
NAVOJOA CENTENARIO	NVC-115	115.0	8.04	5.95	1.677+j8.081	3.605+j16.554	10.85	7.50	1.157+j6.631	3.340+j15.331
NAVOJOA INDUSTRIAL	NVI-115	115.0	5.98	4.87	2.519+j10.808	4.447+j18.159	7.70	5.83	1.996+j9.268	4.463+j18.005
NAVOJOA NORTE	NVN-115	115.0	7.91	5.63	1.748+j8.207	3.827+j18.155	10.62	7.05	1.221+j6.771	3.544+j16.881
NAVOJOA ORIENTE	NVO-115	115.0	9.14	6.32	1.328+j7.143	2.783+j16.755	12.75	8.21	0.818+j5.670	2.405+j14.971
NAVOLATO	NTO-115	115.0	4.22	2.91	3.667+j15.305	9.880+j35.744	4.95	3.29	3.246+j14.388	9.886+j35.651
NOGALES	NGS-115	115.0	4.22	4.19	4.856+j14.977	2.062+j16.085	5.59	5.17	3.168+j12.684	2.054+j16.079
NOGALES AEROPUERTO	NGA-230	230.0	2.83	3.52	14.351+j44.610	2.350+j19.514	4.08	4.80	7.990+j34.883	2.323+j19.420
NOGALES AEROPUERTO	NGA-115	115.0	5.21	6.08	3.894+j12.128	0.697+j7.384	7.29	8.00	2.266+j9.753	0.685+j7.331
NOGALES NORTE	NGN-115	115.0	4.37	4.67	4.709+j14.451	1.550+j12.353	5.83	5.84	3.026+j12.147	1.547+j12.362
NOVILLO	NVL-115	115.0	2.01	0.85	6.929+j32.357	46.419+j160.573	7.18	6.71	0.712+j10.145	0.403+j6.776
NUEVO NOGALES	NNG-115	115.0	4.66	4.74	4.410+j13.561	2.299+j13.417	6.32	5.96	2.741+j11.226	2.299+j13.434
NUEVO PROGRESO	NPO-115	115.0	4.47	3.01	3.310+j14.479	6.775+j35.771	5.26	3.44	2.922+j13.565	6.761+j35.373
OASIS	OAS-115	115.0	2.53	1.59	9.492+j24.495	22.876+j69.329	2.95	1.79	8.711+j23.130	22.866+j69.166



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
OBSERVATORIO	OBS-230	230.0	5.91	5.11	5.870+j21.688	7.004+j32.200	8.09	6.41	3.537+j17.696	6.966+j31.638
OCUCA	OCU-115	115.0	3.25	2.40	5.777+j19.618	10.773+j40.706	4.31	2.92	4.045+j16.459	10.588+j39.710
ORIENTE	ORI-115	115.0	3.15	3.45	5.121+j20.421	2.355+j15.553	4.72	4.67	2.633+j15.255	2.366+j15.624
OVIACHIC	OVI-115	115.0	2.25	1.57	13.966+j26.054	24.615+j63.182	3.06	2.73	9.386+j21.938	5.762+j31.254
PARQUE INDUSTRIAL HERMOSILLO NORTE	PIH-115	115.0	14.07	13.60	1.100+j4.590	0.998+j5.101	20.03	17.85	0.594+j3.597	1.018+j4.922
PARTICULAR MINA ÁLAMO DORADO	PAD-115	115.0	1.56	1.00	15.767+j39.613	36.600+j107.645	2.03	1.52	12.520+j33.777	22.478+j68.948
PARTICULAR MINA PIEDRAS VERDES	PVD-115	115.0	2.24	1.34	12.535+j26.820	29.787+j84.427	2.69	1.74	11.238+j24.725	21.161+j68.825
PARTICULAR SAUZAL	PSZ-115	115.0	0.85	0.51	23.210+j74.252	69.377+j222.807	1.41	1.89	10.445+j50.785	0.454+j12.287
PIAXTLA	PXT-115	115.0	1.62	1.00	11.251+j39.463	32.127+j113.095	1.86	1.12	10.605+j37.834	32.162+j112.271
PLANTA GUAYMAS DOS	PGD-230	230.0	10.96	11.36	1.779+j11.989	1.678+j10.665	13.50	13.56	1.280+j10.748	1.673+j10.562
PLANTA GUAYMAS DOS	PGD-115	115.0	13.08	11.25	0.782+j5.014	1.024+j7.479	15.60	13.00	0.636+j4.639	1.018+j7.428
PLAYA ENCANTO	PYE-115	115.0	2.98	3.25	5.740+j21.560	4.117+j16.076	4.41	4.39	3.163+j16.255	4.128+j16.144
PORTALES	PTS-115	115.0	13.91	12.57	1.135+j4.636	1.123+j6.199	19.87	16.48	0.634+j3.620	1.144+j5.872
PROGRESO	PRG-115	115.0	5.41	3.79	2.822+j11.949	7.766+j26.837	6.22	4.26	2.656+j11.442	7.782+j26.791
PROVIDENCIA	PRO-115	115.0	15.38	14.04	0.632+j4.272	0.793+j5.471	19.40	16.81	0.459+j3.736	0.809+j5.403
PUEBLITOS	PUE-115	115.0	14.06	13.10	1.110+j4.591	1.102+j5.642	20.04	17.09	0.603+j3.595	1.121+j5.457
PUEBLO NUEVO	PNO-230	230.0	7.32	8.02	3.384+j17.813	1.650+j13.249	12.36	12.25	1.574+j11.710	1.516+j11.648
PUEBLO NUEVO	PNO-115	115.0	10.05	7.08	1.169+j6.504	2.258+j14.725	14.42	9.46	0.663+j5.021	1.863+j12.825
PUERTO LIBERTAD	PLD-230	230.0	3.17	4.18	11.178+j40.404	1.326+j11.432	15.06	17.17	0.611+j9.678	0.285+j4.747
PUERTO PEÑASCO	PPA-115	115.0	3.24	3.78	4.972+j19.852	2.037+j11.631	4.89	5.23	2.520+j14.725	2.044+j11.690
QUILÁ	QLA-115	115.0	2.47	1.60	7.671+j25.803	7.228+j71.196	2.82	1.78	7.198+j24.854	7.244+j71.133
QUIROGA	QRG-115	115.0	10.83	9.15	1.595+j5.919	2.852+j9.067	14.51	11.41	1.095+j4.912	2.890+j8.738
RÍO SONORA	RIS-115	115.0	13.84	15.76	1.202+j4.643	0.684+j2.957	20.15	22.36	0.686+j3.559	0.670+j2.507
ROCA FUERTE	RFT-115	115.0	12.76	9.51	0.834+j5.137	1.900+j10.354	15.12	10.87	0.693+j4.781	1.900+j10.338
ROLANDO GARCÍA URREA	RGU-115	115.0	9.58	11.26	1.580+j6.749	1.431+j3.571	13.12	15.33	0.990+j5.477	1.286+j3.008
ROSARIO	ROS-115	115.0	2.26	1.46	6.480+j28.601	26.084+j73.864	2.66	1.66	5.767+j26.897	25.944+j72.483
RUIZ CORTINES	RUC-115	115.0	4.54	3.07	2.667+j14.377	9.127+j34.404	5.30	3.49	2.401+j13.577	9.099+j34.115
SAHUARO	SHO-115	115.0	2.51	2.12	8.059+j25.249	11.167+j39.485	3.63	2.69	5.113+j19.459	11.161+j39.444
SALVADOR ALVARADO	SAA-115	115.0	6.96	5.57	2.046+j9.322	3.387+j16.339	9.10	7.05	1.544+j7.873	3.319+j14.537
SAN CARLOS	SCR-115	115.0	5.73	3.63	2.626+j11.291	7.888+j30.664	6.52	4.05	2.479+j10.932	7.886+j30.637
SAN NICOLÁS	SNC-115	115.0	1.80	1.38	14.162+j34.081	25.461+j65.311	2.04	1.55	13.660+j33.138	25.445+j65.188
SAN RAFAEL	SRF-115	115.0	6.17	4.59	2.424+j10.478	5.728+j21.156	7.74	5.53	1.974+j9.229	5.691+j19.879
SAN RAFAEL AMPLIACIÓN	SRA-115	115.0	6.17	4.59	2.424+j10.478	5.728+j21.156	7.74	5.53	1.974+j9.229	5.691+j19.879
SANALONA	SLA-115	115.0	2.57	1.86	11.865+j22.960	18.008+j52.579	3.14	3.04	10.197+j20.871	4.450+j26.054
SANTA ANA	STA-230	230.0	4.79	7.15	8.761+j26.298	0.519+j0.121	8.95	13.23	3.244+j15.991	0.542+j0.127
SANTA ANA	STA-115	115.0	7.19	7.71	2.535+j8.886	0.555+j7.447	11.31	10.77	1.092+j6.363	0.553+j7.374
SANTA FE	STF-115	115.0	10.12	8.04	1.246+j6.440	2.420+j11.413	13.31	9.95	0.828+j5.425	2.282+j10.757
SANTA MARÍA	STM-115	115.0	5.23	3.67	2.886+j12.372	8.038+j27.715	6.31	4.28	2.492+j11.298	8.042+j26.843
SEIS DE ABRIL	SSA-230	230.0	2.70	3.33	13.941+j47.107	2.288+j21.421	6.53	6.60	3.266+j22.116	2.233+j20.803
SEIS DE ABRIL	SSA-115	115.0	4.62	6.03	3.821+j13.856	0.385+j4.323	9.90	11.45	0.973+j7.317	0.384+j4.194



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SELECTA	SEL-115	115.0	1.83	1.19	10.792+j34.614	30.618+j90.419	2.08	1.32	10.246+j33.621	30.599+j90.295
SERI	SER-400	400.0	7.09	8.28	6.390+j31.942	2.465+j17.999	9.86	10.91	3.190+j25.562	2.479+j18.067
SERI	SER-230	230.0	12.00	13.51	2.529+j10.777	0.820+j7.261	18.36	19.16	1.117+j7.878	0.841+j6.977
SIEMPRE VIVA	SVV-115	115.0	3.36	3.28	5.450+j18.987	6.855+j20.027	5.66	4.75	2.603+j12.646	6.613+j19.097
SONOYTA	SNY-115	115.0	0.96	0.67	18.769+j66.727	40.257+j151.895	1.15	0.77	16.019+j61.626	40.269+j151.968
SUBESTACIÓN BAHÍA DE KINO	SBK-115	115.0	1.79	1.38	16.351+j33.354	25.461+j65.311	2.02	1.54	15.849+j32.414	25.445+j65.188
SUBESTACIÓN CANANEA	SCN-230	230.0	7.43	6.96	5.022+j17.154	3.924+j21.157	10.49	9.03	2.960+j13.611	3.875+j20.444
SUBESTACIÓN CANANEA	SCN-115	115.0	6.92	5.81	1.577+j9.470	0.957+j15.082	8.48	6.91	1.067+j8.550	0.918+j14.481
SUBESTACIÓN CANANEA SUR	CNS-230	230.0	6.63	5.34	5.962+j19.117	7.916+j33.595	8.81	6.56	3.932+j16.098	7.875+j32.870
SUBESTACIÓN CENTRO	SCE-230	230.0	5.92	4.57	6.443+j21.498	9.857+j41.058	7.68	5.52	4.393+j18.514	9.816+j40.332
SUBESTACIÓN CINCO	SBI-115	115.0	3.31	2.50	4.702+j19.470	15.107+j37.023	3.85	2.83	4.202+j18.523	15.088+j36.900
SUBESTACIÓN COLINAS	SCL-115	115.0	11.70	9.61	1.328+j5.516	1.910+j9.177	15.99	12.00	0.813+j4.495	1.920+j8.955
SUBESTACIÓN CONCENTRADORA	SCO-230	230.0	5.87	4.59	6.636+j21.631	9.827+j40.379	7.55	5.52	4.617+j18.790	9.786+j39.654
SUBESTACIÓN CUATRO	SBC-115	115.0	3.08	2.07	6.771+j20.465	15.013+j50.783	3.57	2.34	6.227+j19.473	14.994+j50.659
SUBESTACIÓN CULIACÁN POTENCIA	SCP-230	230.0	8.62	10.15	3.180+j15.082	1.083+j8.384	13.10	14.29	1.493+j11.051	1.074+j8.113
SUBESTACIÓN CULIACÁN POTENCIA	SCP-115	115.0	14.01	14.82	0.934+j4.645	0.422+j3.953	20.76	20.24	0.470+j3.487	0.438+j3.714
SUBESTACIÓN DIEZ	SBZ-115	115.0	3.00	1.95	6.578+j21.122	14.846+j56.096	3.47	2.19	6.080+j20.179	14.830+j55.974
SUBESTACIÓN DOS	SBD-115	115.0	6.09	4.74	2.692+j10.569	4.992+j19.543	7.45	5.53	2.158+j9.563	4.973+j19.420
SUBESTACIÓN ESDE	SES-230	230.0	6.25	4.92	6.162+j20.318	8.900+j37.384	8.21	5.99	4.127+j17.307	8.859+j36.658
SUBESTACIÓN GUAYMAS UNO	SGU-115	115.0	11.48	8.11	0.999+j5.695	2.573+j12.719	13.52	9.23	0.854+j5.334	2.571+j12.692
SUBESTACIÓN NUEVE	SBN-115	115.0	1.80	1.14	12.653+j34.750	29.985+j96.174	2.04	1.27	12.103+j33.773	29.966+j96.050
SUBESTACIÓN OCHO	SBO-115	115.0	1.76	1.18	13.044+j35.327	26.809+j89.202	2.00	1.32	12.539+j34.394	26.793+j89.080
SUBESTACIÓN PERICOS	SPE-115	115.0	4.33	2.87	4.117+j14.780	10.842+j37.269	5.08	3.26	3.764+j13.874	10.832+j36.842
SUBESTACIÓN PONIENTE	SPO-230	230.0	5.86	4.58	6.642+j21.652	9.848+j40.453	7.54	5.51	4.622+j18.811	9.807+j39.728
SUBESTACIÓN PUNTO P	SPP-115	115.0	9.48	8.41	1.664+j6.802	1.367+j9.607	12.23	10.21	1.172+j5.853	1.351+j9.485
SUBESTACIÓN SANTA INÉS	STI-115	115.0	3.78	2.77	5.593+j16.646	9.629+j35.463	4.42	3.15	5.094+j15.705	9.613+j35.341
SUBESTACIÓN SEIS	SBS-115	115.0	2.58	1.83	6.828+j24.864	20.141+j53.675	2.95	2.06	6.326+j23.918	20.122+j53.551
SUBESTACIÓN SIETE	SBE-115	115.0	4.51	3.12	4.522+j14.019	8.381+j33.388	5.34	3.56	4.026+j13.076	8.365+j33.266
SUBESTACIÓN TRES	SBT-115	115.0	4.63	3.29	4.369+j13.647	8.182+j30.907	5.50	3.75	3.873+j12.701	8.166+j30.785
SUBESTACIÓN UNO	SBU-115	115.0	2.40	1.69	9.333+j25.983	17.497+j60.055	2.75	1.90	8.829+j25.047	17.480+j59.933
SUBESTACIÓN VILLA UNIÓN	SVU-115	115.0	8.33	7.89	1.664+j7.795	2.374+j9.003	11.86	10.76	1.044+j6.067	2.274+j7.706
TAMAZULA	TZU-115	115.0	3.93	2.81	4.099+j16.395	11.903+j35.186	4.69	3.26	3.649+j15.146	11.866+j33.909
TASTIOTA	TST-115	115.0	2.13	1.42	9.400+j29.723	24.204+j73.854	2.43	1.59	8.855+j28.731	24.185+j73.729
TEACAPÁN	TEA-115	115.0	1.38	0.85	10.707+j46.775	40.438+j133.748	1.58	0.95	9.961+j45.068	40.280+j132.309
TECNOLÓGICO HERMOSILLO	TCG-115	115.0	11.04	8.50	1.377+j5.856	2.423+j11.129	14.86	10.45	0.862+j4.840	2.437+j10.906
TERRAMARA	TER-115	115.0	2.97	1.83	7.969+j20.922	19.680+j60.695	3.48	2.08	7.293+j19.695	19.666+j60.464
TETABIATE	TTB-115	115.0	11.79	10.31	0.975+j5.548	1.585+j7.887	14.76	12.32	0.756+j4.890	1.578+j7.685
TOBARITO	TBR-115	115.0	6.45	4.44	2.421+j10.001	6.345+j23.451	7.59	5.05	2.204+j9.363	6.334+j23.270
TOPOLOBAMO TRES	TBT-230	230.0	17.72	20.63	0.647+j7.465	0.225+j4.316	23.49	26.32	0.352+j6.208	0.239+j4.162
TOPOLOBAMPO	TPO-230	230.0	7.40	6.48	2.431+j17.782	4.512+j25.156	13.07	13.31	0.938+j11.141	0.864+j10.296



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Noroeste**

Subestación Eléctrica	Acronímico	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TOPOLOBAMPO	TPO-115	115.0	6.60	3.47	2.260+j9.805	9.240+j36.127	7.85	3.93	2.045+j9.076	9.213+j35.921
TOPOLOBAMPO DOS	TPD-400	400.0	12.05	14.27	1.926+j19.064	0.499+j10.235	15.77	17.99	0.945+j16.082	0.485+j10.036
TRES RÍOS	TSR-115	115.0	13.16	12.60	1.060+j4.934	1.131+j5.606	19.21	17.83	0.579+j3.758	0.850+j4.538
TUTULI	TTL-115	115.0	14.37	12.67	0.733+j4.561	0.976+j6.387	18.33	15.28	0.535+j3.949	0.978+j6.239
UNIÓN ENERGÉTICA DEL NOROESTE	UEN-230	230.0	8.30	8.39	2.251+j15.842	2.567+j15.103	14.60	16.76	0.778+j9.972	0.660+j6.719
URES	URE-115	115.0	1.95	1.18	9.504+j32.641	27.676+j97.490	2.23	1.32	8.954+j31.560	27.648+j97.037
VALLE DEL MAYO	VMY-115	115.0	4.45	3.02	3.371+j14.528	10.381+j34.725	5.47	3.52	2.841+j13.047	10.275+j34.079
VALLE DEL YAQUI	VDY-115	115.0	5.14	3.57	3.990+j12.293	8.403+j28.719	5.89	4.00	3.824+j11.795	8.417+j28.675
VALLE DEL YAQUI DOS	VYD-115	115.0	3.83	2.35	4.404+j16.766	14.410+j47.839	4.38	2.64	4.185+j16.130	14.399+j47.658
VENADILLO	VND-115	115.0	9.82	7.78	1.435+j6.605	2.045+j11.919	14.55	10.24	0.837+j4.948	2.072+j11.110
VICAM	VCM-115	115.0	4.17	2.80	3.532+j15.533	9.901+j38.074	4.74	3.12	3.348+j15.042	9.900+j38.024
VILLA ÁNGEL FLORES	VAF-115	115.0	8.29	6.26	1.555+j7.861	3.327+j15.427	10.36	7.35	1.164+j6.954	3.329+j15.297
VILLA GUADALUPE	VGU-115	115.0	3.19	1.94	5.210+j20.173	14.827+j59.119	3.60	2.16	5.046+j19.664	14.843+j59.073
VILLA JUÁREZ	VIJ-115	115.0	2.71	1.67	6.514+j23.605	19.491+j67.164	3.17	1.91	5.975+j22.260	19.246+j66.101
VILLA MERCEDES	VME-115	115.0	11.52	9.67	1.299+j5.614	1.837+j8.881	15.59	12.03	0.791+j4.617	1.856+j8.694
VILLAS DEL CEDRO	VDC-115	115.0	11.42	10.32	1.338+j5.657	1.721+j7.477	15.91	13.72	0.870+j4.507	1.473+j6.563
VILLAS DEL PITIC	VPI-115	115.0	13.32	14.70	1.435+j4.773	1.185+j3.369	19.94	21.31	0.856+j3.561	1.055+j2.824
VIÑEDOS	VNO-115	115.0	4.85	2.99	4.538+j12.909	11.401+j37.601	5.88	3.43	3.958+j11.783	11.380+j37.263
ZONA DORADA	ZDO-115	115.0	10.27	8.68	1.278+j6.338	1.872+j9.842	14.63	12.01	0.736+j4.939	1.532+j8.050

Gerencia de Control Regional Norte



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Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Norte

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ABASTOS	ABA-115	115.0	21.15	20.05	0.708+j3.059	0.852+j3.562	24.60	22.86	0.625+j2.902	0.851+j3.549
ABRAHAM GONZÁLEZ	ABG-115	115.0	4.47	3.76	3.095+j14.537	5.598+j22.654	5.04	4.20	2.919+j14.200	5.589+j22.562
AEROPUERTO	AEP-115	115.0	9.72	7.65	1.528+j6.658	4.200+j11.710	11.76	8.85	1.280+j6.074	4.196+j11.682
AGNICO EAGLE	AGE-115	115.0	2.09	2.29	8.379+j30.668	5.814+j22.833	2.30	2.53	8.324+j30.636	5.788+j22.423
ALAMOS	AMS-115	115.0	12.66	9.09	1.072+j5.134	2.697+j11.101	14.34	10.15	0.997+j4.995	2.696+j11.090
ALDAMA	AMA-115	115.0	4.27	3.13	4.051+j15.020	12.419+j30.128	4.70	3.45	4.031+j15.009	12.412+j30.081
ALLENDE	ALL-115	115.0	16.46	12.52	0.935+j3.925	2.329+j7.498	18.86	14.08	0.855+j3.777	2.328+j7.482
ALTARES	ATR-115	115.0	0.71	0.49	38.319+j85.238	102.014+j198.829	0.79	0.54	38.041+j84.858	101.960+j198.629
ALTAVISTA	ALV-115	115.0	2.21	2.03	11.459+j27.756	9.472+j37.170	2.44	2.27	11.328+j27.666	9.291+j35.785
ÁLVARO OBREGÓN	AVO-115	115.0	4.38	3.32	4.117+j14.571	10.250+j27.884	4.86	3.68	4.053+j14.466	10.244+j27.820
AMADO NERVO	AMN-115	115.0	1.92	1.80	12.654+j32.145	14.093+j38.989	2.13	2.00	12.561+j31.870	13.996+j38.778
AMÉRICAS	AMR-115	115.0	10.87	9.30	1.265+j5.978	2.435+j8.921	11.99	10.23	1.245+j5.965	2.417+j8.949
ANAPRA	APR-115	115.0	7.56	6.20	1.638+j8.633	5.351+j13.670	8.96	7.11	1.387+j8.036	5.351+j13.667
ANDALUCÍA	AND-230	230.0	10.75	11.11	2.358+j12.122	1.806+j11.062	12.79	12.91	1.933+j11.259	1.760+j10.976
ANDALUCÍA	AND-115	115.0	13.94	14.74	1.002+j4.657	0.467+j3.979	16.04	16.88	0.897+j4.464	0.439+j3.862
ARCADIO	ADI-115	115.0	6.41	4.98	3.074+j9.890	7.445+j17.824	7.19	5.55	2.980+j9.717	7.416+j17.706
ARENALES	ARE-115	115.0	8.69	10.68	1.689+j7.455	0.487+j3.383	9.73	11.96	1.623+j7.332	0.480+j3.320
ARMENDÁRIZ	ARM-115	115.0	3.04	2.10	5.731+j21.106	17.146+j48.275	3.35	2.32	5.663+j21.037	17.103+j48.053
ASCENSIÓN	AON-115	115.0	4.75	4.84	2.487+j13.753	2.420+j13.032	5.38	5.45	2.320+j13.363	2.399+j12.849
ASCENSIÓN DOS	AOD-230	230.0	2.93	3.29	7.051+j44.709	2.243+j30.485	3.35	3.75	6.396+j43.073	2.138+j29.800
ASCENSIÓN DOS	AOD-115	115.0	5.05	6.38	2.114+j12.978	0.265+j4.951	5.73	7.26	1.950+j12.594	0.241+j4.715
AUMA	AUM-115	115.0	11.98	10.11	0.994+j5.453	2.089+j8.418	13.21	11.15	0.973+j5.442	2.084+j8.379
AUTOMOTIVE LIGHTING	ALI-115	115.0	14.67	13.59	1.023+j4.410	1.480+j5.413	18.78	16.42	0.775+j3.812	1.475+j5.377
AVALOS	AVL-230	230.0	12.87	13.78	1.894+j10.141	1.227+j8.333	14.34	15.37	1.800+j10.027	1.197+j8.205
AVALOS	AVL-115	115.0	18.49	21.13	0.636+j3.535	0.245+j2.275	20.42	23.46	0.615+j3.523	0.234+j2.215
AZTECAS	AZT-115	115.0	12.82	11.17	1.275+j5.021	2.661+j7.030	16.06	13.24	1.031+j4.430	2.658+j7.008
BABISAS	BBS-115	115.0	2.89	2.24	6.160+j22.134	14.950+j40.347	3.24	2.49	5.946+j21.736	14.941+j40.254
BACIS	BAC-115	115.0	0.53	0.35	54.370+j113.037	39.803+j292.426	0.58	0.38	54.089+j112.668	39.747+j292.224
BASASEACHIC	BAS-115	115.0	2.40	2.83	7.182+j26.693	2.567+j15.081	2.65	3.13	7.126+j26.656	2.541+j14.682
BATOPILAS	BAT-115	115.0	4.31	2.70	5.909+j14.227	9.354+j42.334	4.95	3.02	5.447+j13.708	9.305+j42.188
BENITO JUÁREZ	BJZ-115	115.0	6.16	5.09	2.321+j10.525	6.721+j16.429	7.10	5.74	2.157+j10.064	6.721+j16.439
BERMEJILLO	BER-115	115.0	4.01	2.36	3.292+j16.239	12.712+j49.598	4.45	2.61	3.214+j16.107	12.711+j49.584
BIOPAPEL	BIO-115	115.0	4.42	4.12	3.256+j14.678	4.545+j17.769	4.95	4.60	3.169+j14.402	4.443+j17.548
BISMARCK	BSM-115	115.0	1.62	1.20	12.337+j39.155	30.445+j77.661	1.80	1.33	12.164+j38.775	30.419+j77.419
BOLÍVAR	BLV-115	115.0	1.67	1.45	13.285+j37.492	19.327+j55.010	1.84	1.61	13.153+j37.402	19.130+j53.603
BOQUILLA	BOQ-115	115.0	2.80	2.16	6.460+j22.827	15.845+j42.127	3.14	2.40	6.241+j22.420	15.836+j42.034
BUENA VISTA	BUV-115	115.0	2.52	2.07	5.921+j25.653	14.886+j41.336	2.82	2.30	5.753+j25.264	14.865+j41.152
BÚFALO	BUF-115	115.0	2.47	1.83	8.074+j25.634	19.658+j51.602	2.77	2.03	7.792+j25.140	19.648+j51.508
CAHUISORI POTENCIA	CPO-230	230.0	1.45	1.66	22.241+j89.077	2.432+j57.881	1.60	1.84	21.965+j88.777	2.341+j56.750
CAHUISORI POTENCIA	CPO-115	115.0	2.49	3.13	6.838+j25.731	0.475+j10.696	2.75	3.47	6.783+j25.698	0.449+j10.286



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Norte**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CALIFORNIA	CFN-115	115.0	20.43	17.48	0.736+j3.166	1.190+j4.757	23.80	19.87	0.647+j3.000	1.190+j4.747
CAMARGO DOS	CGD-230	230.0	5.99	7.07	5.136+j21.565	1.131+j12.205	6.85	8.05	4.686+j20.793	1.102+j11.942
CAMARGO DOS	CGD-115	115.0	7.67	9.60	1.558+j8.515	0.130+j3.496	8.78	10.96	1.399+j8.203	0.122+j3.405
CAMARGO UNO	CGU-115	115.0	4.99	4.31	2.535+j13.066	3.826+j19.274	5.64	4.82	2.364+j12.735	3.817+j19.182
CANATLAN DOS	CND-115	115.0	4.74	5.35	2.495+j13.771	2.361+j8.973	5.41	6.07	2.287+j13.310	2.329+j8.800
CANATLAN DOS POTENCIA	CAP-230	230.0	3.45	3.53	6.056+j37.991	5.843+j35.621	4.04	4.06	5.215+j35.763	5.740+j35.309
CANATLAN DOS POTENCIA	CAP-115	115.0	4.99	5.85	2.179+j13.132	0.835+j7.376	5.70	6.67	1.972+j12.668	0.798+j7.193
CARICHIC	CRC-115	115.0	2.04	1.40	7.878+j31.557	21.944+j73.850	2.25	1.55	7.817+j31.455	21.939+j73.801
CAROLINAS	CAS-115	115.0	12.06	10.80	1.164+j5.380	2.153+j7.171	13.32	11.91	1.140+j5.362	2.144+j7.169
CARTAGENA	CAR-115	115.0	12.68	11.45	1.267+j5.079	2.301+j6.563	15.88	13.60	1.018+j4.484	2.300+j6.556
CASAS GRANDES	CGR-115	115.0	7.90	7.94	1.444+j8.281	1.982+j8.068	9.20	9.09	1.270+j7.835	1.974+j8.023
CATEDRAL	CAT-115	115.0	0.84	0.60	33.365+j72.028	68.580+j161.922	0.92	0.66	33.229+j71.975	68.337+j160.442
CATERPILLAR	CTP-115	115.0	12.22	10.28	1.095+j5.321	1.986+j8.285	14.14	11.63	0.972+j5.072	1.983+j8.276
CEBALLOS	CEB-115	115.0	1.04	0.62	25.233+j58.744	58.616+j184.083	1.14	0.68	25.154+j58.618	58.615+j184.069
CEMENTOS	CEM-115	115.0	9.64	7.70	1.740+j6.661	3.911+j11.461	10.98	8.63	1.629+j6.451	3.911+j11.458
CEMENTOS SAMALAYUCA	CMS-115	115.0	4.90	3.85	3.388+j13.133	9.398+j22.869	5.74	4.39	3.049+j12.347	9.388+j22.810
CERESO	CER-115	115.0	7.64	6.73	2.083+j8.439	4.380+j11.474	9.31	7.87	1.750+j7.647	4.370+j11.414
CERESO JUÁREZ	CEJ-115	115.0	7.01	6.01	2.280+j9.194	5.176+j13.283	8.47	6.99	1.946+j8.402	5.167+j13.224
CERRO DEL MERCADO	CME-115	115.0	8.51	8.20	1.532+j7.650	2.804+j8.267	9.97	9.41	1.345+j7.201	2.797+j8.216
CERROS BLANCOS	CRB-115	115.0	1.69	1.15	10.095+j37.896	32.511+j89.315	1.89	1.27	9.892+j37.389	32.512+j89.317
CHALCHIHUITES	CHL-115	115.0	1.00	0.66	23.105+j62.100	71.104+j153.597	1.11	0.73	22.757+j61.646	71.089+j153.532
CHAMIZAL	CZL-115	115.0	15.64	14.86	0.954+j4.136	1.326+j4.749	20.26	18.09	0.709+j3.535	1.324+j4.737
CHARCOS	CHA-115	115.0	0.70	0.47	30.765+j89.413	99.692+j215.809	0.78	0.52	30.417+j88.952	99.676+j215.743
CHAVEZ UNO	CZU-115	115.0	9.79	8.51	1.631+j6.585	2.009+j9.636	11.18	9.63	1.497+j6.356	1.963+j9.495
CHAVEÑA	CVA-115	115.0	13.69	12.77	1.119+j4.720	1.838+j5.627	17.34	15.30	0.871+j4.122	1.838+j5.622
CHIHUAHUA NORTE	CUN-230	230.0	10.85	9.94	2.338+j12.012	3.091+j15.429	12.14	11.06	2.217+j11.824	3.078+j15.376
CHIHUAHUA NORTE	CUN-115	115.0	16.20	17.03	0.785+j4.023	0.514+j3.500	17.91	18.79	0.760+j4.006	0.508+j3.505
CHIHUAHUA PLANTA	CUP-115	115.0	14.52	12.84	0.979+j4.467	1.778+j6.156	16.06	14.18	0.955+j4.446	1.769+j6.145
CHIHUAHUA PONIENTE	CPN-115	115.0	11.07	9.30	1.385+j5.836	3.029+j8.972	12.20	10.24	1.368+j5.826	3.017+j8.981
CHUVISCAR	CHU-230	230.0	11.40	11.44	2.038+j11.473	1.871+j11.515	12.66	12.70	1.946+j11.369	1.858+j11.435
CHUVISCAR	CHU-115	115.0	16.96	18.58	0.726+j3.846	0.377+j2.908	18.72	20.54	0.706+j3.837	0.373+j2.880
CIÉNEGA	CIE-115	115.0	0.54	0.35	53.834+j111.090	137.808+j287.742	0.59	0.39	53.553+j110.723	137.752+j287.539
CIÉNEGA DOS	CID-115	115.0	0.55	0.36	53.016+j109.578	135.925+j282.862	0.60	0.39	52.734+j109.211	135.869+j282.660
CLID	CLI-115	115.0	6.54	5.51	2.345+j9.885	8.065+j14.067	7.88	6.39	1.952+j9.061	8.054+j14.008
COLEGIO	CLG-115	115.0	12.49	11.05	1.318+j5.150	2.558+j6.970	15.61	13.09	1.067+j4.557	2.557+j6.960
COLINA	CLN-115	115.0	2.69	2.04	7.283+j23.573	18.830+j44.471	3.01	2.27	7.069+j23.176	18.820+j44.378
COMPLEJO DE SEGURIDAD	CSG-115	115.0	9.95	8.20	1.437+j6.518	3.495+j10.433	10.97	9.05	1.416+j6.506	3.489+j10.388
COMPLEJO INDUSTRIAL	CIN-115	115.0	12.41	11.02	1.205+j5.212	2.212+j7.090	13.72	12.16	1.181+j5.193	2.204+j7.084
COMPLEJO LALA	CLA-115	115.0	13.79	10.21	1.133+j4.680	3.160+j9.387	15.69	11.43	1.053+j4.533	3.159+j9.371
COMPONENTES	COM-115	115.0	13.72	12.89	1.046+j4.726	1.470+j5.619	15.16	14.22	1.021+j4.708	1.463+j5.620



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CONCHEÑO	CON-115	115.0	1.94	2.04	9.364+j32.909	8.233+j28.220	2.14	2.25	9.309+j32.878	8.205+j27.805
CONCORDIA	CCD-115	115.0	15.14	14.76	0.820+j4.309	0.997+j4.655	16.71	16.32	0.799+j4.298	0.992+j4.619
CONEJOS MÉDANOS	CJM-115	115.0	2.57	2.75	6.595+j25.029	4.158+j20.316	3.18	3.31	5.273+j22.324	4.052+j19.879
CORONEL	CRN-115	115.0	8.66	5.91	1.517+j7.514	4.541+j17.793	9.75	6.58	1.428+j7.356	4.531+j17.757
CREEL	CRL-115	115.0	1.25	0.96	17.356+j49.991	39.610+j93.319	1.38	1.06	17.299+j49.949	39.565+j93.061
CUADRO DE MANIOBRAS BISMARCK	CMB-115	115.0	2.40	2.02	6.461+j26.946	16.011+j40.287	2.68	2.25	6.288+j26.566	15.985+j40.046
CUADRO DE MANIOBRAS BORDER	MBO-230	230.0	11.81	11.68	1.844+j11.090	2.478+j11.399	16.69	15.09	1.118+j8.678	2.482+j11.316
CUADRO DE MANIOBRAS CEMENTOS	CMC-115	115.0	5.18	4.12	3.189+j12.416	8.632+j21.128	6.10	4.70	2.850+j11.629	8.622+j21.068
CUADRO DE MANIOBRAS ELECTROLUX	CME-115	115.0	17.65	19.07	0.804+j3.674	0.520+j2.893	23.43	23.93	0.559+j3.067	0.520+j2.882
CUADRO DE MANIOBRAS FOXCONN	CMF-115	115.0	10.02	7.99	1.489+j6.458	4.073+j10.996	12.17	9.27	1.242+j5.873	4.069+j10.970
CUADRO DE MANIOBRAS GUADALUPE AGUILERA	MGA-230	230.0	4.48	4.73	4.476+j29.291	4.029+j24.741	5.37	5.52	3.641+j26.977	4.014+j24.617
CUADRO DE MANIOBRAS INTERNACIONAL WIRE	CMI-115	115.0	8.02	7.59	1.718+j8.102	3.492+j9.112	9.52	8.78	1.467+j7.533	3.481+j9.054
CUADRO DE MANIOBRAS LA LUCHA	MLU-230	230.0	4.68	4.72	5.039+j27.899	3.606+j27.576	5.56	5.47	4.266+j25.944	3.572+j27.413
CUADRO DE MANIOBRAS LA PARRILLA	CMP-115	115.0	1.60	1.22	15.700+j38.458	29.910+j74.699	1.77	1.35	15.607+j38.182	29.812+j74.487
CUADRO DE MANIOBRAS NAICA	NAC-115	115.0	1.60	1.03	17.987+j37.336	37.319+j105.288	1.77	1.13	17.918+j37.266	37.275+j105.064
CUADRO DE MANIOBRAS SAN FRANCISCO	CMF-115	115.0	2.73	2.99	8.446+j22.786	2.840+j18.115	3.02	3.37	8.313+j22.690	2.661+j16.736
CUADRO DE MANIOBRAS VITROMEX	VIM-115	115.0	14.79	14.43	0.886+j4.400	1.229+j4.714	16.33	15.96	0.865+j4.388	1.223+j4.667
CUATRO SIGLOS	CSS-115	115.0	10.71	8.88	1.643+j5.975	3.547+j9.419	13.13	10.37	1.391+j5.385	3.543+j9.392
CUAUHTÉMOC	CHC-115	115.0	7.62	7.76	2.211+j8.423	2.755+j7.847	8.50	8.63	2.151+j8.320	2.750+j7.798
CUAUHTÉMOC DOS	CHD-230	230.0	5.74	6.80	5.138+j22.544	1.194+j12.553	6.42	7.58	4.934+j22.227	1.177+j12.442
CUAUHTÉMOC DOS	CHD-115	115.0	9.09	11.72	1.598+j7.129	0.165+j2.449	10.18	13.14	1.532+j7.006	0.157+j2.386
CUESTA	CUE-115	115.0	12.88	10.55	1.361+j4.973	2.943+j8.077	16.15	12.47	1.114+j4.383	2.937+j8.035
DELICIAS	DEL-115	115.0	7.82	6.38	1.721+j8.319	2.583+j14.041	8.72	7.12	1.631+j8.214	2.540+j13.819
DELICIAS DOS	DLD-115	115.0	2.55	1.54	6.636+j25.197	19.741+j74.754	2.89	1.72	6.188+j24.539	19.698+j74.531
DELPHI	DLP-115	115.0	14.64	13.45	1.017+j4.420	1.495+j5.549	18.73	16.23	0.770+j3.822	1.490+j5.516
DIAGONAL	DGN-115	115.0	11.38	8.56	1.128+j5.723	2.985+j11.222	13.04	9.61	1.017+j5.510	2.984+j11.217
DINAMITA	DIN-115	115.0	4.59	2.94	3.342+j14.062	11.272+j37.297	5.10	3.24	3.266+j13.931	11.271+j37.282
DIVISADERO	DIV-115	115.0	0.94	0.68	25.490+j65.986	60.090+j137.682	1.03	0.75	25.433+j65.950	60.042+j137.420
DIVISIÓN DEL NORTE	DDN-230	230.0	11.06	10.13	2.138+j11.815	3.241+j15.125	12.31	11.21	2.041+j11.694	3.206+j15.154
DIVISIÓN DEL NORTE	DDN-115	115.0	15.60	16.72	0.840+j4.173	0.585+j3.388	17.21	18.35	0.820+j4.164	0.566+j3.443
DUNAS	DUN-115	115.0	3.92	2.89	4.416+j16.341	13.611+j32.440	4.54	3.26	4.077+j15.555	13.602+j32.381
DURANGO DOS	DGD-230	230.0	8.42	9.17	2.368+j15.596	1.838+j11.792	10.18	10.81	1.806+j14.238	1.822+j11.692
DURANGO DOS	DGD-115	115.0	11.49	13.84	0.928+j5.701	0.286+j2.843	13.80	16.37	0.743+j5.242	0.276+j2.785
DURANGO UNO	DGU-115	115.0	9.92	10.03	1.224+j6.583	1.912+j6.221	11.71	11.59	1.048+j6.148	1.909+j6.181
DURAPLAY	DUR-115	115.0	2.19	2.01	11.531+j27.988	9.721+j37.736	2.42	2.24	11.400+j27.898	9.540+j36.351
EJERCITO	EJE-115	115.0	13.92	12.22	1.217+j4.612	2.264+j6.394	17.66	14.63	0.969+j4.020	2.255+j6.344
EL CAPULIN	ECU-115	115.0	3.89	3.12	4.028+j16.606	10.790+j27.758	4.39	3.49	3.851+j16.178	10.784+j27.704
EL PILAR	ELP-115	115.0	2.87	1.80	8.238+j21.656	17.898+j61.718	3.34	2.03	7.358+j20.584	17.849+j61.572
EL SABINAL	ESB-115	115.0	1.55	1.04	8.342+j42.020	22.015+j104.475	1.72	1.14	8.173+j41.648	21.991+j104.236
EL SALTO	ESL-115	115.0	1.24	0.79	19.985+j49.851	64.815+j130.420	1.36	0.87	20.071+j49.788	64.811+j130.379



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Norte

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
EL SAUCITO	SAU-115	115.0	9.57	7.68	1.541+j6.763	3.199+j11.660	10.56	8.46	1.519+j6.748	3.184+j11.672
EL SAUZ	ESZ-115	115.0	3.36	2.55	7.801+j18.134	14.772+j35.871	3.70	2.80	7.777+j18.118	14.766+j35.876
EL TRÉBOL	TRE-115	115.0	1.66	1.32	9.093+j39.042	14.049+j69.775	1.82	1.45	9.095+j39.127	14.017+j69.317
EL VERGEL	ELV-115	115.0	8.54	5.42	1.562+j7.618	4.703+j20.660	9.57	6.02	1.486+j7.482	4.701+j20.648
EMILIANO ZAPATA	EZT-115	115.0	3.86	2.65	5.473+j16.312	17.337+j37.121	4.28	2.93	5.418+j16.198	17.307+j37.001
ENCINO	ENO-400	400.0	7.69	8.53	3.655+j29.807	0.947+j21.626	8.63	9.48	3.300+j29.256	0.960+j21.898
ENCINO	ENO-230	230.0	18.46	23.37	1.138+j7.105	0.165+j2.816	20.56	26.05	1.062+j7.024	0.162+j2.768
ENCINO DOS	END-230	230.0	18.21	22.58	1.157+j7.202	0.266+j3.208	20.28	25.17	1.081+j7.122	0.262+j3.154
ESCALÓN	ESC-115	115.0	1.08	0.71	22.080+j57.602	58.066+j147.828	1.20	0.78	21.698+j56.981	58.055+j147.732
ESCUADRON 201	EDU-115	115.0	6.71	4.62	2.495+j9.578	8.093+j21.900	7.50	5.13	2.414+j9.432	8.092+j21.884
EL CAMELLO	CLO-115	115.0	1.14	0.85	15.132+j55.990	47.195+j110.461	1.27	0.93	14.956+j55.614	47.168+j110.217
FLEXTRONICS	FLE-115	115.0	15.16	14.25	0.877+j4.292	1.653+j4.985	19.55	17.28	0.636+j3.681	1.654+j4.977
FORD	FRD-115	115.0	13.62	12.90	1.033+j4.766	1.463+j5.539	15.05	14.23	1.008+j4.748	1.456+j5.541
FORD MANIOBRAS	FOM-115	115.0	14.17	13.67	0.980+j4.581	1.265+j5.087	15.67	15.08	0.955+j4.563	1.258+j5.089
FOXCONN DOS	FXD-115	115.0	4.79	2.26	2.641+j13.605	23.969+j55.860	5.52	2.52	2.382+j13.016	23.969+j55.857
FRANCISCO VILLA	FVL-230	230.0	8.17	8.46	3.560+j15.859	2.475+j14.541	9.22	9.57	3.308+j15.488	2.327+j14.048
FRANCISCO VILLA	FVL-115	115.0	11.62	12.48	1.038+j5.621	0.518+j4.542	12.96	14.07	0.970+j5.549	0.475+j4.320
FRANCISCO ZARCO	FZA-115	115.0	7.78	4.86	1.732+j8.360	5.143+j23.375	8.70	5.38	1.656+j8.227	5.142+j23.361
FRANCKE	FRC-115	115.0	26.68	31.26	0.485+j2.441	0.189+j1.392	31.16	36.10	0.416+j2.306	0.187+j1.377
FUENTES	FTS-115	115.0	10.96	9.19	1.590+j5.848	3.415+j8.963	13.46	10.75	1.337+j5.258	3.412+j8.945
FUENTES MARES	FMR-115	115.0	15.76	15.02	0.779+j4.141	0.901+j4.783	17.40	16.63	0.758+j4.129	0.890+j4.731
FUNDILAG	FDL-115	115.0	11.02	8.99	1.263+j5.893	2.667+j9.758	12.68	10.14	1.140+j5.644	2.665+j9.750
GALEANA	GNA-115	115.0	6.75	7.18	1.972+j9.632	2.150+j7.813	7.90	8.25	1.752+j9.081	2.151+j7.815
GAMMON LAKE	GML-115	115.0	1.87	1.93	9.068+j34.340	9.339+j30.838	2.06	2.13	9.013+j34.308	9.312+j30.427
GASASEACHIC	GAS-115	115.0	1.96	2.07	9.248+j32.536	7.826+j27.294	2.16	2.29	9.193+j32.505	7.798+j26.880
GAVILÁN	GAV-115	115.0	1.47	1.02	13.474+j43.037	42.331+j97.279	1.64	1.12	13.298+j42.626	42.330+j97.302
GÉMINIS	GEM-115	115.0	13.01	11.45	1.316+j4.930	2.561+j6.757	16.35	13.61	1.077+j4.337	2.557+j6.727
GENERAL TRÍAS	GTR-115	115.0	4.85	3.67	3.093+j13.328	10.485+j25.010	5.35	4.04	3.065+j13.297	10.474+j25.033
GÓMEZ PALACIO	GPL-230	230.0	11.81	13.14	2.094+j11.048	0.703+j7.875	13.92	15.18	1.743+j10.349	0.704+j7.888
GÓMEZ PALACIO	GPL-115	115.0	27.37	34.53	0.465+j2.381	0.070+j0.929	32.03	40.08	0.396+j2.246	0.068+j0.914
GRANJERO	GJO-115	115.0	13.47	12.43	1.196+j4.782	2.608+j5.667	17.01	14.88	0.940+j4.188	2.605+j5.650
GRUPO ESSEX MÉXICO	GEX-115	115.0	9.96	8.57	1.658+j6.457	3.160+j9.426	11.40	9.64	1.539+j6.221	3.160+j9.424
GUACHOCHI	GCH-115	115.0	0.67	0.49	31.023+j94.286	82.468+j192.993	0.74	0.54	30.887+j94.207	82.227+j191.516
GUADALUPE VICTORIA	GVR-115	115.0	1.90	1.43	11.312+j33.144	9.260+j69.720	2.14	1.59	10.896+j32.358	9.250+j69.661
GUADIANA	GDN-115	115.0	6.97	5.87	2.108+j9.288	5.369+j13.961	8.07	6.65	1.923+j8.846	5.365+j13.920
GUANACEVI	GVI-115	115.0	0.57	0.39	43.474+j108.032	109.610+j249.742	0.63	0.43	43.362+j107.975	109.346+j248.231
GUENACEVI DURANGO	GVD-115	115.0	0.59	0.41	42.204+j104.841	106.001+j241.575	0.65	0.45	42.091+j104.783	105.737+j240.065
HACIENDAS	HDS-115	115.0	9.99	7.94	1.540+j6.464	3.360+j11.359	11.01	8.74	1.523+j6.455	3.348+j11.374
HÉRCULES POTENCIA	HCP-400	400.0	3.06	1.94	7.746+j75.109	58.301+j199.949	3.56	2.21	6.505+j70.987	57.435+j195.664
IBERDROLA	IEL-115	115.0	27.35	34.76	0.454+j2.385	0.051+j0.889	31.94	40.29	0.387+j2.254	0.050+j0.874



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Norte

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
INDUSTRIAL JUÁREZ	INJ-115	115.0	16.76	15.02	0.955+j3.844	1.760+j5.064	21.96	18.34	0.720+j3.246	1.754+j5.025
INDUSTRIAS SUPERIOR	ISP-115	115.0	13.58	12.85	1.034+j4.778	1.479+j5.574	15.01	14.17	1.009+j4.760	1.472+j5.575
INSURGENTES	IGS-115	115.0	16.81	18.99	0.851+j3.856	0.459+j2.564	22.07	23.78	0.607+j3.252	0.459+j2.561
INTERCERAMIC	ITC-115	115.0	12.19	10.75	1.232+j5.304	2.317+j7.328	13.47	11.86	1.208+j5.285	2.309+j7.322
INTERMEX ORIENTE	INO-115	115.0	13.21	13.68	1.138+j4.897	3.553+j3.561	16.64	16.52	0.885+j4.299	3.550+j3.551
INTERMEX SUR	INS-115	115.0	14.24	13.68	1.037+j4.547	1.465+j5.042	18.17	16.52	0.792+j3.941	1.465+j5.031
INTERNATIONAL WIRE	INW-115	115.0	7.89	7.49	1.758+j8.234	3.517+j9.169	9.35	8.66	1.507+j7.665	3.506+j9.111
JABIL	JAB-115	115.0	12.07	10.62	1.245+j5.357	2.367+j7.440	13.34	11.72	1.221+j5.338	2.359+j7.435
JANOS	JOS-115	115.0	4.63	4.02	2.791+j14.051	5.523+j20.186	5.26	4.51	2.620+j13.646	5.512+j20.076
JARDIN	JND-115	115.0	10.46	9.24	1.570+j6.148	2.780+j8.440	12.00	10.41	1.451+j5.912	2.781+j8.438
JARDÍN	JAR-115	115.0	15.24	12.95	1.014+j4.237	1.839+j6.414	17.41	14.56	0.934+j4.090	1.839+j6.406
JERÓNIMO ORTIZ MARTÍNEZ	JOM-400	400.0	5.46	5.07	5.193+j42.003	5.275+j51.857	6.71	5.96	3.247+j37.721	5.380+j51.932
JERÓNIMO ORTIZ MARTÍNEZ	JOM-230	230.0	9.91	11.87	1.784+j13.276	0.685+j6.767	11.90	14.03	1.311+j12.200	0.674+j6.676
JERÓNIMO ORTIZ MARTÍNEZ	JOM-115	115.0	11.93	14.66	0.744+j5.516	0.153+j2.469	14.10	17.14	0.601+j5.144	0.148+j2.424
JIMÉNEZ	JEZ-115	115.0	3.11	2.48	5.837+j20.545	13.857+j34.963	3.54	2.78	5.463+j19.921	13.848+j34.869
JUÁREZ	JRZ-115	115.0	10.63	8.59	1.360+j6.094	3.174+j10.257	13.00	10.00	1.117+j5.504	3.169+j10.221
KILOMETRO OCHENTA Y OCHO	KOO-115	115.0	5.18	3.78	3.338+j12.386	7.370+j26.083	5.73	4.19	3.270+j12.316	7.327+j25.860
LA FLOR	LAF-115	115.0	1.61	1.16	9.372+j40.262	35.684+j82.646	1.78	1.28	9.226+j39.889	35.679+j82.601
LA PARILLA	LPA-115	115.0	1.52	1.14	16.262+j40.639	32.594+j81.668	1.68	1.25	16.168+j40.363	32.495+j81.457
LA PERLA	LPL-115	115.0	1.04	0.76	20.289+j60.570	59.482+j120.265	1.15	0.84	20.121+j60.264	59.472+j120.172
LA ROSITA	LRT-115	115.0	7.97	6.14	3.180+j7.696	5.913+j14.656	9.06	6.87	3.061+j7.459	5.903+j14.607
LA SALADA	LSA-115	115.0	1.78	1.40	9.026+j36.176	25.979+j62.662	1.98	1.55	8.851+j35.797	25.952+j62.420
LA TRINIDAD	LTR-230	230.0	10.87	12.98	1.307+j12.145	0.486+j6.296	12.76	15.08	1.013+j11.402	0.472+j6.169
LA UNIÓN	LAU-115	115.0	18.37	13.76	0.785+j3.529	1.802+j7.029	21.11	15.48	0.709+j3.386	1.801+j7.014
LAGOS	LAG-115	115.0	13.83	12.33	1.260+j4.632	2.258+j6.175	17.54	14.76	1.005+j4.041	2.252+j6.138
LAGUNA	LGA-115	115.0	23.80	22.96	0.590+j2.726	0.679+j3.030	27.68	26.19	0.517+j2.588	0.678+j3.018
LAGUNA DOS	LGD-115	115.0	23.62	22.63	0.600+j2.746	0.699+j3.111	27.46	25.80	0.527+j2.607	0.698+j3.099
LAGUNA ENCINILLAS	LEN-230	230.0	3.88	2.62	5.024+j33.847	21.832+j81.254	4.37	2.91	4.743+j33.115	21.830+j81.241
LAGUNA SECA	LSC-115	115.0	10.06	8.21	1.842+j6.334	3.964+j10.351	11.66	9.29	1.686+j6.035	3.963+j10.338
LAJAT	LJT-115	115.0	16.05	12.90	0.793+j4.059	1.984+j6.914	18.62	14.60	0.690+j3.861	1.984+j6.906
LALA	LAL-115	115.0	19.56	17.37	0.751+j3.311	1.311+j4.502	22.51	19.64	0.678+j3.172	1.311+j4.490
LAS CUATAS	CUA-115	115.0	2.21	1.57	4.535+j29.688	26.624+j62.080	2.47	1.74	4.388+j29.226	26.623+j62.104
LÁZARO CÁRDENAS	LCS-115	115.0	3.82	2.51	4.646+j16.763	10.938+j43.387	4.29	2.79	4.405+j16.462	10.895+j43.164
LEBARON	LEB-115	115.0	2.52	1.95	6.662+j25.487	18.874+j45.754	2.84	2.17	6.437+j24.941	18.875+j45.755
LEÓN GUZMÁN	LGM-115	115.0	5.67	3.55	2.396+j11.473	10.002+j31.142	6.32	3.93	2.302+j11.325	10.001+j31.142
LEONI CABLE	LEO-115	115.0	8.51	9.62	1.731+j7.607	1.204+j5.011	9.53	10.75	1.665+j7.484	1.196+j4.948
LERDO	LED-230	230.0	11.04	10.95	2.384+j11.789	2.247+j12.172	12.99	12.57	2.002+j11.064	2.249+j12.190
LEXMARK	LEX-115	115.0	10.89	8.83	1.450+j5.921	3.869+j9.700	13.39	10.30	1.202+j5.322	3.870+j9.686
LEXMARK DOS	LXD-115	115.0	11.13	9.55	1.068+j5.868	3.176+j8.446	13.72	11.20	0.825+j5.259	3.177+j8.438
LIBERTAD	LTD-115	115.0	13.21	10.62	1.335+j4.848	2.839+j8.237	16.62	12.56	1.092+j4.256	2.834+j8.199



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
LÓPEZ MATEOS	LZM-115	115.0	3.79	3.56	4.488+j16.921	7.194+j19.684	4.19	3.94	4.429+j16.847	7.176+j19.550
MANIOBRAS CENTAURO	MAC-115	115.0	4.48	4.18	3.163+j14.470	4.589+j17.504	5.03	4.67	3.073+j14.191	4.493+j17.294
MANIOBRAS CERRO DEL MERCADO	MCM-115	115.0	8.00	7.06	1.682+j8.129	4.044+j10.967	9.33	8.05	1.496+j7.682	4.038+j10.920
MANIOBRAS CIENTO OCHO	MCO-115	115.0	4.74	3.71	3.751+j13.484	7.542+j24.589	5.26	4.11	3.688+j13.377	7.537+j24.526
MANIOBRAS MARÍA SOLAR	MMS-230	230.0	4.76	5.83	4.635+j27.528	0.893+j12.543	5.83	7.00	3.682+j24.774	0.896+j12.564
MANIOBRAS MIELERAS	MMI-115	115.0	14.24	12.16	0.877+j4.580	1.495+j6.907	16.62	13.83	0.754+j4.329	1.494+j6.901
MANIOBRAS MVC	MVC-115	115.0	8.74	8.50	1.369+j7.472	2.445+j7.921	10.32	9.80	1.169+j6.978	2.441+j7.881
MANIOBRAS PARQUE EÓLICO	MPE-115	115.0	1.30	0.64	15.224+j48.759	93.175+j186.495	1.41	0.70	15.744+j49.491	93.140+j186.369
MANIOBRAS PEÑALES	MPL-230	230.0	9.68	8.82	2.811+j13.432	3.680+j17.362	11.31	10.06	2.407+j12.688	3.681+j17.376
MANIOBRAS SABINAS	MAS-115	115.0	1.01	0.64	27.443+j60.051	73.286+j165.247	1.12	0.70	27.098+j59.619	73.270+j165.182
MANIOBRAS SANTA MARIA	MMS-115	115.0	8.23	10.25	1.370+j7.953	0.257+j3.304	9.76	12.00	1.149+j7.397	0.258+j3.306
MANIOBRAS SANTA ROSA	MSR-115	115.0	4.11	3.09	4.062+j15.642	12.775+j29.788	4.54	3.40	4.022+j15.588	12.769+j29.783
MANIOBRAS TREINTA Y CUATRO	MTC-115	115.0	7.62	7.76	2.211+j8.423	2.755+j7.847	8.50	8.63	2.151+j8.320	2.750+j7.798
MANIOBRAS VILLANUEVA	MVI-400	400.0	6.67	6.99	5.155+j34.214	3.967+j29.717	8.71	8.66	3.403+j28.951	3.912+j29.472
MANITOBA	MBA-115	115.0	5.91	4.78	2.474+j10.965	4.315+j18.713	6.57	5.30	2.407+j10.848	4.310+j18.655
MAPIMI	MPI-115	115.0	2.39	1.38	5.362+j27.204	20.784+j86.629	2.65	1.52	5.284+j27.073	20.782+j86.614
MASISA	MSS-115	115.0	6.55	5.76	2.099+j9.918	5.092+j13.469	7.56	6.53	1.912+j9.470	5.085+j13.418
MATAMOROS	MAT-115	115.0	10.83	9.83	1.438+j5.958	2.257+j7.695	12.33	11.09	1.335+j5.770	2.234+j7.594
MAYRAN	MAY-115	115.0	4.03	2.81	4.324+j15.884	12.561+j35.967	4.50	3.11	4.199+j15.681	12.535+j35.863
MÉDANOS	MED-115	115.0	11.78	9.22	1.263+j5.493	3.343+j9.807	14.60	10.79	1.007+j4.900	3.342+j9.786
MENONITAS	MEN-115	115.0	2.91	2.37	6.303+j21.946	14.281+j35.661	3.21	2.62	6.249+j21.872	14.270+j35.549
MEOQUI	MOQ-115	115.0	3.06	1.91	5.706+j20.905	14.433+j59.400	3.45	2.12	5.371+j20.448	14.390+j59.176
MESTEÑAS	MES-230	230.0	1.79	2.10	14.492+j72.563	2.275+j42.116	1.98	2.33	14.337+j72.454	2.126+j40.664
MESTEÑAS	MES-115	115.0	2.96	3.84	4.164+j22.020	0.242+j7.202	3.26	4.25	4.137+j22.045	0.214+j6.760
MILENIO	MIL-115	115.0	8.03	7.64	1.555+j8.118	3.256+j9.056	9.31	8.70	1.396+j7.719	3.253+j9.017
MINA CERRO DEL MERCADO	CDM-115	115.0	7.87	6.41	1.735+j8.261	5.222+j13.322	9.17	7.28	1.550+j7.815	5.217+j13.276
MINERA DEL TORO	MDT-115	115.0	0.99	0.65	23.341+j63.016	72.051+j155.746	1.10	0.72	22.992+j62.563	72.036+j155.681
MINERA DOLORES	MDO-115	115.0	0.80	0.63	23.790+j79.579	58.254+j139.831	0.88	0.69	23.734+j79.552	58.219+j139.404
MIRAVALLE	MIR-115	115.0	16.61	13.51	0.763+j3.924	1.442+j6.597	18.97	15.18	0.691+j3.788	1.441+j6.583
MITLA	MLA-115	115.0	11.91	10.19	1.183+j5.449	1.901+j8.191	14.79	12.00	0.932+j4.848	1.901+j8.180
MOCTEZUMA	MCZ-400	400.0	6.01	6.57	5.146+j38.107	1.833+j28.847	7.33	7.74	3.858+j34.443	1.863+j29.283
MOCTEZUMA	MCZ-230	230.0	11.98	14.49	1.732+j10.953	0.437+j5.372	15.27	17.91	1.260+j9.480	0.441+j5.383
MOCTEZUMA	MCZ-115	115.0	13.67	17.08	0.586+j4.821	0.075+j1.974	16.64	20.37	0.442+j4.366	0.074+j1.997
MONTE VERDE	MTV-115	115.0	2.02	1.54	8.227+j31.819	5.734+j64.215	2.25	1.70	8.050+j31.422	5.723+j64.105
NAICA	NAI-115	115.0	1.62	1.04	17.876+j36.968	36.684+j103.995	1.78	1.14	17.807+j36.898	36.640+j103.771
NAMIQUIPA	NQA-115	115.0	2.56	2.11	6.444+j25.151	13.942+j40.147	2.82	2.33	6.395+j25.100	13.924+j39.973
NAZAS	NAZ-230	230.0	10.93	11.25	2.346+j11.923	1.571+j11.043	12.81	12.90	1.980+j11.226	1.580+j11.090
NAZAS	NAZ-115	115.0	20.32	22.67	0.670+j3.199	0.264+j2.253	23.59	25.93	0.584+j3.040	0.264+j2.254
NICOLÁS BRAVO	NCB-115	115.0	1.22	0.89	15.133+j52.405	43.458+j106.591	1.34	0.98	15.083+j52.355	43.439+j106.416
NOMBRE DE DIOS	NDD-115	115.0	12.66	11.13	1.188+j5.106	2.234+j7.119	14.00	12.28	1.163+j5.087	2.226+j7.113



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Norte**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
NORTE CERESO	NCE-230	230.0	16.45	20.76	1.308+j7.964	0.230+j3.093	25.32	30.23	0.671+j5.730	0.231+j2.974
NUEVA HOLANDA	NHO-115	115.0	1.59	1.22	9.796+j40.669	15.945+j78.234	1.74	1.34	9.788+j40.727	15.912+j77.774
NUEVO CASAS GRANDES	NCG-230	230.0	6.26	7.37	3.198+j20.954	1.087+j11.723	7.50	8.68	2.588+j19.316	1.056+j11.542
NUEVO CASAS GRANDES	NCG-115	115.0	9.35	12.00	1.006+j7.030	0.135+j2.414	10.95	14.00	0.846+j6.613	0.126+j2.334
NUEVO IDEAL	NID-115	115.0	1.50	1.14	16.543+j40.952	38.795+j77.678	1.67	1.26	16.298+j40.534	38.753+j77.493
OASIS	OAS-115	115.0	1.55	1.19	10.396+j41.445	16.644+j81.004	1.71	1.31	10.395+j41.516	16.610+j80.541
OCAMPO	OCP-115	115.0	10.79	8.99	1.397+j5.990	3.259+j9.378	11.91	9.91	1.377+j5.977	3.250+j9.357
OJINAGA	OJI-115	115.0	0.86	0.61	24.838+j73.356	56.652+j159.841	0.94	0.68	24.846+j73.427	56.615+j159.372
ORIENTE VEINTIUNO	OTV-115	115.0	13.05	10.84	1.128+j4.961	2.737+j7.769	16.41	12.83	0.874+j4.365	2.736+j7.752
PAILA	PLA-115	115.0	1.08	0.54	19.278+j58.621	108.923+j217.488	1.17	0.60	19.801+j59.348	108.888+j217.362
PALMAREJO	PAL-115	115.0	0.66	0.46	39.343+j92.133	94.924+j214.550	0.73	0.50	39.285+j92.102	94.874+j214.286
PALOMAR	PMR-115	115.0	9.21	7.12	1.586+j7.034	3.549+j13.112	10.15	7.84	1.567+j7.025	3.534+j13.144
PALOMAS	PMS-115	115.0	1.53	1.17	11.152+j42.011	32.256+j77.047	1.70	1.30	10.976+j41.635	32.229+j76.805
PAPELERA CHIHUAHUA	PCH-115	115.0	11.15	9.52	1.214+j5.829	2.719+j8.668	12.30	10.51	1.193+j5.817	2.713+j8.624
PARQUE	PQE-115	115.0	16.81	17.83	0.943+j3.836	0.799+j3.186	22.04	22.26	0.695+j3.241	0.786+j3.124
PARRAL	PAR-115	115.0	2.07	1.83	12.186+j29.598	11.458+j43.572	2.29	2.04	12.055+j29.509	11.275+j42.184
PARRAS	PRA-115	115.0	1.49	0.73	13.539+j42.578	82.330+j162.850	1.61	0.80	13.961+j43.156	82.295+j162.724
PASO DEL AGULIA	PSA-115	115.0	10.41	7.42	1.552+j6.186	4.622+j13.360	11.75	8.26	1.472+j6.038	4.621+j13.344
PASO DEL NORTE	PNR-230	230.0	9.70	11.32	2.647+j13.428	1.244+j7.763	13.28	14.68	1.736+j10.861	1.256+j7.779
PASO DEL NORTE	PNR-115	115.0	17.97	22.06	0.805+j3.606	0.198+j1.649	23.92	28.25	0.562+j3.001	0.198+j1.646
PATRIA	PAT-115	115.0	11.92	9.99	1.305+j5.417	3.015+j8.298	14.79	11.75	1.048+j4.824	3.014+j8.283
PEDRICEÑA	PDA-115	115.0	1.62	0.93	18.602+j36.655	45.108+j123.979	1.78	1.03	18.506+j36.539	45.107+j123.980
PHILIPS	PHS-115	115.0	22.91	19.90	0.593+j2.836	0.771+j4.153	26.58	22.59	0.521+j2.698	0.769+j4.137
PONDERCEL	POE-115	115.0	5.84	6.15	2.699+j11.034	2.421+j9.424	6.50	6.83	2.642+j10.923	2.396+j9.336
POPULAR	PPR-115	115.0	5.07	3.64	4.489+j12.292	8.769+j27.185	5.69	4.05	4.354+j12.066	8.723+j27.044
PORVENIR	PRR-115	115.0	1.74	1.21	10.420+j36.598	34.721+j82.163	1.95	1.34	10.152+j36.016	34.657+j82.059
PUENTE DE NEGROS	PDN-115	115.0	2.42	1.71	8.171+j26.218	25.122+j56.065	2.72	1.91	7.875+j25.695	25.109+j56.003
PUERTO JUSTO	PTJ-115	115.0	1.84	1.63	12.999+j33.694	16.095+j47.353	2.03	1.82	12.863+j33.608	15.888+j45.929
QUEVEDO	QVD-230	230.0	3.20	3.70	8.468+j40.621	1.842+j25.080	3.55	4.11	8.251+j40.284	1.774+j24.627
QUEVEDO	QVD-115	115.0	5.39	6.67	2.421+j12.079	0.269+j5.323	5.96	7.41	2.372+j12.026	0.251+j5.152
QUINCE DE OCTUBRE	QDO-115	115.0	7.17	6.32	1.955+j9.050	4.425+j12.321	8.33	7.18	1.762+j8.586	4.423+j12.283
RAYÓN	RAY-115	115.0	12.32	12.85	1.021+j5.291	4.928+j3.271	15.39	15.44	0.780+j4.681	4.929+j3.263
REFORMA	REA-230	230.0	13.07	15.04	1.894+j9.983	0.936+j6.134	18.90	20.34	1.136+j7.645	0.929+j6.040
REFORMA	REA-115	115.0	19.35	23.67	0.716+j3.356	0.168+j1.560	26.11	30.81	0.485+j2.755	0.161+j1.517
REVOLUCIÓN	RVO-115	115.0	7.80	5.97	2.214+j8.216	5.900+j15.298	8.78	6.65	2.119+j8.045	5.890+j15.245
RIBERAS	RIV-115	115.0	9.16	8.33	1.543+j7.082	2.916+j9.010	10.11	9.19	1.519+j7.063	2.906+j9.005
RIO FLORIDO	RIF-115	115.0	3.05	2.46	5.606+j21.062	13.921+j34.862	3.53	2.79	5.047+j20.073	13.912+j34.769
RIVEREÑA	RVA-115	115.0	14.95	14.44	1.028+j4.321	1.391+j4.728	19.20	17.56	0.781+j3.723	1.384+j4.682
ROBERT BOSH	ROB-115	115.0	12.54	11.07	1.370+j5.113	2.567+j6.983	15.68	13.14	1.115+j4.523	2.559+j6.936
ROBINSON	RNN-115	115.0	12.60	11.19	1.027+j5.169	1.998+j7.028	13.90	12.36	1.006+j5.158	1.992+j6.984



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
RUIZ CORTINES	RCS-115	115.0	4.09	3.95	3.447+j15.863	3.924+j17.535	4.52	4.37	3.398+j15.811	3.906+j17.362
SABINAS	SAB-115	115.0	0.99	0.63	27.949+j60.993	74.455+j168.284	1.10	0.69	27.605+j60.561	74.440+j168.219
SACRAMENTO	SCT-115	115.0	19.90	19.07	0.699+j3.262	1.075+j3.632	22.91	21.61	0.628+j3.126	1.074+j3.618
SALVARCAR	SVC-115	115.0	13.43	11.59	1.108+j4.818	2.626+j6.872	16.97	13.78	0.861+j4.218	2.626+j6.859
SAMALAYACA SUR	SYS-230	230.0	14.44	16.96	1.524+j9.070	0.723+j5.107	24.06	26.15	0.678+j6.033	0.649+j4.596
SAMALAYUCA	SYC-230	230.0	14.80	18.16	1.477+j8.849	0.396+j4.041	25.47	29.36	0.610+j5.702	0.310+j3.475
SAN ANTONIO DE BELÉN	ABE-115	115.0	1.06	0.68	25.540+j56.960	69.157+j154.582	1.18	0.75	25.196+j56.523	69.142+j154.516
SAN BUENAVENTURA	SBV-115	115.0	4.31	3.52	3.460+j15.017	9.787+j24.060	4.91	3.95	3.260+j14.509	9.787+j24.062
SAN FRANCISCO DE BORJA	SFB-115	115.0	1.56	0.99	12.115+j40.774	36.573+j110.769	1.72	1.09	12.073+j40.724	36.566+j110.764
SAN FRANCISCO DEL ORO	SFO-115	115.0	2.48	2.53	9.467+j25.027	5.474+j24.961	2.74	2.84	9.334+j24.931	5.295+j23.581
SAN IGNACIO	SIG-115	115.0	2.38	1.67	7.554+j26.802	24.361+j58.696	2.68	1.86	7.289+j26.219	24.297+j58.592
SAN ISIDRO	SID-115	115.0	7.57	6.06	2.017+j8.540	4.826+j14.592	8.98	6.96	1.764+j7.943	4.763+j14.488
SAN JERÓNIMO	SJE-115	115.0	5.20	2.38	2.427+j12.543	23.023+j53.712	6.01	2.66	2.169+j11.953	23.023+j53.709
SAN MARTIN	MRT-115	115.0	1.00	0.63	27.699+j60.521	73.869+j166.764	1.11	0.70	27.354+j60.089	73.854+j166.699
SAN PEDRO POTENCIA	SPP-230	230.0	2.42	2.65	12.895+j53.441	3.822+j40.554	2.67	2.94	12.646+j53.129	3.700+j40.014
SAN PEDRO POTENCIA	SPD-115	115.0	6.24	4.50	2.568+j10.319	6.435+j22.050	7.02	5.02	2.444+j10.114	6.409+j21.947
SAN PEDRO POTENCIA	SPP-115	115.0	4.05	4.96	3.945+j15.907	0.601+j7.512	4.47	5.50	3.890+j15.855	0.563+j7.266
SANTA BÁRBARA	BBA-115	115.0	2.58	2.70	9.288+j23.953	4.258+j22.303	2.86	3.04	9.156+j23.856	4.083+j20.931
SANTA MARÍA DEL ORO	SMO-115	115.0	0.81	0.59	29.613+j76.360	69.013+j160.919	0.89	0.65	29.489+j76.290	68.763+j159.429
SANTIAGO DOS	SGD-230	230.0	1.70	1.84	26.255+j73.790	5.140+j61.647	1.88	2.08	25.675+j73.201	4.381+j56.886
SANTIAGO DOS	SGD-115	115.0	2.95	3.41	7.770+j21.153	0.919+j13.780	3.26	3.86	7.637+j21.055	0.744+j12.408
SANTIAGO PAPASQUIARO	SGP-115	115.0	1.08	0.78	25.439+j56.039	61.770+j118.916	1.20	0.86	25.180+j55.642	61.723+j118.725
SANTIAGO UNO	SGU-115	115.0	2.88	3.28	8.029+j21.622	1.397+j14.866	3.19	3.71	7.896+j21.524	1.222+j13.494
SANTOS SOLAR MANIOBRAS	SSM-115	115.0	12.24	14.17	0.674+j5.381	0.603+j3.173	14.76	16.69	0.529+j4.921	0.602+j3.196
SAUZAL	SZL-115	115.0	11.73	9.15	1.373+j5.490	3.569+j9.863	14.53	10.70	1.116+j4.902	3.565+j9.832
SEIS Y MEDIO	SYM-115	115.0	4.71	3.25	3.661+j13.607	12.457+j30.780	5.23	3.60	3.595+j13.492	12.451+j30.723
SETENTA Y TRES	SAT-115	115.0	1.84	1.37	10.840+j34.464	28.292+j67.402	2.03	1.51	10.788+j34.395	28.281+j67.290
SOMBRERETE	SOM-115	115.0	0.96	0.61	28.860+j62.816	76.767+j174.237	1.06	0.67	28.518+j62.384	76.752+j174.171
TABALAOPA	TBL-115	115.0	13.40	12.73	1.103+j4.832	1.748+j5.517	14.78	14.07	1.082+j4.820	1.740+j5.472
TACUBAYA	TBA-115	115.0	1.05	0.77	20.106+j60.079	58.959+j119.079	1.16	0.85	19.939+j59.774	58.949+j118.985
TECNOLÓGICO	TEC-115	115.0	11.88	10.48	1.451+j5.398	2.699+j7.377	14.75	12.39	1.200+j4.805	2.690+j7.330
TERRANOVA	TER-230	230.0	12.79	14.56	1.969+j10.190	0.909+j6.605	18.88	19.87	1.130+j7.655	0.922+j6.534
TERRANOVA	TER-115	115.0	19.80	24.03	0.696+j3.281	0.161+j1.593	26.97	31.30	0.455+j2.670	0.162+j1.585
TINAJAS	TIN-115	115.0	2.91	2.13	3.650+j22.562	18.713+j44.590	3.26	2.37	3.498+j22.111	18.712+j44.613
TORREÓN	TRR-115	115.0	12.40	9.42	1.019+j5.258	2.540+j10.129	14.17	10.57	0.920+j5.070	2.540+j10.126
TORREÓN ORIENTE	TOT-115	115.0	18.38	15.39	0.765+j3.531	1.388+j5.557	21.50	17.52	0.663+j3.332	1.388+j5.550
TORREÓN SUR	TRS-400	400.0	7.29	8.28	5.300+j31.246	1.746+j20.338	9.26	10.13	3.706+j27.178	1.759+j20.390
TORREÓN SUR	TRS-230	230.0	11.33	13.06	2.176+j11.520	0.533+j7.107	13.53	15.27	1.742+j10.656	0.533+j7.129
TORREÓN SUR	TRS-115	115.0	21.47	23.70	0.580+j3.037	0.205+j2.227	26.15	28.04	0.449+j2.756	0.206+j2.227
TORREONCITOS SOLAR	TOS-115	115.0	2.98	2.41	5.837+j21.525	14.169+j35.428	3.45	2.73	5.249+j20.501	14.160+j35.335



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Norte**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TORRES	TOR-115	115.0	15.57	14.91	0.959+j4.156	1.655+j4.573	20.14	18.16	0.715+j3.555	1.655+j4.556
TRECE SOLAR MANIOBRAS	TSM-115	115.0	2.18	1.97	5.923+j29.896	7.356+j39.708	2.39	2.17	5.928+j30.001	7.326+j39.258
TRES HERMANOS	THS-115	115.0	1.73	1.65	10.023+j37.027	16.957+j40.553	1.90	1.83	9.997+j37.052	16.928+j40.111
TRES MANANTIALES	TMA-115	115.0	1.43	0.91	16.934+j43.087	45.300+j119.107	1.60	1.00	16.440+j42.628	45.244+j118.953
VADO SANTA MARÍA	VSM-115	115.0	1.74	1.45	9.136+j37.098	3.763+j61.881	1.93	1.60	8.969+j36.685	3.754+j61.801
VALLE DE JUÁREZ	VJZ-230	230.0	11.16	11.90	2.214+j11.694	1.538+j9.605	15.75	15.59	1.355+j9.174	1.515+j9.474
VALLE DE JUÁREZ	VJZ-115	115.0	17.94	20.77	0.830+j3.606	0.291+j2.190	23.85	26.54	0.584+j3.007	0.276+j2.121
VALLE ESPERANZA	VEZ-115	115.0	2.25	1.55	4.749+j29.137	27.518+j64.965	2.51	1.72	4.596+j28.687	27.517+j64.989
VALLE VERDE	VAE-115	115.0	17.40	14.04	0.867+j3.717	1.580+j6.372	20.19	15.89	0.771+j3.534	1.580+j6.364
VERDE INDEPENDENCIA UNO	VIU-115	115.0	9.49	7.59	1.208+j6.891	4.540+j11.544	11.49	8.78	0.965+j6.282	4.541+j11.536
VICENTE GUERRERO	VGR-FIC	115.0	1.37	1.08	18.679+j44.619	32.741+j80.927	1.52	1.20	18.585+j44.343	32.643+j80.715
VICENTE GUERRERO	VGR-115	115.0	1.35	0.89	17.796+j45.815	52.610+j112.840	1.50	0.99	17.456+j45.351	52.595+j112.775
VIDRIERA CHIHUAHUA MANIOBRAS	VCM-115	115.0	3.40	2.16	5.200+j18.849	12.687+j51.399	3.82	2.41	4.914+j18.474	12.644+j51.176
VILLA AHUMADA	VAH-115	115.0	2.38	1.68	8.356+j26.675	24.717+j57.514	2.66	1.87	8.184+j26.259	24.717+j57.537
VIÑEDOS	VDS-115	115.0	13.07	9.68	1.171+j4.943	3.235+j9.920	14.86	10.84	1.090+j4.792	3.234+j9.902
WERNER	WER-115	115.0	12.47	10.81	1.380+j5.143	2.799+j7.299	15.57	12.79	1.140+j4.549	2.795+j7.269
WRANGLER	WRA-115	115.0	8.36	6.93	1.726+j7.753	7.647+j11.039	9.29	7.73	1.658+j7.682	7.604+j10.817
YERMO	YMO-115	115.0	1.33	0.79	18.754+j46.403	49.777+j143.884	1.46	0.87	18.674+j46.276	49.776+j143.869
ZARAGOZA	ZZA-115	115.0	15.48	14.99	1.072+j4.152	1.473+j4.495	19.99	18.30	0.818+j3.561	1.465+j4.449

Gerencia de Control Regional Noreste



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Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Noreste

Subestación Eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ACERO	AEO-115	115.0	9.54	8.65	1.107+j6.871	1.556+j9.013	11.19	9.91	0.935+j6.460	1.554+j8.955
ACEROS PLANOS	APM-115	115.0	20.49	14.61	0.655+j3.173	1.329+j7.037	23.66	16.45	0.566+j3.034	1.326+j7.029
ACUÑA	AUA-138	138.0	6.15	6.85	2.641+j12.689	1.200+j8.948	7.87	8.65	2.064+j10.939	1.139+j8.011
ACUÑA DOS	ACD-138	138.0	6.44	7.13	2.243+j12.159	1.122+j8.765	8.66	9.56	1.529+j9.999	0.954+j7.166
AEROPUERTO	AER-400	400.0	13.73	15.67	3.068+j16.543	1.233+j11.264	19.24	20.85	1.638+j13.102	1.244+j10.521
AEROPUERTO	AER-230	230.0	17.56	21.62	1.464+j7.420	0.286+j3.545	24.08	28.68	0.845+j6.007	0.278+j3.292
AEROPUERTO	AER-138	138.0	19.75	23.42	0.780+j3.958	0.189+j2.225	25.39	29.37	0.535+j3.410	0.184+j2.116
AEROPUERTO NORTE	ANE-115	115.0	13.54	6.70	0.989+j4.804	4.282+j19.448	15.32	7.44	0.891+j4.684	4.282+j19.445
AEROPUERTO OMA MONTERREY	OMA-115	115.0	16.82	12.70	0.659+j3.893	1.639+j7.626	20.77	14.99	0.515+j3.478	1.626+j7.435
AFI STEEL FOUNDRY	ASF-115	115.0	16.97	13.16	0.611+j3.865	1.547+j7.167	20.37	15.46	0.469+j3.554	1.505+j6.862
AGUA NUEVA	AGN-115	115.0	11.04	10.76	1.151+j5.903	0.828+j6.452	12.88	12.31	0.991+j5.585	0.816+j6.404
AGUAS TRATADAS	ATM-115	115.0	11.18	8.03	1.008+j5.855	2.844+j12.673	13.81	10.04	0.809+j5.228	2.289+j11.065
AHUACATLAN	AHU-115	115.0	3.35	2.01	5.415+j19.088	14.536+j57.648	3.69	2.21	5.397+j19.053	14.541+j57.605
ALAMO	ALM-115	115.0	11.60	8.59	1.177+j5.602	2.755+j11.426	13.25	9.63	1.063+j5.408	2.754+j11.403
ÁLCALI MANIOBRAS	ACM-115	115.0	23.13	25.08	0.418+j2.840	0.336+j2.159	25.91	28.08	0.373+j2.794	0.326+j2.121
ALCOA PRIVADA	APV-115	115.0	13.98	6.91	0.955+j4.654	4.156+j18.894	15.83	7.67	0.857+j4.533	4.156+j18.891
ALLEN DEL NORTE	ADN-115	115.0	11.02	8.29	1.154+j5.912	2.925+j11.627	12.48	9.25	1.055+j5.757	2.927+j11.619
ALIANZA REAL	AIR-115	115.0	20.27	15.49	0.500+j3.237	0.898+j6.242	23.12	17.36	0.424+j3.130	0.898+j6.242
ALLENDE	ALN-115	115.0	3.84	2.26	3.829+j16.846	12.718+j52.116	4.26	2.50	3.732+j16.717	12.670+j51.990
ALLENDE DOS	AED-138	138.0	5.51	4.34	2.639+j14.225	4.799+j25.718	6.99	5.19	2.001+j12.369	4.716+j25.064
ALMACENTRO DEFINITIVO	ALE-115	115.0	20.23	15.44	0.554+j3.235	1.200+j6.226	25.35	18.36	0.435+j2.848	1.190+j6.067
ALPES	ALP-115	115.0	14.46	7.23	0.752+j4.529	3.821+j17.976	17.00	8.14	0.613+j4.253	3.820+j17.947
ALTAMIRA	ALT-400	400.0	21.52	32.40	0.988+j10.687	0.000+j0.158	31.32	47.35	0.546+j8.092	0.000+j0.152
ALTAMIRA	ALT-230	230.0	20.49	26.14	0.578+j6.454	0.160+j2.512	24.56	30.83	0.465+j5.930	0.163+j2.542
ALTAMIRA	ALT-115	115.0	27.42	41.45	0.321+j2.400	0.000+j0.013	31.72	47.96	0.296+j2.283	0.000+j0.013
ALTAMIRA DE AGUA Y DRENAJE DE MONTERREY	AAD-115	115.0	23.93	18.49	0.552+j2.719	0.933+j5.148	27.86	20.01	0.460+j2.581	0.998+j5.624
ALTAMIRA III Y IV	ATC-400	400.0	21.94	25.13	0.844+j10.493	0.903+j6.664	35.26	42.30	0.383+j7.195	0.442+j4.340
ALTAMIRA V	ATV-400	400.0	21.90	25.10	0.848+j10.509	0.903+j6.664	35.18	42.27	0.386+j7.210	0.439+j4.332
ALTAMIRANO	ATR-115	115.0	7.49	5.75	1.512+j8.735	3.362+j16.605	8.73	6.53	1.320+j8.263	3.354+j16.522
ALTOS HORNOS DE MÉXICO	AHM-400	400.0	8.72	9.51	4.110+j26.158	1.866+j20.918	11.54	11.95	2.477+j21.867	1.912+j20.418
AMERICAN INDUSTRIES	AIN-138	138.0	15.66	16.06	1.112+j4.966	0.879+j4.715	19.59	19.44	0.851+j4.391	0.870+j4.573
AMERICAN INDUSTRIES DULCES NOMBRES	AID-115	115.0	16.87	14.33	0.552+j3.897	1.119+j5.932	21.32	17.53	0.388+j3.404	1.094+j5.590
AMÉRICAS	AME-115	115.0	15.91	10.87	0.806+j4.096	1.967+j9.785	18.33	12.21	0.686+j3.926	1.966+j9.778
AMISTAD	AMI-138	138.0	3.43	2.98	5.253+j22.616	7.642+j32.966	4.96	5.52	3.117+j17.385	1.182+j12.283
AMPAD	AMP-138	138.0	10.03	10.62	1.650+j7.768	1.065+j6.732	11.50	12.07	1.482+j7.475	1.036+j6.622
ANÁHUAC	ANH-138	138.0	2.28	1.40	7.619+j34.137	20.292+j98.421	2.59	1.57	7.047+j33.090	20.269+j98.248
ANÁHUAC POTENCIA	ANP-400	400.0	16.22	25.20	1.431+j14.169	1.979+j-0.821	20.09	32.21	1.003+j12.607	2.194+j-1.420
ANÁHUAC POTENCIA	ANP-115	115.0	19.17	25.06	0.479+j3.430	0.289+j1.022	21.75	28.60	0.440+j3.329	0.323+j0.947
ANÁHUAC TAM.POTENCIA	ATP-400	400.0	11.20	13.29	2.736+j20.430	0.821+j12.439	16.45	19.93	1.290+j15.389	0.429+j8.242
ANÁHUAC TAM.POTENCIA	ATP-230	230.0	15.49	20.43	1.303+j8.474	0.152+j3.029	19.00	24.62	0.930+j7.630	0.141+j2.935



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Noreste

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ANGOSTURA	ANG-115	115.0	10.60	8.11	0.978+j6.190	2.565+j11.763	12.01	9.07	0.877+j6.019	2.563+j11.742
ANILLO PERIFÉRICO	APF-115	115.0	11.98	8.98	0.958+j5.457	2.003+j10.917	13.52	10.02	0.866+j5.333	1.991+j10.882
ANZALDUAS	ANZ-138	138.0	14.40	12.72	1.204+j5.400	1.491+j7.671	17.61	14.97	0.943+j4.887	1.473+j7.535
ANZALDUAS RODÉ	ANR-138	138.0	11.95	9.43	1.549+j6.482	2.586+j11.802	14.34	10.98	1.286+j5.977	2.518+j11.506
APASCO	APC-230	230.0	10.02	8.36	2.305+j13.056	4.660+j20.666	11.57	9.47	1.935+j12.471	4.651+j20.579
APODACA	APO-115	115.0	15.58	10.82	0.838+j4.179	1.946+j9.689	19.34	12.64	0.714+j3.709	1.945+j9.591
ARCO VIAL	ARV-115	115.0	22.65	26.52	0.496+j2.889	0.476+j1.578	25.56	29.78	0.442+j2.823	0.474+j1.573
ARROYO DEL COYOTE	ADC-400	400.0	3.54	3.61	10.812+j64.399	4.717+j61.296	4.74	4.56	6.573+j53.236	5.043+j59.710
ARROYO DEL COYOTE	ADC-230	230.0	4.90	5.36	5.476+j26.546	1.533+j20.305	6.20	6.53	3.961+j23.216	1.557+j20.031
ARROYO DEL COYOTE	ADC-138	138.0	9.75	12.52	1.884+j7.953	0.160+j2.796	12.46	15.71	1.353+j6.901	0.162+j2.692
ARTEAGA	ATG-115	115.0	4.39	4.34	4.185+j14.517	3.645+j15.265	5.37	5.14	3.429+j13.174	3.610+j14.947
ARTES GRAFICAS	AGR-115	115.0	17.50	12.73	0.739+j3.721	1.523+j7.923	21.01	14.64	0.638+j3.418	1.523+j7.871
ARVIN MERITOR	AVM-115	115.0	12.70	6.32	1.051+j5.120	4.541+j20.588	14.35	7.01	0.953+j4.999	4.541+j20.585
ATLAPEXCO	APX-115	115.0	2.83	2.70	5.796+j22.692	7.921+j25.688	3.14	2.99	5.752+j22.560	7.914+j25.586
AURORA	AUR-138	138.0	3.40	3.00	7.401+j22.241	7.989+j31.964	3.85	3.40	7.032+j21.624	7.821+j31.132
AXTLA	AXA-115	115.0	4.86	3.21	3.525+j13.189	8.705+j33.626	5.35	3.53	3.514+j13.195	8.702+j33.570
AZTECAS	AZT-115	115.0	3.05	2.28	6.091+j20.892	15.400+j40.955	3.39	2.53	5.982+j20.677	15.403+j40.947
AZTLÁN	AZN-138	138.0	15.38	13.66	1.185+j5.043	1.509+j7.059	19.09	16.33	0.915+j4.498	1.457+j6.827
BAJÍO	BAO-115	115.0	2.48	1.74	6.551+j25.910	14.758+j59.324	2.86	1.95	6.108+j24.826	14.746+j59.138
BALL METAL BEVERAGE	BMB-115	115.0	15.42	10.77	0.744+j4.241	1.908+j9.686	17.70	12.18	0.686+j4.069	1.896+j9.554
BARRETAL	BET-115	115.0	4.21	2.79	5.519+j14.767	13.631+j37.502	4.66	3.08	5.469+j14.698	13.592+j37.361
BARRY CALLEBAUT	BAC-115	115.0	19.32	10.32	0.606+j3.382	2.575+j12.154	22.05	11.52	0.529+j3.270	2.571+j12.137
BASF	BSF-115	115.0	14.89	12.56	0.836+j4.379	1.596+j6.785	16.86	14.18	0.817+j4.253	1.552+j6.653
BERLÍN	BRN-115	115.0	14.75	10.99	0.776+j4.434	2.148+j8.874	20.67	13.74	0.636+j3.476	2.142+j8.630
BICENTENARIO	BIC-115	115.0	7.27	6.19	1.542+j9.004	2.697+j13.652	8.02	6.81	1.517+j8.980	2.721+j13.726
BIOFILM	BFL-115	115.0	16.62	12.59	0.714+j3.931	1.803+j7.648	19.11	14.69	0.678+j3.762	1.618+j7.129
BLACK & DECKER	BAD-138	138.0	15.83	13.71	1.051+j4.922	1.293+j7.346	19.70	16.39	0.781+j4.380	1.236+j7.105
BOMBEO LOMA LARGA	BLL-115	115.0	22.32	16.05	0.614+j2.910	1.166+j6.365	25.86	16.93	0.523+j2.776	1.298+j7.178
BOMBEO NUEVA CASTILLA III	BNC-115	115.0	10.43	5.31	1.164+j6.257	5.043+j24.238	11.71	5.89	1.083+j6.142	5.027+j24.184
BOMBEO PORVENIR	POR-115	115.0	2.38	1.54	7.959+j26.759	25.687+j69.178	2.63	1.70	7.919+j26.633	25.688+j69.126
BRAVO	BRA-115	115.0	2.03	1.26	9.584+j31.278	29.463+j87.940	2.24	1.39	9.528+j31.181	29.500+j87.840
CADEREYTA	CYN-115	115.0	14.68	11.23	0.716+j4.464	1.310+j8.601	17.57	13.25	0.579+j4.115	1.234+j8.140
CADEREYTA II (1)	CDT-115B2	115.0	12.45	8.76	0.957+j5.246	2.746+j11.760	14.29	9.85	0.849+j5.040	2.743+j11.726
CADEREYTA II (2)	CDT-115B1	115.0	12.45	8.76	0.957+j5.246	2.746+j11.760	14.29	9.85	0.849+j5.040	2.743+j11.726
CAMARGO	CAM-138	138.0	5.97	3.40	3.628+j12.845	11.185+j42.181	6.97	4.50	3.234+j12.148	7.465+j32.536
CAMPESTRE	CPR-138	138.0	7.85	7.73	2.325+j9.875	1.734+j10.515	9.72	9.20	1.778+j8.839	1.737+j10.409
CAMPO TAMAULIPAS	CTS-115	115.0	11.36	8.14	1.312+j5.696	3.246+j12.407	12.78	9.05	1.284+j5.570	3.245+j12.405
CAPELLANIA	CAP-115	115.0	11.77	9.27	0.910+j5.565	2.021+j10.016	13.63	10.52	0.778+j5.301	2.028+j9.924
CARBÓN DOS	CBD-400	400.0	8.78	8.47	4.464+j25.909	3.976+j29.288	23.51	27.80	0.666+j10.783	0.349+j6.253
CARPLASTIC	CIS-115	115.0	17.22	12.54	0.669+j3.796	1.716+j8.005	21.15	14.69	0.537+j3.412	1.707+j7.845



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Noreste

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CASA BLANCA	CBL-138	138.0	10.78	8.38	1.612+j7.216	2.624+j13.663	12.45	9.42	1.434+j6.893	2.625+j13.735
CASTECH	CAS-115	115.0	16.84	13.07	0.619+j3.894	1.575+j7.199	20.18	15.30	0.478+j3.588	1.540+j6.931
CATERPILA JAGUAR	CJR-115	115.0	12.06	6.02	1.104+j5.393	4.764+j21.570	13.61	6.68	1.006+j5.272	4.763+j21.567
CEDROS	CED-230	230.0	12.30	12.48	1.968+j10.616	1.387+j10.283	14.54	14.47	1.548+j9.927	1.371+j10.128
CEDROS	CED-115	115.0	25.86	28.59	0.510+j2.516	0.208+j1.837	31.72	34.42	0.387+j2.270	0.205+j1.758
CEJA	CJA-115	115.0	3.08	2.23	4.234+j21.118	17.706+j43.151	3.43	2.47	4.096+j20.868	17.694+j43.098
CELULOSA	CEL-115	115.0	19.25	13.61	0.639+j3.389	1.442+j7.605	22.00	15.24	0.558+j3.273	1.442+j7.602
CEMENTOS ANÁHUAC	CAN-115	115.0	13.32	12.48	0.907+j4.900	1.343+j5.873	14.98	13.98	0.868+j4.798	1.377+j5.798
CEMENTOS HIDALGO	CEH-115	115.0	6.82	4.54	2.637+j9.376	8.775+j22.793	7.59	5.02	2.561+j9.272	8.775+j22.794
CEMENTOS MEXICANOS	CEM-115	115.0	25.08	19.50	0.511+j2.598	0.889+j4.841	29.21	21.94	0.420+j2.465	0.892+j4.911
CEMEX (VALLES)	CMX-115	115.0	7.25	5.36	2.374+j8.848	4.321+j18.366	8.08	5.95	2.327+j8.739	4.355+j18.281
CENTEC	CNE-115	115.0	10.36	7.16	1.552+j6.215	3.535+j14.579	11.82	8.02	1.437+j6.011	3.534+j14.532
CENTRAL	CEN-138	138.0	13.16	10.46	1.420+j5.885	1.820+j10.798	15.35	11.86	1.241+j5.575	1.805+j10.743
CENTRAL ANÁHUAC	CAH-230	230.0	15.45	20.39	1.298+j8.494	0.147+j3.027	18.94	24.55	0.927+j7.655	0.137+j2.938
CENTRAL DULCES NOMBRES	CDU-400	400.0	26.44	29.72	2.049+j8.492	0.552+j5.903	40.65	44.34	0.934+j6.179	0.396+j4.722
CENTRAL DULCES NOMBRES	CDU-115	115.0	11.24	13.56	0.288+j5.902	0.058+j2.873	18.18	20.29	0.111+j4.017	0.055+j2.765
CENTRAL DULCES NOMBRES II	DNO-115	115.0	21.11	20.88	0.460+j3.112	0.223+j3.237	24.40	24.02	0.420+j2.964	0.218+j3.123
CENTRAL IBERDROLA COGENERACIÓN RAMOS	ICR-115	115.0	15.19	12.83	0.581+j4.331	0.996+j6.749	18.20	15.32	0.441+j3.990	0.936+j6.241
CERRALVO	CER-115	115.0	3.07	2.20	5.918+j20.768	16.379+j44.511	3.42	2.43	5.746+j20.535	16.366+j44.571
CERRO PRIETO	CEP-115	115.0	4.85	4.13	2.499+j13.467	5.728+j20.054	5.40	4.58	2.418+j13.298	5.726+j20.026
CHAIREL	CHR-115	115.0	17.60	14.65	0.655+j3.714	1.699+j5.897	20.22	16.55	0.617+j3.560	1.694+j5.852
CHAMPAYAN	CPY-400	400.0	25.14	28.47	0.818+j9.149	1.008+j6.076	38.00	44.01	0.411+j6.672	0.651+j4.388
CHAPACAO	CHW-115	115.0	3.36	2.19	4.962+j19.154	18.109+j48.425	3.72	2.41	4.922+j19.020	18.106+j48.368
CHRYSLER CAMIONES PLANTA MOTORES SUR	CPS-115	115.0	12.99	10.96	0.944+j5.022	1.784+j7.766	14.93	12.36	0.841+j4.820	1.780+j7.754
CHRYSLER DE MÉXICO	CYM-115	115.0	19.26	16.24	0.757+j3.364	1.165+j5.253	23.05	18.88	0.626+j3.106	1.159+j5.146
CHRYSLER PLANTA CAMIONES	CYC-115	115.0	13.36	11.50	0.899+j4.889	1.651+j7.199	15.37	12.99	0.796+j4.686	1.647+j7.186
CIBIOSA (FERSINSA)	CIB-115	115.0	11.90	8.54	0.934+j5.500	2.209+j11.976	13.75	9.64	0.808+j5.250	2.223+j11.910
CIFUNSA	CIF-115	115.0	18.04	14.90	0.795+j3.594	1.193+j5.896	21.12	17.01	0.680+j3.391	1.192+j5.851
CIMA	CIM-138	138.0	12.76	12.94	1.370+j6.094	0.814+j6.137	14.80	14.79	1.200+j5.800	0.791+j6.042
CITROFRUT	CIT-115	115.0	4.48	2.73	3.839+j14.298	11.110+j42.023	4.97	3.01	3.808+j14.180	11.115+j42.012
CIUDAD INDUSTRIAL	CID-230	230.0	4.83	5.00	5.950+j26.834	3.186+j24.684	6.10	6.05	4.413+j23.543	3.165+j24.338
CIUDAD INDUSTRIAL	CID-138	138.0	7.71	8.30	2.464+j10.039	1.059+j8.126	9.56	9.98	1.912+j8.968	1.040+j7.962
CLOSURES INTERIORES	CLI-138	138.0	11.27	8.87	1.775+j6.845	2.762+j12.685	13.20	10.10	1.564+j6.452	2.745+j12.603
CODEFRONT	CFT-138	138.0	2.93	2.08	4.767+j26.802	10.626+j59.307	3.36	2.34	4.204+j25.744	10.606+j59.142
COMPAÑÍA CERVECERA DE COAHUILA	CVC-138	138.0	6.95	6.79	2.378+j11.218	2.096+j12.122	8.90	8.29	1.859+j9.668	2.088+j11.767
CONCEPCIÓN DEL ORO	CDO-115	115.0	1.45	0.84	15.002+j43.262	36.951+j141.412	1.61	0.92	14.821+j42.987	36.938+j141.362
CONCORDIA	CCR-115	115.0	17.86	16.05	0.607+j3.668	0.911+j4.897	20.30	17.99	0.528+j3.559	0.912+j4.903
CONDUCTORES MONTERREY	CDY-115	115.0	18.15	14.74	0.601+j3.608	1.276+j6.070	27.25	19.34	0.459+j2.640	1.274+j5.841
CONTEC MEXICANA	CON-115	115.0	20.52	20.00	0.420+j3.208	0.557+j3.448	26.79	25.59	0.257+j2.714	0.532+j3.106
CONTROLADORA DE TERMINALES	COT-115	115.0	18.10	8.86	0.654+j3.610	3.099+j14.830	20.61	9.87	0.576+j3.497	3.090+j14.796



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
CONTRY	CNY-115	115.0	22.47	15.05	0.569+j2.899	1.387+j7.201	26.06	16.92	0.475+j2.761	1.368+j7.224
CORONA	CRO-138	138.0	8.62	7.83	1.876+j9.053	2.087+j11.892	11.63	9.79	1.313+j7.420	2.078+j11.532
CORPORATE PROPERTIES OF AMÉRICA	CPA-115	115.0	10.47	5.27	1.256+j6.215	5.431+j24.513	11.77	5.84	1.158+j6.094	5.430+j24.510
COSMOPOLIS	CPL-115	115.0	14.97	9.62	0.856+j4.350	2.529+j11.577	17.01	10.73	0.767+j4.226	2.528+j11.571
CRUZ DE ATAQUE	CRQ-115	115.0	0.86	0.65	20.169+j74.500	60.153+j139.160	0.95	0.72	20.035+j74.167	60.135+j139.031
CRYOINFRA	CRY-115	115.0	16.06	13.66	0.822+j4.053	1.166+j6.349	18.18	15.27	0.800+j3.937	1.166+j6.341
CRYOINFRA SCMS	COF-115	115.0	25.12	13.33	0.391+j2.615	1.721+j9.512	43.67	17.16	0.258+j1.653	1.715+j9.268
CUADRO DE MANIOBRAS EÓLICA DE COAHUILA	MEH-230	230.0	5.70	7.27	3.212+j23.083	0.946+j8.246	6.36	8.11	2.999+j22.775	0.939+j8.153
CUADRO DE MANIOBRAS PRESA GRANDE	PGE-400	400.0	7.74	5.21	3.654+j29.602	16.355+j72.013	11.96	12.18	1.584+j21.180	1.522+j20.493
CUADRO DE MANIOBRAS PROMAX	MPX-115	115.0	26.21	13.75	0.472+j2.489	1.876+j9.233	30.36	15.40	0.394+j2.373	1.876+j9.227
CUADRO MANIOBRAS DE ABSORMEX	MBX-115	115.0	18.22	14.79	0.680+j3.580	1.489+j6.037	21.10	17.52	0.637+j3.402	1.270+j5.484
CUADRO MANIOBRAS EÓLICO SANTA CATARINA	MEO-230	230.0	14.48	11.83	1.495+j9.050	3.662+j14.926	16.87	13.46	1.186+j8.576	3.633+j14.865
CUATRO CIÉNEGAS	CCE-115	115.0	1.65	1.08	16.247+j36.715	37.037+j98.131	1.84	1.19	16.083+j36.369	37.034+j98.067
CUMBRES FRONTERA	CUF-230	230.0	12.28	12.48	1.908+j10.645	1.395+j10.440	15.68	15.21	1.245+j9.232	1.384+j10.254
CUMBRES FRONTERA	CUF-138	138.0	18.98	21.38	0.878+j4.104	0.330+j2.858	24.10	26.34	0.619+j3.583	0.319+j2.758
CUMBRES ORIENTE	CBO-115	115.0	13.70	11.64	0.726+j4.790	1.863+j7.213	15.39	12.96	0.656+j4.699	1.862+j7.212
CUMBRES PONIENTE	CMN-115	115.0	16.80	14.06	0.608+j3.905	1.431+j6.112	18.98	15.70	0.537+j3.811	1.431+j6.110
Calzada del Sol	CDS-115	115.0	12.64	7.13	0.786+j5.192	3.377+j17.123	14.27	9.52	0.690+j5.072	2.382+j12.557
DE ACERO	DEA-230	230.0	10.14	9.15	2.272+j12.900	3.101+j17.102	11.83	10.46	1.852+j12.212	3.086+j16.948
DE ACERO CLAVOS MONTERREY	DCM-115	115.0	27.89	19.67	0.454+j2.337	1.031+j5.268	34.97	24.04	0.368+j2.056	0.951+j4.848
DE ACERO POTENCIA	DEP-400	400.0	19.60	11.58	2.055+j11.604	5.189+j35.987	24.61	13.35	1.252+j10.247	5.233+j36.095
DECOFINMEX	DFX-138	138.0	12.38	9.74	1.458+j6.268	2.249+j11.629	14.46	11.03	1.272+j5.926	2.245+j11.644
DEL BOSQUE	DBO-138	138.0	12.55	12.17	1.410+j6.191	1.057+j7.073	14.55	13.87	1.238+j5.896	1.036+j6.985
DENSO	DSO-115	115.0	17.04	12.10	0.777+j3.817	1.689+j8.515	20.88	14.04	0.664+j3.435	1.688+j8.441
DENSO GUADALUPE	DGP-115	115.0	14.91	8.86	0.839+j4.374	2.599+j13.337	17.04	9.91	0.752+j4.221	2.590+j13.280
DERRAMADERO	DMD-400	400.0	14.66	12.50	2.576+j15.545	4.044+j23.625	18.05	14.71	1.681+j13.970	3.972+j23.382
DERRAMADERO	DMD-115	115.0	21.65	22.04	0.440+j3.035	0.305+j2.895	25.18	25.18	0.348+j2.880	0.302+j2.890
DÍAZ ORDAZ	DOR-138	138.0	6.40	4.00	3.302+j12.009	8.705+j33.755	7.40	4.75	2.993+j11.451	7.645+j30.852
DINASTÍA	DNA-115	115.0	22.28	15.03	0.561+j2.926	1.376+j7.170	25.92	16.96	0.462+j2.780	1.372+j7.157
DIRONA	DIR-115	115.0	17.10	8.45	0.690+j3.820	3.158+j15.487	19.45	9.42	0.610+j3.705	3.143+j15.436
DIRONA Y FORJA	DFO-115	115.0	17.10	8.46	0.690+j3.821	3.167+j15.464	19.45	9.43	0.610+j3.706	3.153+j15.416
DOFASCO DE MÉXICO	DAO-115	115.0	17.82	8.66	0.666+j3.666	3.157+j15.232	20.28	9.65	0.587+j3.553	3.145+j15.192
DULCES NOMBRES AYD	RDN-115	115.0	7.32	4.68	1.710+j8.911	5.757+j23.744	8.42	5.27	1.571+j8.527	5.747+j23.579
DYNASOL	DYN-115	115.0	16.73	14.03	0.788+j3.890	1.615+j6.107	19.01	15.71	0.761+j3.766	1.615+j6.106
EARTH TECH	ETH-115	115.0	7.75	3.27	1.489+j8.434	9.201+j42.878	9.55	4.02	1.185+j7.551	7.754+j38.449
ÉBANO	EBN-115	115.0	3.61	2.39	4.880+j17.730	16.558+j43.505	4.00	2.64	4.840+j17.592	16.553+j43.444
EL ABRA	ABR-115	115.0	2.56	2.44	8.143+j24.654	6.529+j29.212	2.95	2.82	7.459+j23.598	5.897+j27.646
EL CANADÁ	ECN-115	115.0	18.36	9.96	0.597+j3.567	2.243+j12.568	20.94	11.16	0.516+j3.450	2.212+j12.467
EL COCO	COC-115	115.0	18.83	24.21	0.499+j3.490	0.353+j1.168	21.36	27.59	0.460+j3.388	0.387+j1.092
EL CUCHILLO	CCL-230	230.0	7.46	7.31	3.088+j17.538	2.391+j18.768	8.88	8.44	2.540+j16.244	2.362+j18.870



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
EL CUCHILLO	CCL-115	115.0	12.14	13.40	0.906+j5.393	0.399+j3.921	14.07	15.36	0.774+j5.133	0.387+j3.867
EL FRAILE	FAI-400	400.0	25.43	26.86	1.379+j8.976	0.593+j7.679	31.39	32.08	0.830+j8.050	0.586+j7.582
EL GUERREÑO	GRR-400	400.0	11.71	12.26	3.253+j19.445	2.521+j17.809	16.06	15.77	1.774+j15.721	2.578+j17.018
EL GUERREÑO	GRR-138	138.0	18.57	22.49	0.811+j4.214	0.124+j2.146	23.57	27.75	0.558+j3.676	0.129+j2.118
EL HIGO DOS	HGD-115	115.0	2.32	1.34	6.028+j28.006	20.868+j88.817	2.55	1.48	6.035+j28.020	20.861+j88.758
EL MIRADOR	MIO-115	115.0	26.80	20.27	0.496+j2.427	0.960+j4.783	31.44	22.70	0.403+j2.288	0.963+j4.915
EL PORVENIR	EPR-138	138.0	7.79	7.09	2.238+j9.981	1.945+j13.203	9.05	8.09	2.017+j9.469	1.923+j13.068
EL REGIONMONTANO	RGM-400	400.0	13.96	11.93	2.728+j16.314	4.120+j24.712	17.72	14.33	1.680+j14.238	4.100+j24.228
EL REGIONMONTANO	RGM-115	115.0	28.94	27.35	0.362+j2.265	0.337+j2.680	35.11	32.16	0.260+j2.064	0.334+j2.639
EL SARAPE	SRP-230	230.0	11.91	11.84	2.029+j10.965	1.953+j11.221	14.00	13.65	1.624+j10.307	1.945+j11.099
ELECTRICIDAD ÁGUILA ALTAMIRA	EAA-400	400.0	21.76	24.56	0.864+j10.578	1.058+j7.117	35.03	41.63	0.393+j7.242	0.515+j4.594
ELENA	ELN-115	115.0	14.69	15.12	0.782+j4.452	0.919+j4.084	17.44	17.83	0.686+j4.132	0.840+j3.867
EMERSON	EMR-138	138.0	10.68	8.12	1.731+j7.259	3.018+j14.291	13.41	9.92	1.321+j6.401	2.815+j13.281
EMERSON DOS	EMD-138	138.0	13.56	9.90	1.389+j5.710	2.867+j12.139	16.58	11.57	1.117+j5.167	2.809+j11.892
EMPALME	EML-138	138.0	7.35	4.99	2.852+j10.459	6.183+j25.664	8.65	5.76	2.532+j9.806	6.017+j24.834
ENERGÍA MK KF	KAF-115	115.0	18.66	20.74	0.644+j3.499	0.551+j2.458	21.17	23.51	0.633+j3.391	0.534+j2.403
ENERTEK	ETK-115	115.0	20.49	19.40	0.536+j3.197	0.843+j3.730	23.72	22.53	0.501+j3.038	0.769+j3.527
EÓLICA CIUDAD VICTORIA	ECV-115	115.0	12.93	13.28	0.719+j5.084	0.871+j4.655	14.33	14.74	0.691+j5.050	0.876+j4.607
EÓLICA GUADALUPE MANIOBRAS	EGM-400	400.0	8.51	8.46	2.997+j26.959	3.500+j27.483	9.81	9.61	2.448+j25.774	3.498+j27.376
EÓLICA LA MESA	ELM-115	115.0	6.33	6.00	1.882+j10.316	1.969+j12.093	6.98	6.57	1.860+j10.300	2.023+j12.273
EÓLICA TRES MESAS	EMS-115	115.0	4.95	3.34	0.221+j13.415	8.087+j32.150	5.54	3.73	0.192+j13.188	8.080+j31.784
ÉOLICA TRES MESAS FASE CUATRO	EMC-115	115.0	3.82	3.70	1.209+j17.356	1.003+j19.087	4.33	4.18	1.106+j16.816	1.000+j18.723
ESCOBEDO	ESC-400	400.0	25.47	26.02	2.093+j8.823	1.346+j8.390	35.38	33.59	1.190+j7.081	1.348+j8.211
ESCOBEDO	ESC-230	230.0	18.58	15.69	1.350+j7.020	2.341+j10.868	22.37	18.18	1.000+j6.453	2.340+j10.828
ESCOBEDO	ESC-115	115.0	24.78	20.25	0.468+j2.638	0.621+j4.441	28.72	22.88	0.373+j2.516	0.621+j4.451
ESCOBEDO - 115 B	ESC-115B	115.0	39.60	40.50	0.267+j1.655	0.132+j1.565	46.82	46.73	0.192+j1.548	0.132+j1.565
ESPERANZAS	ESP-115	115.0	2.46	1.75	6.774+j26.126	14.238+j58.266	2.83	1.97	6.326+j25.054	14.226+j58.081
ESTANZUELA (1)	ETZ-115	115.0	16.65	12.89	0.637+j3.937	1.374+j7.352	19.04	14.59	0.542+j3.798	1.327+j7.226
ESTANZUELA (2)	ETZ-115B	115.0	20.39	14.34	0.654+j3.190	1.419+j7.242	23.55	16.29	0.560+j3.051	1.372+j7.117
ESTRELLA	ELL-115	115.0	6.97	4.98	1.550+j9.392	4.426+j20.465	7.70	5.50	1.521+j9.360	4.426+j20.418
FALCÓN MEXICANO	FAM-138	138.0	5.46	3.08	3.880+j14.059	12.524+j46.758	6.67	5.40	3.157+j12.757	2.952+j22.298
FARO	FAR-115	115.0	17.88	12.38	0.720+j3.643	1.643+j8.509	20.51	13.19	0.628+j3.505	1.775+j9.323
FÉLIX U. GÓMEZ	FUG-115	115.0	27.03	20.72	0.486+j2.408	0.846+j4.630	31.66	22.93	0.394+j2.273	0.872+j4.868
FINSA	FIT-115	115.0	14.87	10.33	0.790+j4.393	2.224+j10.119	17.06	11.61	0.708+j4.223	2.221+j10.080
FINSA	FIS-115	115.0	16.14	13.76	0.676+j4.058	1.339+j6.124	18.85	15.71	0.557+j3.834	1.338+j6.069
FINSA GUADALUPE	FIG-115	115.0	17.10	12.41	0.664+j3.825	1.548+j8.129	19.72	14.08	0.607+j3.654	1.536+j7.998
FINSA LAREDO	FIL-138	138.0	8.09	8.09	2.507+j9.523	2.080+j9.642	9.98	9.62	1.999+j8.551	2.082+j9.540
FIRESTONE	FRS-115	115.0	14.76	8.01	0.898+j4.408	3.362+j15.506	16.75	8.91	0.800+j4.287	3.362+j15.503
FLEX AMÉRICAS	FME-115	115.0	15.37	11.06	0.523+j4.287	1.843+j9.223	17.80	12.87	0.473+j4.077	1.694+j8.707
FOMERREY	FOM-115	115.0	10.99	8.26	1.159+j5.927	2.938+j11.686	12.43	9.21	1.062+j5.778	2.940+j11.678



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Noreste

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
FREIGHTLINER	FRI-115	115.0	11.16	8.68	1.104+j5.845	2.611+j10.764	12.72	9.72	1.002+j5.654	2.608+j10.753
FRISA	FSA-115	115.0	19.59	17.64	0.479+j3.355	0.899+j4.411	21.91	19.66	0.432+j3.305	0.890+j4.379
FRONTERA	FRO-400	400.0	9.69	10.40	3.791+j23.520	2.025+j19.725	13.22	13.36	2.127+j19.103	2.073+j19.096
FRONTERA	FRO-230	230.0	10.90	13.00	1.780+j12.051	0.431+j6.494	13.51	15.73	1.219+j10.743	0.426+j6.354
FRONTERA	FRO-115	115.0	11.83	14.26	0.750+j5.563	0.129+j2.801	13.96	16.64	0.593+j5.197	0.126+j2.738
FUENTES	FTE-138	138.0	8.68	8.53	1.800+j9.006	1.671+j9.535	11.74	10.84	1.210+j7.368	1.641+j9.111
FUNDICIÓN	FDC-115	115.0	18.89	15.11	0.552+j3.471	1.222+j6.042	23.11	18.22	0.405+j3.135	1.155+j5.606
FUNDIDORA	FUN-115	115.0	25.24	19.44	0.514+j2.579	0.907+j4.906	29.69	22.73	0.416+j2.425	0.788+j4.656
G. E. PLASTIC	GEP-115	115.0	8.98	6.29	1.374+j7.266	3.768+j16.499	10.04	6.99	1.360+j7.150	3.742+j16.417
GALEANA MANIOBRAS	GAM-115	115.0	1.39	1.57	17.457+j44.554	4.910+j31.732	1.73	1.90	13.720+j39.865	4.807+j31.244
GALVASID	GLS-115	115.0	19.90	15.42	0.572+j3.287	1.138+j6.144	27.88	19.36	0.434+j2.583	1.136+j5.976
GARCIA	GAC-115	115.0	9.80	8.28	0.876+j6.721	2.291+j10.265	10.87	9.16	0.827+j6.667	2.286+j10.249
GENERACIÓN ELÉCTRICA HUINALA	GEH-115	115.0	7.82	7.89	0.768+j8.461	0.752+j8.219	8.61	8.80	0.736+j8.448	0.703+j7.912
GENERAL MOTOR	GMO-115	115.0	12.23	9.39	1.056+j5.324	2.241+j10.132	14.07	10.58	0.937+j5.107	2.240+j10.081
GIRASOLES	GRS-115	115.0	16.60	13.26	0.660+j3.944	1.460+j6.876	18.84	14.83	0.581+j3.833	1.460+j6.875
GOLLEK	GOK-115	115.0	5.13	3.75	2.183+j12.753	6.034+j26.603	5.91	4.63	1.962+j12.195	4.234+j22.236
GRANJAS	GRA-115	115.0	7.97	5.86	1.429+j8.212	3.518+j17.010	9.27	6.63	1.248+j7.783	3.513+j16.944
GUADALUPE	GDL-115	115.0	10.88	7.00	1.223+j5.979	3.223+j15.914	12.28	7.83	1.129+j5.841	3.175+j15.789
GUILLFORD MILLS	GUI-115	115.0	15.05	11.64	0.714+j4.352	1.763+j8.146	17.08	13.03	0.686+j4.222	1.752+j8.119
GÜEMEZ	GUE-400	400.0	10.79	10.90	2.532+j21.251	2.269+j20.688	12.57	12.53	2.118+j20.101	2.242+j20.449
GÜEMEZ	GUE-115	115.0	15.84	17.36	0.464+j4.165	0.230+j3.092	17.59	19.36	0.435+j4.130	0.223+j3.015
H.C. INDUSTRIAS	HCI-115	115.0	13.19	9.70	1.173+j4.897	2.385+j10.205	15.18	10.93	1.058+j4.692	2.384+j10.158
HIDALGO	HID-115	115.0	7.50	5.12	2.337+j8.536	8.095+j19.662	8.37	5.67	2.261+j8.432	8.095+j19.663
HIDALGO	HDG-115	115.0	15.91	13.25	0.716+j4.111	1.909+j6.505	18.19	14.92	0.679+j3.958	1.903+j6.465
HUASTECA	HST-115	115.0	3.68	2.24	4.670+j17.423	12.793+j51.200	4.05	2.47	4.656+j17.406	12.794+j51.154
HUEJUTLA II	HJD-115	115.0	3.97	3.27	3.956+j16.240	8.043+j26.332	4.38	3.61	3.942+j16.210	8.038+j26.235
HUERTAS	HUS-115	115.0	7.51	6.46	1.268+j8.753	2.880+j12.871	8.43	7.19	1.187+j8.584	2.878+j12.842
HUICHIHUAYAN	HUH-115	115.0	3.25	1.95	5.881+j19.532	15.164+j59.296	3.59	2.15	5.858+j19.482	15.173+j59.253
HUINALA	HUI-400	400.0	26.94	30.39	2.060+j8.321	0.527+j5.723	41.59	45.52	0.945+j6.034	0.374+j4.564
HUINALA	HUI-230	230.0	21.91	25.60	1.058+j5.969	0.286+j3.454	31.53	36.30	0.520+j4.603	0.228+j2.855
HUINALA	HUI-115	115.0	26.30	31.34	0.329+j2.503	0.071+j1.312	36.22	44.13	0.167+j2.009	0.046+j0.970
HUINALÁ (BUS B)	HUI-230B	230.0	22.07	25.57	1.042+j5.925	0.329+j3.560	31.77	36.28	0.509+j4.569	0.259+j2.932
HUINALÁ (BUS B)	HUI-115B	115.0	23.05	28.18	0.377+j2.855	0.071+j1.315	31.58	39.36	0.200+j2.304	0.046+j0.972
HUINALA DOS	HUO-400	400.0	26.80	30.19	2.058+j8.369	0.534+j5.778	41.39	45.37	0.941+j6.066	0.364+j4.560
HYLSA MANIOBRAS	HYM-400	400.0	24.02	23.40	2.479+j9.289	1.672+j10.297	33.67	30.25	1.514+j7.392	1.654+j9.990
HYLSA NORTE	EHN-230	230.0	14.01	11.08	1.758+j9.313	4.034+j16.549	17.21	12.98	1.306+j8.387	4.021+j16.375
IBERDROLA COGENERACIÓN ALTAMIRA	IBC-115	115.0	20.34	20.62	0.477+j3.230	0.490+j3.133	23.15	23.24	0.457+j3.122	0.488+j3.124
IMIS	IMI-115	115.0	9.92	7.01	1.398+j6.547	3.620+j14.577	11.31	7.86	1.273+j6.329	3.618+j14.543
IMSA	INM-115	115.0	10.58	11.23	0.909+j6.207	0.688+j5.196	12.59	13.11	0.728+j5.754	0.677+j5.098
IMSA PARTICULARES	IMO-115	115.0	17.96	12.17	0.727+j3.625	1.754+j8.802	20.56	13.63	0.638+j3.494	1.753+j8.805



Niveles de cortocircuito de la Red Nacional de Transmisión Gerencia de Control Regional Noreste

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
INDUSTRIA VIDRIERA DE COAHUILA	IVC-138	138.0	7.60	6.47	2.227+j10.242	3.116+j15.715	9.99	7.90	1.661+j8.611	3.107+j15.356
INFONAVIT	INV-138	138.0	10.53	8.69	1.644+j7.387	2.293+j12.353	12.09	9.76	1.476+j7.095	2.288+j12.377
INFONAVIT	INF-115	115.0	15.92	13.47	0.704+j4.111	1.985+j6.246	18.19	15.16	0.667+j3.960	1.979+j6.210
INGENIO SAN MIGUEL EL NARANJO	MGN-115	115.0	2.62	2.73	8.381+j23.875	3.286+j22.522	3.16	3.47	7.009+j22.010	2.480+j16.946
INTERNACIONAL REGIONMONTANA DE ACERO	IRG-115	115.0	18.59	13.82	0.603+j3.521	1.455+j7.130	23.00	16.28	0.479+j3.139	1.445+j6.975
INTERPUERTO	IPR-115	115.0	13.34	6.96	0.830+j4.907	3.405+j18.339	15.13	7.74	0.727+j4.772	3.405+j18.338
IQUISA NORESTE	IQN-115	115.0	14.80	11.25	0.619+j4.442	1.933+j8.528	16.55	12.49	0.563+j4.376	1.929+j8.511
JABIL	JAB-138	138.0	10.80	8.30	1.714+j7.176	2.922+j13.849	13.53	10.09	1.316+j6.342	2.746+j12.946
JARACHINA	JRA-138	138.0	16.49	14.98	1.065+j4.714	1.171+j6.269	20.68	18.29	0.790+j4.163	1.061+j5.873
JARDÍN DOS	JAD-138	138.0	13.07	8.75	1.434+j5.927	2.703+j15.071	15.26	9.89	1.252+j5.607	2.689+j15.017
JERÓNIMO POTENCIA	JEP-400	400.0	19.42	18.73	2.457+j11.633	1.965+j13.145	25.02	23.18	1.508+j10.041	1.829+j12.471
JERÓNIMO POTENCIA	JEP-115	115.0	34.21	31.35	0.345+j1.910	0.263+j2.465	40.12	35.91	0.265+j1.801	0.257+j2.451
JERÓNIMO POTENCIA (BUS B)	JEP-115B	115.0	31.58	29.36	0.365+j2.070	0.259+j2.576	37.15	33.70	0.278+j1.946	0.253+j2.561
JIMÉNEZ	JIM-115	115.0	2.35	1.25	6.197+j27.617	41.670+j94.347	2.56	1.38	6.259+j27.796	41.661+j94.266
JOHNSON AND CONTROL	JCC-115	115.0	11.83	7.20	0.998+j5.523	3.457+j16.082	13.34	8.00	0.900+j5.398	3.456+j16.077
JOHNSON CONTROL	JHC-115	115.0	14.71	12.52	0.604+j4.471	1.520+j6.713	16.41	13.90	0.555+j4.417	1.515+j6.697
JOSEFA ZOZAYA	JZO-115	115.0	14.33	9.18	0.856+j4.554	2.453+j12.185	16.60	10.45	0.792+j4.327	2.418+j11.933
JUÁREZ	JUZ-138	138.0	17.99	17.69	0.956+j4.325	0.911+j4.648	22.77	21.48	0.694+j3.785	0.896+j4.527
JUÁREZ NORTE	JNO-115	115.0	13.73	10.84	0.786+j4.772	1.669+j8.545	17.11	12.99	0.603+j4.225	1.644+j8.202
KALOS GUADALUPE	KGP-115	115.0	16.18	12.22	0.588+j4.060	1.782+j7.908	19.77	14.37	0.442+j3.668	1.778+j7.698
KEMET	KMM-138	138.0	8.84	6.70	1.912+j8.803	3.369+j17.521	10.09	7.49	1.745+j8.511	3.365+j17.551
KEMET	KMT-115	115.0	16.62	12.93	0.660+j3.941	1.521+j7.269	24.26	16.57	0.515+j2.966	1.519+j7.044
KEMET VICTORIA	KWM-115	115.0	6.88	5.38	1.763+j9.484	5.319+j16.988	7.60	5.93	1.735+j9.456	5.327+j16.966
KIKAPU	KIK-115	115.0	2.26	1.55	7.246+j28.436	16.938+j67.610	2.59	1.74	6.804+j27.351	16.927+j67.425
KRAFT	KRA-115	115.0	27.91	19.73	0.452+j2.335	1.022+j5.241	35.14	24.24	0.365+j2.046	0.936+j4.794
KRAFT FOODS DE MÉXICO	KRF-115	115.0	13.93	8.69	0.878+j4.684	2.774+j13.110	15.78	9.67	0.781+j4.562	2.774+j13.113
LA ESFERA	LEF-115	115.0	13.04	9.36	1.055+j4.982	2.715+j10.765	14.79	10.52	0.960+j4.845	2.667+j10.639
LA FE	LAF-115	115.0	28.86	21.56	0.416+j2.263	0.796+j4.569	38.29	26.70	0.322+j1.880	0.752+j4.329
LA ROSITA	RSI-115	115.0	2.85	1.82	6.297+j22.414	21.361+j59.353	3.16	2.01	6.257+j22.287	21.362+j59.302
LA SILLA (1)	SLL-115	115.0	15.65	10.25	0.794+j4.169	2.330+j10.696	17.92	11.51	0.706+j4.014	2.322+j10.642
LA SILLA (2)	SLL-115B	115.0	15.60	10.22	0.797+j4.180	2.340+j10.740	17.87	11.47	0.709+j4.026	2.332+j10.686
LADRILLERA	LDA-115	115.0	3.81	2.68	3.449+j17.104	8.159+j38.506	4.23	2.97	3.353+j16.944	8.157+j38.482
LADRILLERA REVOLUCIÓN	LRR-115	115.0	21.76	16.36	0.609+j2.991	1.071+j5.985	25.27	18.71	0.513+j2.844	1.014+j5.848
LAGO	LAO-138	138.0	7.60	7.25	2.626+j10.151	2.520+j11.739	9.32	8.56	2.110+j9.164	2.523+j11.637
LAGUNA	LGA-115	115.0	3.37	2.71	7.672+j18.166	12.776+j31.640	3.85	3.11	7.184+j17.574	12.602+j29.975
LAGUNA DEL CONEJO	LDC-115	115.0	22.70	23.30	0.475+j2.886	0.617+j2.668	26.36	27.24	0.443+j2.735	0.549+j2.487
LAGUNAS DE MIRALTA	LGM-115	115.0	16.98	13.37	0.648+j3.857	1.715+j6.943	19.45	15.06	0.612+j3.706	1.709+j6.907
LAJAS	LAJ-400	400.0	11.83	10.75	2.613+j19.345	4.213+j25.135	14.14	12.46	1.890+j17.869	4.223+j24.973
LAJAS	LAJ-115	115.0	9.90	12.82	0.669+j6.673	0.095+j2.126	11.18	14.46	0.589+j6.503	0.093+j2.097
LAMOSA	LMS-115	115.0	14.88	11.03	0.687+j4.410	2.140+j8.898	18.01	12.88	0.542+j4.018	2.135+j8.689



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
LAMOSA LAREDO	LAL-138	138.0	8.02	7.78	2.500+j9.621	2.354+j10.604	9.86	9.22	1.999+j8.660	2.356+j10.498
LAMPAZOS	LAM-400	400.0	8.87	6.28	3.691+j25.773	12.906+j56.999	12.60	8.25	1.831+j20.074	11.992+j51.060
LAREDO PONIENTE	LAP-138	138.0	6.59	5.87	2.946+j11.718	3.031+j16.309	8.01	6.86	2.388+j10.671	3.022+j16.173
LAS BRISAS	BRI-115	115.0	17.89	14.84	0.822+j3.618	1.041+j5.921	20.91	16.92	0.707+j3.420	1.039+j5.885
LAS CRUCES	CRU-115	115.0	1.54	1.25	13.889+j40.699	24.619+j69.089	1.83	1.57	11.868+j38.053	19.510+j56.441
LAS GLORIAS	GLO-400	400.0	20.55	19.80	2.324+j10.997	1.432+j12.528	27.39	24.78	1.328+j9.178	1.420+j12.177
LAS GLORIAS	GLO-115	115.0	40.84	40.85	0.283+j1.601	0.145+j1.627	49.07	47.69	0.198+j1.475	0.145+j1.616
LAS LOMAS	LLM-138	138.0	12.28	10.12	1.580+j6.295	2.236+j10.506	16.28	13.70	1.113+j5.267	1.783+j8.419
LAS MESAS	MES-115	115.0	11.27	11.39	0.613+j5.859	0.371+j5.658	12.33	12.54	0.609+j5.892	0.365+j5.584
LAS NORIAS	NOI-115	115.0	1.55	0.72	9.732+j41.695	67.091+j178.342	1.69	0.79	9.879+j42.060	67.082+j178.260
LAS PALMAS	PLM-115	115.0	8.02	6.63	1.351+j8.163	2.846+j13.188	8.86	7.31	1.324+j8.135	2.860+j13.202
LAS TORRES	LTO-138	138.0	11.73	10.87	1.502+j6.626	1.398+j8.492	13.53	12.32	1.333+j6.337	1.381+j8.428
LAURO VILLAR	LVI-230	230.0	8.70	9.14	3.009+j14.962	1.857+j13.535	10.17	10.48	2.561+j14.128	1.807+j13.432
LAURO VILLAR	LVI-138	138.0	13.25	14.27	1.284+j5.875	0.572+j4.898	15.40	16.39	1.116+j5.582	0.543+j4.788
LECHUGAL	LEC-115	115.0	14.71	11.08	0.854+j4.432	2.062+j8.715	16.79	12.42	0.752+j4.284	2.062+j8.712
LEGO REAL ESTATE	LGR-115	115.0	12.78	6.35	1.044+j5.090	4.516+j20.477	14.44	7.05	0.946+j4.969	4.516+j20.474
LEONA	LEO-115	115.0	14.06	10.06	0.931+j4.628	2.154+j10.130	16.40	11.38	0.777+j4.384	2.152+j10.124
LERMAS	LER-115	115.0	18.25	13.07	0.517+j3.602	1.549+j7.815	21.70	15.30	0.438+j3.337	1.486+j7.455
LG	LGE-115	115.0	17.01	12.06	0.776+j3.825	1.699+j8.550	20.95	14.04	0.661+j3.422	1.698+j8.471
LIBERTAD (MONTEMORELOS)	LBT-115	115.0	7.88	8.18	1.036+j8.366	2.318+j7.220	8.85	9.15	0.956+j8.196	2.316+j7.191
LIBERTAD (VICTORIA)	LBT-115	115.0	7.62	6.06	1.505+j8.585	4.378+j14.851	8.41	6.69	1.477+j8.557	4.387+j14.828
LIBRAMIENTO	LBR-115	115.0	2.95	3.61	6.762+j21.429	2.200+j10.069	3.35	4.08	6.395+j20.831	2.148+j9.940
LINARES	LSN-115	115.0	4.62	3.18	2.821+j14.101	8.146+j32.932	5.21	3.66	2.663+j13.750	7.334+j31.069
LINDA VISTA	LDV-115	115.0	4.97	3.05	2.378+j13.155	7.982+j37.726	5.53	3.38	2.339+j12.997	7.962+j37.627
LLANO GRANDE	LLG-230	230.0	9.44	10.09	2.788+j13.784	1.588+j11.840	11.10	11.61	2.344+j12.949	1.558+j11.784
LLANO GRANDE	LLG-138	138.0	13.77	15.26	1.305+j5.636	0.453+j4.282	16.02	17.47	1.137+j5.351	0.442+j4.249
LLERA DE CANALES	LLC-400	400.0	8.95	6.32	2.769+j25.668	11.416+j57.155	10.45	7.19	2.385+j24.188	11.323+j56.585
LOMA LARGA	LOL-115	115.0	29.12	24.89	0.460+j2.233	0.538+j3.408	34.32	26.78	0.368+j2.096	0.602+j3.884
LOS NOVILLOS	LVN-230	230.0	5.57	5.96	3.948+j23.503	2.449+j19.107	7.53	7.81	2.579+j19.231	2.238+j17.082
LOS NOVILLOS	LVN-138	138.0	7.70	8.78	1.701+j10.201	0.671+j6.549	10.34	11.63	1.132+j8.399	0.609+j5.586
LUVATA	LUV-115	115.0	16.72	12.00	0.681+j3.911	1.639+j8.499	19.27	13.60	0.622+j3.739	1.628+j8.367
MABE	MAB-115	115.0	16.65	13.09	0.909+j3.884	1.664+j7.052	19.55	14.97	0.787+j3.651	1.662+j6.980
MAGNA FORMEX SALTILLO	MFS-115	115.0	26.77	26.24	0.457+j2.438	0.354+j2.622	34.84	34.94	0.305+j2.074	0.269+j2.071
MAGNA POWER TRAIN	MGP-115	115.0	24.39	24.43	0.510+j2.674	0.378+j2.698	31.05	31.85	0.360+j2.324	0.298+j2.165
MAGNÉTICOS DE MÉXICO	MME-138	138.0	7.86	8.09	2.533+j9.821	1.786+j9.127	9.70	9.64	2.011+j8.810	1.786+j9.026
MALE PISTONES	MPI-115	115.0	21.49	20.05	0.609+j3.029	0.640+j3.715	26.52	24.33	0.466+j2.715	0.631+j3.448
MANIOBRAS DULCES NOMBRES II	MDU-115	115.0	21.87	20.69	0.465+j3.001	0.346+j3.531	25.44	23.88	0.421+j2.840	0.340+j3.410
MANIOBRAS PARQUE EOLICO EL MEZQUITE	MMQ-230	230.0	6.92	6.22	3.019+j18.945	6.344+j24.986	7.82	6.96	2.744+j18.467	6.337+j24.896
MANIOBRAS RANCHO NORTE	MRN-400	400.0	7.98	5.68	3.767+j28.676	14.800+j63.107	10.76	8.13	2.139+j23.518	10.143+j45.931
MANIOBRAS TRACTEBEL ENERGÍA DE PANUCO	ENP-115	115.0	17.19	15.12	0.754+j3.788	0.961+j5.501	19.52	16.95	0.731+j3.670	0.961+j5.492



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MANNESMANN SACH	MSC-115	115.0	21.18	19.55	0.618+j3.073	0.676+j3.874	26.09	23.67	0.474+j2.759	0.667+j3.607
MANUEL	MUL-115	115.0	7.11	3.49	2.417+j9.016	9.887+j37.086	7.95	3.86	2.372+j8.879	9.888+j37.084
MATAMOROS	MTM-138	138.0	14.47	11.85	1.307+j5.350	1.766+j9.166	17.11	13.54	1.117+j4.998	1.759+j9.148
MATAMOROS	MTM-69	69.0	4.59	4.85	0.473+j8.668	0.147+j7.331	5.09	5.36	0.426+j8.598	0.147+j7.349
MATAMOROS POTENCIA	MMP-230	230.0	11.89	13.17	2.072+j10.974	1.186+j8.427	14.24	15.23	1.653+j10.122	1.225+j8.641
MATAMOROS POTENCIA	MMP-138	138.0	16.42	19.65	0.990+j4.751	0.281+j2.643	19.35	22.47	0.829+j4.452	0.285+j2.785
MATRIMAR	MTR-115	115.0	3.21	2.22	5.601+j19.884	15.858+j45.595	3.58	2.46	5.448+j19.671	15.846+j45.639
MAXITILE	MAX-138	138.0	6.81	6.30	2.815+j11.355	2.526+j14.397	8.31	7.40	2.258+j10.299	2.514+j14.252
MAYTAG	MYG-138	138.0	10.71	8.17	1.728+j7.238	2.992+j14.165	13.44	9.96	1.322+j6.388	2.798+j13.192
MESAS	MES-400	400.0	24.28	24.81	0.662+j9.488	0.527+j8.295	27.71	28.31	0.508+j9.152	0.504+j8.021
METALDYNE SINTERED COMPONENTS MÉXICO S. DE R.L. DE C.V.	MST-115	115.0	22.83	23.16	0.554+j2.855	0.400+j2.772	28.62	29.71	0.406+j2.519	0.326+j2.257
METALSA	MSA-115	115.0	21.41	17.49	0.507+j3.060	0.882+j5.115	31.51	22.74	0.367+j2.289	0.879+j4.925
METRO CUAUHTÉMOC	MCU-115	115.0	19.65	13.59	0.657+j3.314	1.564+j7.750	22.61	15.11	0.565+j3.180	1.576+j7.889
METRO LINCOLN	MLI-115	115.0	16.02	10.32	0.796+j4.067	2.427+j10.747	18.63	11.63	0.673+j3.863	2.426+j10.741
MEXICHEM FLUOR	MEF-138	138.0	10.62	7.84	1.849+j7.270	3.412+j15.282	12.32	8.85	1.659+j6.919	3.405+j15.264
MÉXICO	MEX-138	138.0	15.03	13.54	1.179+j5.170	1.503+j6.968	18.73	16.21	0.915+j4.589	1.486+j6.784
MEZQUITAL	MZQ-115	115.0	13.93	9.08	0.877+j4.685	2.687+j12.119	15.77	10.12	0.789+j4.563	2.686+j12.109
MEZQUITAL PROVISIONAL	MZP-115	115.0	13.81	8.82	0.884+j4.726	2.817+j12.662	15.63	9.83	0.795+j4.604	2.816+j12.652
MICARE	MCR-138	138.0	9.13	9.56	1.750+j8.548	1.286+j7.461	12.53	12.43	1.172+j6.897	1.250+j6.990
MICARE DOS	MDS-138	138.0	9.78	10.98	1.282+j8.041	0.639+j5.476	14.14	15.16	0.663+j6.163	0.559+j4.849
MIGUEL ALEMÁN	MIG-138	138.0	5.42	3.08	4.036+j14.145	12.475+j46.650	6.43	4.56	3.492+j13.185	5.937+j29.888
MINA TAYAHUA	MTU-115	115.0	1.28	0.75	16.881+j48.875	43.123+j155.403	1.42	0.83	16.699+j48.602	43.110+j155.353
MINERA	MIE-115	115.0	4.17	4.70	2.706+j15.672	1.668+j10.451	4.95	5.49	2.274+j14.570	1.656+j10.267
MINERA AUTLÁN	MIA-230	230.0	6.67	4.74	3.092+j19.662	10.750+j43.230	7.52	5.28	2.968+j19.206	10.735+j43.177
MIRAMAR	MID-115	115.0	19.09	17.29	0.548+j3.434	0.947+j4.511	21.84	19.60	0.521+j3.303	0.922+j4.440
MIRAMAR DOS	MMD-230	230.0	15.72	16.89	0.850+j8.405	0.860+j7.168	18.10	19.27	0.774+j8.031	0.833+j7.055
MIRAVALLE	MAV-115	115.0	23.12	18.31	0.510+j2.826	1.389+j4.962	26.51	20.61	0.433+j2.720	1.385+j4.951
MISIONES	MSI-115	115.0	10.07	6.83	1.524+j6.414	4.339+j15.396	11.34	7.63	1.428+j6.278	4.292+j15.270
MITRAS	MIT-115B2	115.0	23.53	18.71	0.478+j2.781	1.072+j4.886	26.89	21.01	0.407+j2.685	1.072+j4.884
MODELO	MOD-115	115.0	20.90	13.06	0.601+j3.120	1.847+j8.703	23.90	14.61	0.524+j3.011	1.846+j8.697
MODINE	MNE-138	138.0	8.06	7.92	2.513+j9.565	2.274+j10.168	9.92	9.40	2.010+j8.601	2.276+j10.064
MOLANGO	MOL-115	115.0	1.56	1.10	12.678+j40.615	35.789+j88.413	1.72	1.22	12.664+j40.587	35.783+j88.315
MOLINO	MLN-115	115.0	2.75	1.52	4.645+j23.696	18.747+j80.855	3.02	1.68	4.668+j23.750	18.736+j80.793
MONCLOVA	MON-230	230.0	10.17	11.00	2.052+j12.897	1.260+j10.215	12.47	13.12	1.500+j11.614	1.232+j10.014
MONCLOVA	MON-115	115.0	11.69	13.83	0.798+j5.623	0.212+j3.096	14.03	16.37	0.617+j5.170	0.201+j2.998
MONTE KRISTAL	MKL-115	115.0	9.48	5.78	1.344+j6.871	4.350+j19.976	10.68	6.43	1.255+j6.720	4.342+j19.921
MONTEMORELOS	MTN-115	115.0	3.61	2.55	3.735+j17.998	9.029+j40.485	4.01	2.81	3.640+j17.838	9.028+j40.461
MONTERREY	MTY-115	115.0	28.11	14.94	0.344+j2.337	1.488+j8.483	52.52	19.65	0.212+j1.374	1.482+j8.239
MONTERREY POTENCIA SF6	MTP-400	400.0	25.99	27.51	2.251+j8.595	0.831+j7.451	37.95	37.48	1.241+j6.578	0.764+j6.943
MONTERREY POTENCIA SF6	MTP-115	115.0	37.25	36.47	0.301+j1.757	0.138+j1.900	54.81	50.19	0.201+j1.317	0.127+j1.702



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MONTERREY POTENCIA SF6 (BUS B)	MTP-115B	115.0	28.67	29.50	0.335+j2.291	0.108+j2.128	54.35	47.98	0.203+j1.328	0.102+j1.885
MONTOI	MTI-115	115.0	18.56	9.18	0.636+j3.520	2.996+j14.243	21.15	10.23	0.558+j3.407	2.988+j14.215
MORELOS	MRL-115	115.0	11.15	6.57	0.986+j5.874	3.934+j18.021	12.84	7.36	0.854+j5.622	3.933+j17.994
MÚNICH	MUN-115	115.0	9.55	6.64	0.981+j6.883	3.128+j15.815	10.67	7.35	0.903+j6.783	3.130+j15.827
MUSEO	MSO-115	115.0	9.48	7.04	1.405+j6.861	3.226+j13.957	10.61	7.83	1.355+j6.749	3.263+j13.860
NARANJOS	NRJ-115	115.0	3.26	1.98	5.123+j19.715	22.674+j55.813	3.63	2.19	5.046+j19.474	22.664+j55.740
NARCISO MENDOZA	NMZ-138	138.0	6.71	5.92	2.964+j11.506	3.296+j16.302	8.15	6.92	2.407+j10.477	3.295+j16.188
NAVA	NAV-230	230.0	9.06	9.65	2.625+j14.428	1.915+j11.883	16.12	15.67	0.991+j9.009	1.688+j9.504
NAVA	NAV-138	138.0	9.00	10.19	1.520+j8.719	0.666+j5.747	12.68	13.83	0.890+j6.853	0.583+j5.095
NAVIDAD	NVD-115	115.0	1.71	1.79	12.053+j37.004	7.351+j32.917	2.10	2.13	9.717+j33.415	7.281+j32.490
NAVISTAR	NAS-115	115.0	14.40	9.13	0.826+j4.535	2.561+j12.333	16.27	10.16	0.750+j4.425	2.561+j12.331
NEMAK	NEK-115	115.0	15.73	12.79	0.598+j4.180	1.538+j6.964	17.57	14.21	0.546+j4.120	1.531+j6.941
NGM CERÁMICA	NGM-115	115.0	13.18	6.87	0.993+j4.939	4.067+j18.498	14.91	7.63	0.895+j4.817	4.067+j18.495
NOGALAR	NOG-115	115.0	33.76	30.59	0.401+j1.925	0.357+j2.562	40.31	35.35	0.313+j1.785	0.354+j2.554
NOKIA	NOK-138	138.0	14.99	10.81	1.213+j5.174	2.598+j11.270	18.56	12.74	0.939+j4.626	2.524+j10.974
NORTE	NRE-138	138.0	10.26	7.30	1.876+j7.534	3.959+j16.810	12.15	8.44	1.611+j7.030	3.831+j16.347
NUEVA CASTILLA	NUC-115	115.0	11.63	5.87	1.044+j5.611	4.569+j22.036	13.09	6.52	0.963+j5.496	4.553+j21.982
NUEVA ESCOBEDO	NUE-115	115.0	24.33	19.60	0.444+j2.693	0.713+j4.649	27.96	22.07	0.369+j2.586	0.713+j4.649
NUEVA ROSITA	NUR-230	230.0	5.51	6.06	4.708+j23.635	1.743+j17.617	7.43	7.75	3.192+j19.389	1.734+j17.084
NUEVA ROSITA	NUR-115	115.0	6.80	8.42	1.481+j9.645	0.242+j4.169	8.49	10.33	1.054+j8.537	0.231+j3.985
NUEVO LAREDO	NUL-138	138.0	8.32	8.33	2.430+j9.266	2.065+j9.344	10.27	9.91	1.931+j8.309	2.066+j9.240
NUEVO PROGRESO	NVP-138	138.0	9.48	7.01	2.139+j8.131	3.960+j16.963	11.87	8.74	1.702+j7.187	3.557+j15.067
NUEVO SANTANDER	NST-115	115.0	6.93	6.36	1.647+j9.435	2.114+j11.968	7.64	6.98	1.623+j9.416	2.151+j12.108
NUNCIOS	NUN-115	115.0	16.85	12.53	0.748+j3.867	1.530+j7.882	20.59	15.16	0.592+j3.498	1.420+j7.230
NUTEC FIBRATEC S.A. DE C.V.	NUF-115	115.0	17.95	14.67	0.812+j3.609	1.469+j6.015	21.30	16.92	0.685+j3.359	1.466+j5.921
OBISPADO	OBI-115	115.0	19.26	0.97	0.627+j3.391	45.141+j192.303	21.98	1.07	0.545+j3.278	45.131+j192.279
OBRA DE TOMA	ODT-115	115.0	1.76	1.19	12.849+j35.465	31.951+j85.725	1.94	1.31	12.825+j35.446	31.990+j85.868
OJO CALIENTE	OJC-138	138.0	7.04	6.41	2.772+j10.967	2.825+j14.448	8.61	7.52	2.219+j9.937	2.826+j14.337
OLIVO	OVO-115	115.0	9.49	8.08	1.072+j6.912	2.506+j10.382	10.49	8.93	1.044+j6.881	2.510+j10.349
ORIENTE	OTE-138	138.0	13.04	11.90	1.412+j5.946	1.270+j7.963	15.16	13.55	1.238+j5.647	1.254+j7.900
ORIÓN	ORN-115	115.0	23.94	13.43	0.508+j2.726	2.148+j9.047	27.63	15.05	0.424+j2.609	2.142+j9.032
ORIZATLAN	ORZ-138	138.0	12.19	9.71	1.470+j6.367	2.336+j11.404	15.34	11.79	1.108+j5.605	2.222+j10.773
OXFORD	OXF-115	115.0	15.07	11.21	0.767+j4.338	1.766+j8.798	18.16	13.37	0.613+j3.976	1.664+j8.186
OZULUAMA	OZL-115	115.0	3.29	2.16	5.274+j19.454	19.959+j48.148	3.66	2.39	5.224+j19.285	19.947+j48.081
P. IND. COLONIAL	PIC-138	138.0	10.74	8.18	1.718+j7.214	2.989+j14.184	13.51	10.01	1.306+j6.352	2.781+j13.160
P. IND. PUENTE	PIP-138	138.0	9.80	7.29	2.046+j7.864	3.990+j16.137	12.03	8.67	1.689+j7.088	3.855+j15.399
P.I. DEL NORTE	INO1-138	138.0	13.79	10.03	1.363+j5.615	2.830+j12.034	16.89	11.73	1.090+j5.072	2.768+j11.774
P.I. SANTA MARÍA	PSM-115	115.0	21.68	19.49	0.512+j3.019	0.689+j4.050	27.25	24.79	0.358+j2.656	0.588+j3.438
PANUCO	PAN-115	115.0	4.93	2.50	2.109+j13.294	11.494+j52.325	5.38	2.75	2.151+j13.405	11.479+j52.250
PARQUE DE INVESTIGACIONES E INNOVACIÓN TECNOLÓGICA	IIT-115	115.0	9.92	7.43	0.873+j6.638	2.644+j13.162	11.81	8.63	0.710+j6.145	2.619+j12.819



**Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Noreste**

Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
PARQUE EÓLICO VICENTE GUERRERO	VIG-115	115.0	7.17	7.70	1.431+j9.144	0.783+j7.344	7.91	8.56	1.405+j9.125	0.744+j7.107
PARQUE IND. ACUÑA	PIU-138	138.0	6.54	6.84	2.115+j12.003	1.428+j10.499	8.69	8.94	1.455+j9.976	1.301+j9.132
PARQUE INDL. ESTRELLA	EST-115	115.0	14.89	8.05	0.895+j4.367	3.353+j15.464	16.91	8.96	0.797+j4.246	3.353+j15.461
PARQUE INDUSTRIAL	PAI-138	138.0	13.43	11.49	1.299+j5.787	1.658+j8.876	17.02	14.04	0.955+j5.060	1.585+j8.396
PARQUE INDUSTRIAL AMISTAD-AEROPUERTO	PIA-115	115.0	10.50	7.32	1.115+j6.222	3.004+j14.252	12.17	8.34	0.972+j5.920	2.973+j13.970
PARQUE INDUSTRIAL APODACA TECHNOLOGY PARK	PQT-115	115.0	11.98	8.06	0.905+j5.466	2.936+j13.340	13.52	8.97	0.816+j5.341	2.933+j13.325
PARQUE INDUSTRIAL DEL NORTE	INO2-138	138.0	13.78	10.03	1.363+j5.617	2.831+j12.036	16.89	11.73	1.091+j5.073	2.769+j11.776
PARQUE INDUSTRIAL ESCOBEDO	PIE-115	115.0	17.95	14.29	0.587+j3.653	1.263+j6.422	20.41	16.00	0.508+j3.542	1.262+j6.419
PARQUE INDUSTRIAL LA SILLA	SIA-115	115.0	12.98	9.00	0.868+j5.039	2.598+j11.622	15.50	10.36	0.729+j4.654	2.589+j11.456
PARQUE INDUSTRIAL MONTERREY - APODACA	PMA-115	115.0	17.06	12.12	0.777+j3.813	1.683+j8.490	20.86	14.06	0.665+j3.438	1.682+j8.419
PARQUE INDUSTRIAL ORADEL	PIO-138	138.0	7.49	7.54	2.584+j10.313	1.835+j10.329	9.24	8.97	2.038+j9.263	1.818+j10.180
PARQUE INDUSTRIAL SALTILLO RAMOS ARIZPE	ISR1-115	115.0	21.77	20.82	0.596+j2.991	0.565+j3.434	26.97	25.48	0.451+j2.671	0.555+j3.144
PARQUE INDUSTRIAL SALTILLO RAMOS ARIZPE	ISR2-115	115.0	16.80	13.18	0.623+j3.904	1.563+j7.058	20.10	15.39	0.482+j3.601	1.534+j6.825
PEMEX	PEM-115	115.0	34.63	27.23	0.351+j1.885	0.589+j3.432	46.53	36.48	0.262+j1.548	0.470+j2.831
PEMEX CADEREYTA	PCD-230	230.0	9.43	9.03	2.467+j13.871	2.652+j15.739	12.06	10.98	1.755+j11.984	2.610+j15.465
PEMEX CRIOGÉNICA	PXC-138	138.0	7.55	5.05	2.184+j10.321	5.434+j25.719	9.11	6.69	1.782+j9.455	3.310+j19.876
PEMEX NARANJOS	PMX-115	115.0	3.13	1.91	5.354+j20.523	23.519+j57.735	3.48	2.11	5.278+j20.282	23.510+j57.662
PEMEX-REFINERÍA	PRF-115	115.0	7.99	4.01	1.441+j8.183	8.605+j31.953	9.94	5.86	1.124+j7.260	4.216+j22.295
PERFILES	PFS-115	115.0	21.13	17.13	0.516+j3.099	0.923+j5.270	30.82	22.13	0.376+j2.340	0.920+j5.084
PERIFERICO	PRO-115	115.0	10.52	16.75	0.819+j6.256	0.012+j-0.739	11.75	18.72	0.752+j6.170	0.012+j-0.739
PESQUERÍA	PQA-115	115.0	17.41	13.46	0.617+j3.763	1.392+j7.046	19.89	15.16	0.543+j3.631	1.385+j6.986
PETROCEL	GPT-115	115.0	15.07	13.14	0.880+j4.317	2.109+j6.060	17.36	15.40	0.828+j4.125	1.810+j5.590
PETROLERA	PER-138	138.0	14.12	12.77	1.196+j5.515	1.419+j7.386	17.24	15.00	0.936+j4.998	1.411+j7.296
PEÑOLES	PÑL-115	115.0	18.17	14.95	0.804+j3.565	1.433+j5.857	21.59	17.26	0.676+j3.315	1.430+j5.762
PHEPS DODGE	PHD-115	115.0	11.86	5.92	1.119+j5.487	4.838+j21.901	13.37	6.57	1.021+j5.366	4.838+j21.898
PIEDRAS NEGRAS	PNE-138	138.0	8.80	8.69	1.762+j8.884	1.506+j9.309	11.95	11.06	1.169+j7.243	1.479+j8.927
PIEDRAS NEGRAS POTENCIA	PNG-230	230.0	8.22	8.48	2.808+j15.910	2.258+j14.553	13.33	12.44	1.246+j10.888	2.173+j12.958
PIEDRAS NEGRAS POTENCIA	PNG-138	138.0	9.96	10.99	1.431+j7.869	0.671+j5.748	13.97	14.61	0.844+j6.216	0.641+j5.350
PLANTA	PTA-138	138.0	13.18	7.77	1.426+j5.872	3.431+j18.546	15.44	8.76	1.241+j5.540	3.417+j18.492
PLANTA BOMBEO DOS	PBD-115	115.0	11.35	9.98	1.015+j5.760	2.051+j8.019	13.08	11.31	0.888+j5.512	2.043+j7.973
PLANTA BOMBEO UNO	PBU-115	115.0	5.44	4.18	2.288+j11.988	8.042+j21.923	6.12	4.66	2.154+j11.734	8.030+j21.870
PLANTA DE AGUAS RESIDUALES NORTE	RNO-115	115.0	19.62	13.02	0.545+j3.341	1.562+j8.393	22.43	14.58	0.464+j3.223	1.557+j8.375
PLANTA DE BOMBEO 0	PB0-115	115.0	2.85	1.98	4.599+j22.839	19.474+j50.701	3.17	2.19	4.461+j22.590	19.463+j50.647
PLANTA DE BOMBEO LA SILLA	PBS-115	115.0	14.41	9.33	0.856+j4.528	2.517+j11.870	16.41	10.46	0.768+j4.383	2.495+j11.795
PLANTA DE BOMBEO SAN ROQUE DE AYD	PBR-115	115.0	14.07	9.06	0.876+j4.637	2.621+j12.262	16.02	10.15	0.789+j4.490	2.605+j12.196
PLANTA DE BOMBEO SANTA ROSA APODACA	PBA-115	115.0	12.67	8.62	0.844+j5.173	2.718+j12.339	14.31	9.61	0.756+j5.048	2.715+j12.324
PLANTA DUPONT	DUT-115	115.0	17.02	14.96	0.760+j3.827	0.961+j5.568	19.31	16.76	0.737+j3.709	0.961+j5.559
PLANTA EL SALTO	STO-115	115.0	2.44	2.27	9.228+j25.631	8.458+j32.466	3.04	3.22	7.224+j22.946	3.376+j19.845
PLANTA FALCÓN	PFA-115	115.0	4.23	5.05	2.995+j15.396	0.279+j8.151	4.86	5.72	2.550+j14.803	0.290+j8.358
PLAYA	PLY-115	115.0	7.97	5.26	1.161+j8.244	4.748+j20.784	9.18	6.03	1.058+j7.885	4.507+j20.028



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			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
PLAZA SF6	PZA-400	400.0	18.80	17.94	2.551+j12.018	2.013+j13.980	24.22	22.52	1.577+j10.368	1.705+j12.788
PLAZA SF6	PZA-115	115.0	35.32	32.52	0.381+j1.841	0.244+j2.365	42.22	32.93	0.290+j1.705	0.375+j3.178
POLARIS	POI-115	115.0	16.11	13.37	0.585+j4.079	1.259+j6.550	20.23	16.23	0.422+j3.586	1.234+j6.207
POLICYD	PLC-115	115.0	19.18	18.49	0.626+j3.405	0.990+j3.778	21.86	20.81	0.600+j3.286	0.990+j3.778
POLVORÍN	POL-115	115.0	16.99	14.92	0.688+j3.846	1.222+j5.457	20.75	18.09	0.574+j3.473	1.065+j5.011
POSCO DE MÉXICO	PCO-115	115.0	21.64	15.96	0.417+j3.040	1.317+j6.239	25.55	20.11	0.370+j2.835	0.917+j5.142
PRAX AIR	PAX-115	115.0	25.72	19.81	0.534+j2.526	0.867+j4.820	30.04	22.47	0.446+j2.390	0.865+j4.817
PRIMEX	PRX-115	115.0	17.62	26.53	0.667+j3.709	0.000+j0.000	19.74	29.76	0.671+j3.638	0.000+j0.000
PROEZA GREDE	PGR-115	115.0	19.70	15.74	0.589+j3.319	1.923+j5.635	22.45	17.65	0.513+j3.212	1.923+j5.636
PROLAMSA	POM-115	115.0	17.21	8.47	0.680+j3.797	3.151+j15.491	19.58	9.44	0.599+j3.682	3.136+j15.439
PROLEC	PLE-115	115.0	17.05	11.83	0.722+j3.826	1.985+j8.839	19.45	13.24	0.634+j3.701	1.983+j8.831
PROLEC PARTICULAR	PLP-115	115.0	20.12	15.72	0.561+j3.251	1.097+j5.973	28.40	19.84	0.422+j2.536	1.094+j5.800
PROLOGIS	POG-138	138.0	11.11	8.66	1.662+j6.979	2.732+j13.056	13.92	10.52	1.275+j6.167	2.580+j12.254
PROLOGIS-APODACA	PLG-115	115.0	19.41	14.53	0.618+j3.364	1.339+j6.744	22.79	16.54	0.531+j3.160	1.338+j6.712
PROPARK	PPK-115	115.0	6.17	3.86	2.021+j10.562	6.967+j29.317	7.06	4.33	1.881+j10.179	6.958+j29.151
PROPASA	PDP-115	115.0	16.54	12.93	0.663+j3.958	1.494+j7.226	24.14	16.59	0.517+j2.981	1.492+j7.004
PTA BOMBEO CUATRO	PBC-115	115.0	25.34	19.14	0.408+j2.588	0.922+j5.090	30.35	22.05	0.306+j2.387	0.919+j5.049
PTA DE TRATAMIENTO DE AGUAS RESIDUALES NORESTE	RNE-115	115.0	11.19	7.43	0.970+j5.851	3.214+j14.624	12.61	8.26	0.882+j5.726	3.211+j14.609
PTA. BOMBEO TRES	PBT-115	115.0	10.23	6.71	1.166+j6.383	4.601+j16.083	11.67	7.51	1.056+j6.170	4.598+j16.051
PUENTE INTERNACIONAL	PUI-138	138.0	7.88	6.90	1.968+j9.920	2.735+j14.193	10.43	8.51	1.373+j8.286	2.706+j13.784
PUENTES (1)	PTS-115B2	115.0	14.47	7.74	0.744+j4.529	3.250+j16.253	20.18	9.30	0.606+j3.568	3.244+j16.010
PUENTES (2)	PTS-115B1	115.0	13.72	9.67	0.810+j4.770	1.980+j10.743	18.88	11.90	0.670+j3.810	1.974+j10.499
PUERTO	PUO-115	115.0	25.64	19.00	0.305+j2.572	1.029+j5.239	30.52	23.18	0.262+j2.379	0.837+j4.639
PUERTO ALTAMIRA ELÉCTRICA	PAE-400	400.0	22.36	25.97	0.816+j10.298	0.850+j6.173	36.14	44.22	0.357+j7.020	0.393+j3.925
PUERTO ALTAMIRA ELÉCTRICA	PAE-115	115.0	27.35	20.56	0.267+j2.413	0.912+j4.779	32.73	25.34	0.225+j2.220	0.719+j4.171
Providencia	PVD-115	115.0	9.41	6.96	1.366+j6.925	3.273+j14.147	10.52	7.75	1.318+j6.814	3.309+j14.056
QUÍMICA FLUOR	QFL-138	138.0	10.62	7.84	1.850+j7.269	3.412+j15.282	12.32	8.85	1.659+j6.918	3.405+j15.264
RAMOS ARIZPE	RRA-115	115.0	21.28	18.98	0.635+j3.055	0.796+j4.191	25.97	22.57	0.497+j2.767	0.788+j4.017
RAMOS ARIZPE POTENCIA	RAP-400	400.0	22.29	20.08	1.954+j10.177	2.531+j13.604	28.57	24.64	1.153+j8.817	2.267+j12.994
RAMOS ARIZPE POTENCIA	RAP-115	115.0	28.57	29.38	0.420+j2.285	0.227+j2.138	37.82	41.02	0.267+j1.913	0.117+j1.487
RASSINI	RNI-138	138.0	7.12	5.64	2.357+j10.937	4.093+j19.575	9.26	6.81	1.761+j9.299	4.066+j19.194
RAYÓN	RAY-115	115.0	2.41	1.57	7.947+j26.390	24.533+j67.809	2.66	1.73	7.892+j26.288	24.570+j67.709
REAL DE PALMAS	RDP-115	115.0	18.41	13.16	0.609+j3.554	1.575+j7.779	21.12	14.77	0.512+j3.420	1.574+j7.770
REBOMBEO I	RBU-115	115.0	2.83	1.99	7.901+j22.116	17.101+j50.405	3.11	2.18	7.877+j22.097	17.140+j50.547
REBOMBEO II	RBD-115	115.0	4.13	3.14	4.569+j15.411	9.101+j29.973	4.55	3.45	4.545+j15.392	9.139+j30.114
REFINERÍA MADERO	RMA-115	115.0	12.57	9.34	0.945+j5.195	2.337+j10.558	15.91	12.09	0.733+j4.532	1.733+j8.818
REGIDORES	RGS-115	115.0	9.03	6.57	1.166+j7.259	3.120+j15.354	10.52	7.44	0.999+j6.872	3.117+j15.295
REYNOSA	REY-138	138.0	15.38	13.83	1.115+j5.060	1.244+j6.892	18.93	16.42	0.854+j4.551	1.212+j6.705
REYNOSA CENTRO	RYC-138	138.0	11.50	9.36	1.532+j6.760	2.521+j11.482	13.78	10.81	1.277+j6.230	2.518+j11.393
RHEEM	RHM-138	138.0	8.06	7.92	2.513+j9.565	2.274+j10.168	9.92	9.40	2.010+j8.601	2.276+j10.064



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
RICSA	RIS-138	138.0	10.40	7.81	1.909+j7.419	3.675+j14.923	12.70	9.22	1.586+j6.718	3.582+j14.371
RIEL	RIE-115	115.0	26.98	18.75	0.484+j2.413	1.100+j5.600	32.26	21.77	0.397+j2.229	1.072+j5.435
RIO	RIO-115	115.0	24.59	18.17	0.538+j2.646	0.936+j5.491	28.63	19.07	0.447+j2.512	1.067+j6.304
RIO BRAVO	RIB-230	230.0	13.04	12.25	1.912+j10.004	2.334+j12.232	18.72	19.73	1.023+j7.737	0.724+j6.731
RIO BRAVO	RIB-138	138.0	15.62	15.13	1.169+j4.964	0.815+j5.652	22.48	24.64	0.664+j3.842	0.243+j3.075
RIO BRAVO III	RBT-400	400.0	11.03	13.09	2.736+j20.750	0.869+j12.623	16.25	19.70	1.280+j15.585	0.441+j8.304
RIO BRAVO IV	RBC-400	400.0	11.11	13.21	2.718+j20.603	0.814+j12.443	16.22	19.69	1.282+j15.605	0.441+j8.304
RIO BRAVO PONIENTE	RBP-138	138.0	11.70	9.09	1.517+j6.641	2.304+j12.568	15.23	11.81	1.061+j5.654	1.902+j10.768
RIO ESCONDIDO	REC-400	400.0	8.72	8.56	4.508+j26.097	3.488+j28.103	23.04	26.75	0.689+j11.004	0.454+j6.774
RIO ESCONDIDO	REC-230	230.0	10.80	12.96	2.154+j12.104	0.587+j6.223	22.82	27.77	0.501+j6.381	0.120+j2.772
RIO ESCONDIDO	REC-138	138.0	10.09	11.87	1.192+j7.803	0.293+j4.391	14.73	16.72	0.575+j5.923	0.209+j3.753
RIO SALADO	SDO-138	138.0	3.73	2.50	5.631+j20.593	13.668+j51.023	4.33	3.74	5.105+j19.604	5.227+j29.431
RÍO VERDE	RVE-115	115.0	2.19	1.35	8.848+j29.031	27.013+j82.373	2.42	1.49	8.792+j28.933	27.049+j82.273
ROCKWELL	ROW-115	115.0	16.36	11.68	0.697+j3.999	1.692+j8.761	18.82	13.23	0.639+j3.828	1.681+j8.630
SABINAS	SAB-115	115.0	4.57	3.73	2.953+j14.227	5.351+j23.711	5.55	4.34	2.412+j12.936	5.340+j23.526
SABINAS HIDALGO	SAH-115	115.0	1.94	2.05	10.495+j32.640	2.792+j29.133	2.14	2.27	10.371+j32.486	2.717+j28.599
SALITRILLO	SLT-115	115.0	4.41	3.59	2.886+j14.792	8.295+j24.107	4.91	3.98	2.805+j14.623	8.293+j24.078
SALITRILLOS	SLT-138	138.0	5.76	7.10	1.801+j13.710	0.976+j6.026	6.57	8.05	1.590+j13.241	0.989+j5.998
SALTILLO	SAL-230	230.0	12.39	13.53	1.919+j10.544	0.922+j8.013	14.54	15.63	1.535+j9.929	0.917+j7.921
SALTILLO	SAL-115	115.0	23.91	25.70	0.565+j2.718	0.224+j2.206	28.46	30.01	0.454+j2.526	0.221+j2.169
SAN AGUSTÍN	AUS-115	115.0	25.61	19.95	0.506+j2.543	0.891+j4.719	29.90	21.08	0.414+j2.407	0.995+j5.420
SAN BARTOLO	SBT-115	115.0	1.11	0.89	14.051+j58.235	41.402+j96.999	1.23	0.98	13.921+j57.894	41.384+j96.871
SAN BERNABÉ	BER-115	115.0	15.88	10.79	0.759+j4.112	2.125+j9.870	17.94	12.02	0.686+j4.014	2.125+j9.868
SAN CARLOS POTENCIA	SCP-400	400.0	8.32	7.43	3.064+j27.577	5.661+j37.459	9.58	8.43	2.520+j26.401	5.578+j37.014
SAN CRISTOBAL	CRB-138	138.0	10.35	7.63	1.644+j7.524	3.349+j15.650	12.56	9.52	1.316+j6.850	2.558+j13.481
SAN FERNANDO	FDO-115	115.0	1.22	0.58	14.120+j52.521	78.281+j220.240	1.33	0.64	14.278+j52.876	78.271+j220.157
SAN JORGE	JOR-115	115.0	18.34	12.03	0.706+j3.551	1.891+j9.121	21.33	13.57	0.592+j3.373	1.887+j9.109
SAN JUAN	JAN-115	115.0	6.17	4.05	2.091+j10.550	6.871+j26.776	7.17	4.60	1.905+j10.007	6.845+j26.432
SAN MARCOS	MCO-115	115.0	7.45	4.97	1.602+j8.763	4.904+j21.730	8.76	5.68	1.417+j8.218	4.878+j21.386
SAN MARTIN	SMA-115	115.0	11.29	7.62	0.918+j5.810	2.358+j14.199	12.67	8.45	0.840+j5.701	2.358+j14.197
SAN NICOLÁS	NIC-400	400.0	23.74	23.49	2.343+j9.443	1.597+j9.940	32.74	30.02	1.405+j7.630	1.600+j9.749
SAN NICOLÁS	NIC-115	115.0	33.36	30.65	0.345+j1.960	0.221+j2.517	39.26	35.06	0.264+j1.842	0.223+j2.523
SAN NICOLÁS (BUS B)	NIC-115B	115.0	25.90	25.45	0.373+j2.537	0.213+j2.698	29.78	28.76	0.296+j2.434	0.214+j2.709
SAN ROBERTO	RBO-115	115.0	0.89	0.95	33.807+j66.562	20.638+j56.580	1.06	1.11	30.070+j62.143	20.532+j56.090
SAN ROQUE	ROQ-115B	115.0	18.36	12.45	0.674+j3.553	1.846+j8.568	21.16	14.05	0.589+j3.401	1.836+j8.506
SANDOVAL	SDV-138	138.0	8.62	7.05	2.401+j8.928	3.442+j15.174	10.06	8.04	2.153+j8.444	3.413+j15.032
SANTA AMALIA TAMAULIPAS	AAT-115	115.0	20.86	21.19	0.457+j3.151	0.473+j3.037	23.77	23.91	0.437+j3.041	0.470+j3.027
SANTA CATARINA	CAT-115	115.0	11.30	8.48	1.113+j5.769	2.870+j11.374	12.74	9.45	1.025+j5.642	2.872+j11.366
SANTA CRUZ	STZ-115	115.0	20.05	14.93	0.550+j3.266	1.265+j6.598	23.38	17.09	0.485+j3.086	1.249+j6.455
SANTA ELENA	STE-115	115.0	10.57	6.74	0.960+j6.209	3.693+j16.595	11.90	7.49	0.864+j6.075	3.692+j16.585



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SANTANDER	SNT-138	138.0	16.47	15.83	0.991+j4.734	0.875+j5.438	20.53	19.02	0.727+j4.207	0.846+j5.281
SANTO DOMINGO	DON-400	400.0	24.50	24.42	2.439+j9.104	1.412+j9.480	34.69	31.94	1.462+j7.176	1.387+j9.134
SANTO DOMINGO	DON-115	115.0	39.10	40.40	0.352+j1.661	0.113+j1.544	47.09	47.18	0.264+j1.528	0.111+j1.547
SANTO DOMINGO VIEJO PROVISIONAL	DVP-115	115.0	18.12	14.46	0.600+j3.616	1.329+j6.309	27.20	18.91	0.457+j2.646	1.326+j6.081
SELLO ROJO	SER-115	115.0	4.76	3.39	2.373+j13.753	6.982+j30.157	5.46	4.13	2.153+j13.196	5.189+j25.806
SENDERO NACIONAL	SEN-138	138.0	11.74	9.06	1.546+j6.608	2.476+j12.754	13.66	10.23	1.360+j6.270	2.473+j12.777
SERVER	SVR-115	115.0	10.09	5.48	1.284+j6.455	5.811+j22.500	11.62	6.13	1.145+j6.180	5.809+j22.470
SIDERÚRGICA	SIG-138	138.0	12.98	10.47	1.400+j5.976	2.022+j10.543	15.21	11.88	1.215+j5.634	2.018+j10.559
SIDERÚRGICA DEL GOLFO S.A.	SGA-230	230.0	9.64	7.89	2.348+j13.569	4.790+j22.773	12.81	10.91	1.450+j11.310	3.180+j17.271
SIECOR	SIE-138	138.0	14.08	10.21	1.324+j5.502	2.774+j11.858	17.29	11.97	1.050+j4.958	2.709+j11.586
SINÁI	SIN-138	138.0	12.74	10.14	1.354+j6.106	2.251+j10.918	15.64	12.44	1.056+j5.502	1.878+j9.824
SOLIDARIDAD	SRD-115	115.0	15.15	10.20	0.783+j4.312	2.282+j10.527	17.10	11.35	0.709+j4.212	2.282+j10.526
SORIANA CEDIS	SOC-115	115.0	13.94	7.89	0.939+j4.670	3.329+j15.356	15.79	8.78	0.842+j4.549	3.329+j15.355
SOTO LA MARINA	SOT-115	115.0	1.05	0.70	20.714+j59.624	58.819+j145.525	1.16	0.77	20.691+j59.606	58.860+j145.669
SPARTECH	SEH-115	115.0	14.70	10.83	0.788+j4.448	1.855+j9.194	17.66	12.88	0.634+j4.086	1.754+j8.581
STIVA	STV-115	115.0	16.50	12.20	0.688+j3.964	1.804+j8.084	20.25	14.33	0.547+j3.564	1.794+j7.904
TAMALIN	TLN-115	115.0	2.99	1.87	5.808+j21.457	23.015+j57.585	3.32	2.07	5.747+j21.260	23.005+j57.520
TAMAULIPAS	TAM-115	115.0	14.31	11.15	0.855+j4.560	2.276+j8.347	16.73	12.85	0.785+j4.294	2.218+j8.088
TAMAZUNCHALE 115	TZE-115	115.0	6.80	5.23	1.816+j9.592	3.784+j18.160	7.46	5.75	1.813+j9.625	3.778+j18.085
TAMAZUNCHALE 400	TMH-400	400.0	24.03	24.75	0.668+j9.588	0.455+j8.143	27.38	28.22	0.519+j9.262	0.431+j7.859
TAMBACA	TBC-115	115.0	3.32	2.25	5.440+j19.214	16.673+j45.785	3.68	2.48	5.386+j19.108	16.710+j45.687
TAMOS	TMO-400	400.0	17.65	17.94	1.202+j13.031	3.036+j12.374	23.55	22.46	0.796+j10.760	3.024+j12.331
TAMOS	TMO-115	115.0	20.40	18.75	0.476+j3.220	0.677+j4.116	23.61	21.48	0.437+j3.062	0.656+j4.016
TAMPICO	TPC-230	230.0	15.55	15.71	0.957+j8.487	1.423+j8.558	18.05	17.93	0.857+j8.049	1.410+j8.513
TAMPICO	TPC-115	115.0	26.33	28.54	0.363+j2.495	0.272+j1.995	30.80	32.96	0.328+j2.348	0.265+j1.960
TAMPIQUITO	TPQ-115	115.0	25.26	18.34	0.460+j2.588	0.940+j5.529	29.17	20.67	0.378+j2.475	0.934+j5.514
TAMUÍN DOS	TMD-115	115.0	4.86	2.99	2.668+j13.385	9.749+j38.231	5.40	3.30	2.628+j13.272	9.766+j38.180
TANCOL	TCL-115	115.0	16.72	14.34	0.658+j3.915	1.859+j5.763	19.14	16.17	0.621+j3.765	1.853+j5.728
TECHNOCAST	THC-115	115.0	14.21	10.21	0.786+j4.605	2.056+j9.976	17.06	12.12	0.630+j4.235	1.946+j9.323
TECNOLÓGICO POTENCIA SF6	TEC-400	400.0	18.27	17.13	2.670+j12.354	2.144+j15.104	23.55	21.39	1.668+j10.656	1.865+j13.980
TECNOLÓGICO POTENCIA SF6	TEC-115	115.0	36.85	34.58	0.372+j1.763	0.234+j2.155	44.39	41.17	0.278+j1.622	0.187+j2.030
TEKSID	TKS-115	115.0	8.62	7.85	1.105+j7.623	1.774+j9.851	9.98	8.92	0.947+j7.259	1.771+j9.789
TELEFLEX	TLX-138	138.0	7.47	7.08	2.358+j10.399	2.093+j12.299	9.19	8.36	1.814+j9.361	2.095+j12.193
TEMPOAL II	TED-115	115.0	2.45	1.52	6.017+j26.415	17.946+j74.524	2.70	1.68	6.011+j26.401	17.941+j74.456
TERNIUM MANIOBRAS	TNM-400	400.0	11.79	8.74	2.680+j19.409	7.770+j39.462	15.79	11.83	1.409+j16.028	5.973+j31.893
TEXTILERAS	TXE-115	115.0	16.20	12.97	0.655+j4.046	1.535+j7.047	18.42	14.54	0.627+j3.916	1.525+j7.019
TIERRA NUEVA	TNA-115	115.0	6.73	4.90	3.047+j9.376	6.785+j19.852	7.45	5.41	3.011+j9.328	6.772+j19.766
TOMASEÑO	TSN-115	115.0	2.92	1.79	6.885+j21.674	22.580+j61.774	3.23	1.98	6.806+j21.536	22.388+j61.304
TOPO CHICO	THO-115	115.0	20.85	16.12	0.606+j3.126	1.037+j5.899	23.92	18.12	0.524+j3.008	1.037+j5.900
TOSHIBA	TOS-115	115.0	11.86	5.92	1.119+j5.488	4.838+j21.901	13.37	6.57	1.021+j5.367	4.838+j21.898



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
TRANE	TNE-115	115.0	16.50	12.20	0.688+j3.964	1.804+j8.084	20.25	14.33	0.547+j3.564	1.794+j7.904
TRES MESAS MANIOBRAS	TMS-400	400.0	8.73	6.34	2.722+j26.299	11.880+j55.344	10.13	7.20	2.350+j24.956	11.819+j54.917
TRIARA II	TII-115	115.0	18.06	13.51	0.703+j3.608	1.350+j7.268	21.50	15.49	0.608+j3.342	1.350+j7.226
TRICO COMPTS.	TCO-138	138.0	12.12	9.53	1.475+j6.405	2.297+j11.897	14.13	10.78	1.290+j6.065	2.294+j11.921
TUBACERO MONTERREY	TBM-115	115.0	17.26	13.67	0.632+j3.795	1.398+j6.737	25.52	17.70	0.487+j2.820	1.396+j6.513
UCAR	UCA-230	230.0	14.37	12.10	1.695+j9.086	3.392+j14.076	17.91	14.43	1.221+j8.063	3.357+j13.723
UNIDAD DEPORTIVA	UDP-138	138.0	7.44	7.03	2.699+j10.366	3.226+j12.175	9.12	8.30	2.172+j9.356	3.221+j12.050
UNIVERSIDAD	UNI-115	115.0	15.90	10.30	0.826+j4.093	2.567+j10.683	18.73	11.68	0.677+j3.839	2.565+j10.673
UNIVERSIDAD SACH	UNT-115	115.0	15.95	12.62	0.719+j4.101	1.576+j7.353	18.93	14.71	0.632+j3.805	1.487+j7.085
VALADECES	VDL-138	138.0	6.74	4.19	3.150+j11.389	8.394+j32.383	7.86	5.13	2.817+j10.792	6.831+j28.198
VALLE	VLL-115	115.0	26.42	25.47	0.461+j2.471	0.353+j2.778	30.61	29.01	0.378+j2.355	0.347+j2.762
VALLE ALTO	VAL-115	115.0	12.06	10.15	1.054+j5.405	1.998+j8.413	13.57	11.36	1.004+j5.288	2.037+j8.312
VALLE DEL ROBLE	VRO-115	115.0	9.26	6.24	1.222+j7.064	3.718+j17.194	10.74	7.14	1.084+j6.715	3.641+j16.730
VALLE HERMOSO	VHE-138	138.0	3.15	2.68	8.014+j23.994	9.513+j37.621	3.56	3.02	7.642+j23.378	9.345+j36.790
VALLE ORIENTE	VOT-115	115.0	34.31	30.69	0.397+j1.894	0.310+j2.612	40.92	31.45	0.306+j1.758	0.429+j3.375
VALLE PONIENTE	VAP-115	115.0	15.06	11.66	0.845+j4.328	1.607+j8.109	17.43	13.17	0.716+j4.129	1.604+j8.101
VALLE SOLEADO DEFINITIVO	VSL-115	115.0	18.81	12.20	0.669+j3.465	1.812+j9.087	22.64	14.36	0.589+j3.172	1.730+j8.631
VALLE SUR	VSR-138	138.0	3.61	3.39	6.922+j20.932	6.469+j25.777	4.11	3.85	6.556+j20.313	6.301+j24.945
VALLES	VES-115	115.0	12.15	10.16	1.027+j5.369	1.973+j8.481	13.65	11.36	0.981+j5.260	2.007+j8.396
VENTIKA MANIOBRAS	VKM-230	230.0	6.71	7.22	3.031+j19.557	2.435+j15.559	7.72	5.94	2.784+j18.718	7.336+j35.307
VERDE CO.	VEC-138	138.0	9.77	7.18	2.055+j7.894	4.077+j16.552	12.01	8.61	1.689+j7.098	3.892+j15.598
VICTORIA	VRA-115	115.0	7.66	6.11	1.503+j8.534	3.899+j14.793	8.46	6.74	1.475+j8.506	3.911+j14.784
VIDRIERA MONTERREY	VMO-115	115.0	22.72	16.65	0.568+j2.867	1.165+j6.011	26.32	18.61	0.477+j2.734	1.172+j6.114
VILLA DE CASAS	VDC-115	115.0	2.28	1.56	10.430+j27.172	23.201+j65.890	2.51	1.71	10.405+j27.153	23.241+j66.033
VILLA DE GARCIA	VDG-400	400.0	27.68	28.63	1.789+j8.149	1.257+j7.488	37.39	36.22	0.972+j6.724	1.255+j7.390
VILLA DE GARCIA	VDG-230	230.0	23.37	27.15	0.929+j5.604	0.288+j3.333	28.20	32.01	0.625+j5.141	0.288+j3.339
VILLA DE GARCIA	VDG-115	115.0	26.41	53.39	0.419+j2.479	0.104+j-1.357	30.14	61.95	0.356+j2.397	0.106+j-1.365
VILLA DE JUÁREZ DOS	VJD-115	115.0	10.59	7.30	1.080+j6.178	3.086+j14.408	12.80	8.50	0.896+j5.635	3.060+j14.065
VILLA DE SANTIAGO	VDS-115	115.0	8.94	5.79	1.730+j7.224	5.467+j18.784	10.04	6.45	1.633+j7.090	5.419+j18.658
VILLA FLORIDA	VLV-138	138.0	15.63	14.13	1.058+j4.985	1.169+j6.704	19.39	16.92	0.789+j4.450	1.112+j6.466
VISTEON	VIS-115	115.0	15.98	11.32	0.728+j4.092	1.920+j9.088	18.38	12.75	0.646+j3.921	1.917+j9.049
WHIRLPOOL	WHI-115	115.0	14.34	10.47	0.810+j4.558	1.945+j9.589	17.20	12.42	0.655+j4.196	1.844+j8.977
WHIRLPOOL APODACA	WHA-115	115.0	20.87	16.79	0.526+j3.138	0.962+j5.422	30.18	21.56	0.385+j2.389	0.959+j5.239
XICOTENCATL II	XID-115	115.0	1.83	1.61	10.811+j34.562	19.065+j47.951	2.04	1.78	10.585+j34.192	19.065+j47.951
XOCHIPILLI	XOC-115	115.0	9.14	7.78	1.194+j7.169	2.072+j10.924	10.79	8.93	1.003+j6.695	2.065+j10.841
YESOS INDUSTRIALES DEL NORTE	YIN-115	115.0	27.33	10.02	0.479+j2.382	5.607+j14.007	31.60	11.16	0.404+j2.275	5.608+j14.008
ZACUALTIPÁN	ZAC-115	115.0	1.12	0.74	18.027+j56.412	50.469+j143.517	1.23	0.81	18.013+j56.385	50.463+j143.419
ZAPALINAME	ZPL-115	115.0	12.55	8.78	0.987+j5.199	2.426+j11.863	14.45	9.88	0.862+j4.981	2.424+j11.829
ZINC NACIONAL	ZNA-115	115.0	25.35	13.30	0.488+j2.574	1.948+j9.549	29.30	14.88	0.410+j2.459	1.947+j9.543

Gerencia de Control Regional Baja California

Sistema Interconectado Baja California



Regresar a mapa del SEN



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
ABASOLO	ABA-161	161.0	17.74	14.88	0.601+j5.205	1.702+j8.059	19.90	16.65	0.579+j5.105	1.687+j7.954
ACUEDUCTO	ACU-115	115.0	3.57	2.70	2.988+j18.364	10.399+j35.389	4.23	3.10	2.690+j17.070	10.383+j34.759
AEROPUERTO DOS	APD-230	230.0	13.49	10.84	1.182+j9.770	3.553+j16.659	15.06	12.03	1.156+j9.630	3.583+j16.621
AGUAS DE ENSENADA	AUE-115	115.0	8.66	8.91	1.335+j7.549	1.356+j6.961	10.94	11.02	1.043+j6.594	1.303+j6.481
ALAMAR	ALA-69	69.0	21.76	16.73	0.302+j1.806	0.601+j3.430	25.62	19.20	0.268+j1.689	0.596+j3.386
BAJA RECYCLING	B.REC	69.0	14.39	13.18	0.403+j2.738	0.643+j3.478	16.49	14.89	0.373+j2.631	0.644+j3.469
BAJÍO	BAJ-69	69.0	6.23	2.16	2.072+j6.055	10.723+j41.316	6.97	2.38	2.039+j5.951	10.720+j41.289
CACHANILLA	KCH-161	161.0	18.73	14.92	0.546+j4.933	1.795+j8.563	21.41	16.93	0.504+j4.749	1.760+j8.381
CÁRDENAS	CNA-69	69.0	14.34	9.98	0.537+j2.726	1.288+j6.297	16.88	11.40	0.481+j2.552	1.283+j6.225
CARRANZA	CNZ-161	161.0	18.04	15.23	0.587+j5.118	1.625+j7.818	20.29	17.07	0.563+j5.008	1.609+j7.710
CAÑÓN	KON-115	115.0	3.41	2.35	4.753+j18.876	10.782+j44.614	3.88	2.63	4.534+j18.275	10.740+j44.335
CEMENTOS	CEC-115	115.0	8.24	7.28	1.441+j7.932	5.903+j10.108	10.28	8.77	1.156+j7.008	5.821+j9.678
CENTENARIO	CNT-230	230.0	20.74	16.09	0.705+j6.363	2.647+j11.636	24.07	18.54	0.639+j6.034	2.606+j11.208
CENTINELA	CTA-69	69.0	2.61	3.04	3.725+j14.791	11.348+j4.905	2.88	3.35	3.713+j14.757	11.347+j4.889
CENTRO	CRO-230	230.0	20.05	16.03	0.731+j6.581	1.795+j11.412	23.42	18.59	0.653+j6.204	1.753+j10.925
CENTRO	CRO-161	161.0	23.02	21.32	0.433+j4.015	0.704+j4.922	26.60	24.51	0.389+j3.824	0.681+j4.758
CERRO PRIETO CUATRO	CPC-161	161.0	14.79	14.70	0.651+j6.250	0.803+j6.320	16.35	16.25	0.646+j6.219	0.805+j6.292
CERRO PRIETO DOS	CPD-230	230.0	24.37	22.96	0.571+j5.418	0.948+j6.326	28.12	26.95	0.522+j5.168	0.838+j5.771
CERRO PRIETO TRES	CPT-230	230.0	24.10	22.31	0.602+j5.476	1.082+j6.698	28.14	27.09	0.537+j5.163	0.822+j5.695
CERRO PRIETO UNO	CPU-161	161.0	14.05	12.70	0.751+j6.575	1.351+j8.589	15.58	14.09	0.740+j6.520	1.339+j8.514
CESPT	CPT-69	69.0	13.75	9.37	0.461+j2.861	1.384+j6.830	15.85	10.58	0.421+j2.732	1.377+j6.773
CETYS	CTY-230	230.0	13.60	11.28	1.126+j9.696	2.946+j15.453	15.18	12.51	1.101+j9.562	2.987+j15.444
CETYS	CTY-161	161.0	21.30	19.72	0.490+j4.336	0.846+j5.314	24.17	22.32	0.462+j4.206	0.823+j5.191
CHAPULTEPEC	CHQ-230	230.0	11.50	8.04	1.424+j11.454	6.386+j25.688	12.79	8.94	1.397+j11.332	6.346+j25.407
CICLO COMBINADO MEXICALI	CCM-230	230.0	28.51	23.12	0.459+j4.635	1.209+j7.746	37.02	37.34	0.328+j3.932	0.336+j3.799
CIPRÉS	CIP-230	230.0	6.03	6.24	3.596+j21.712	2.280+j20.063	7.59	7.70	2.778+j19.045	2.050+j18.706
CIPRÉS	CIP-115	115.0	9.66	11.26	1.172+j6.770	0.374+j4.018	12.48	14.51	0.877+j5.787	0.301+j3.466
COLONET	COE-115	115.0	2.30	1.46	8.086+j27.663	19.452+j76.584	2.59	1.62	7.851+j27.078	19.409+j76.302
COMISIÓN ESTATAL DE SERVICIOS PÚBLICOS DE TIJUANA	CES-69	69.0	18.15	14.36	0.339+j2.168	0.722+j3.870	21.80	16.72	0.285+j1.990	0.718+j3.798
CUCAPÁH	CUC-400	400.0	9.11	7.86	1.941+j25.279	3.973+j37.133	10.31	8.81	1.791+j24.580	3.947+j36.957
CUCAPÁH	CUC-230	230.0	26.72	23.27	0.525+j4.942	1.337+j7.017	31.29	27.01	0.464+j4.646	1.321+j6.745
DURAZNO	DRA-69	69.0	12.64	9.48	0.561+j3.102	1.056+j6.213	14.57	10.76	0.516+j2.964	1.038+j6.129
DYNAMIC PLASTICS	PLA-69	69.0	16.37	14.28	0.422+j2.396	0.597+j3.456	19.00	16.33	0.381+j2.275	0.592+j3.399
EL ARRAJAL	ARJ-230	230.0	2.61	2.96	6.163+j50.435	2.395+j32.809	2.90	3.27	6.071+j50.027	2.430+j33.115
EL ARRAJAL	ARJ-115	115.0	4.38	5.45	1.885+j15.033	0.378+j6.230	4.86	6.04	1.860+j14.919	0.378+j6.234
ENCINAL	ENL-69	69.0	4.39	3.92	1.474+j8.957	1.991+j12.190	4.88	4.37	1.447+j8.868	1.936+j11.986
ENSENADA	EDA-115	115.0	8.71	8.95	1.345+j7.506	1.525+j6.923	10.89	10.91	1.073+j6.618	1.500+j6.596
FÁBRICAS MONTERREY	FAM-115	115.0	8.34	8.19	1.415+j7.839	1.933+j8.251	10.39	9.91	1.138+j6.938	1.907+j7.908
FEVISA	FEV-161	161.0	12.65	9.53	1.005+j7.281	2.955+j14.226	14.24	10.66	0.967+j7.114	2.933+j14.097
FLORIDO	FLO-69	69.0	14.10	9.30	0.521+j2.777	1.613+j7.019	16.16	10.44	0.488+j2.668	1.612+j6.993



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
FRANCISCO VILLA	FCO-69	69.0	13.51	10.12	0.501+j2.906	1.487+j5.729	15.47	11.40	0.464+j2.794	1.486+j5.697
FRONTERA	FTA-69	69.0	22.06	16.00	0.309+j1.779	0.753+j3.785	26.03	18.33	0.274+j1.661	0.751+j3.747
GALLO	GLL-115	115.0	8.67	8.70	1.366+j7.534	1.880+j7.423	10.89	10.64	1.084+j6.620	1.852+j7.037
GOLFO DE SANTA CLARA	GSC-400	400.0	5.94	5.04	2.277+j38.782	12.943+j58.801	6.58	5.57	2.195+j38.555	12.926+j58.568
GONZÁLEZ ORTEGA	GOR-161	161.0	20.05	18.18	0.496+j4.610	1.072+j5.930	22.42	20.35	0.480+j4.535	1.056+j5.824
GUERRERO	GER-69	69.0	18.67	13.03	0.398+j2.096	1.009+j4.806	22.29	15.00	0.345+j1.935	1.006+j4.750
HIDALGO	HGO-161	161.0	10.27	9.52	1.084+j8.986	1.977+j10.956	11.31	10.52	1.082+j8.973	1.961+j10.872
HIPÓDROMO	HMO-69	69.0	27.77	21.13	0.279+j1.407	0.626+j2.720	34.05	24.75	0.232+j1.266	0.624+j2.684
HUNTER	HTR-69	69.0	16.70	11.30	0.420+j2.348	1.222+j5.685	19.60	12.84	0.375+j2.204	1.221+j5.654
HYUNDAI	HIU-69	69.0	27.01	17.56	0.271+j1.450	0.640+j3.803	32.45	20.29	0.236+j1.330	0.633+j3.737
INDUSTRIAL	INA-69	69.0	24.73	17.75	0.272+j1.588	0.683+j3.446	29.48	20.43	0.236+j1.467	0.681+j3.409
JATAY	JAT-115	115.0	3.82	2.86	2.791+j17.158	9.759+j33.786	4.51	3.27	2.509+j16.000	9.747+j33.312
JOYA	JOY-115	115.0	7.95	8.45	1.020+j8.290	1.383+j6.774	13.17	13.69	0.588+j5.514	1.291+j4.811
KENWORTH	KEN-230	230.0	6.78	8.16	2.241+j19.453	1.967+j9.415	7.56	9.12	2.187+j19.197	1.950+j9.175
LA ENCANTADA	ENA-69	69.0	17.30	17.83	0.402+j2.267	0.362+j2.067	20.10	20.59	0.367+j2.150	0.355+j2.005
LA HERRADURA	HRA-230	230.0	21.43	19.63	0.780+j6.147	1.336+j7.786	28.44	24.74	0.536+j5.108	1.349+j7.431
LA HERRADURA	HRA-69	69.0	26.69	29.55	0.199+j1.479	0.084+j1.057	31.66	34.52	0.169+j1.374	0.085+j1.049
LA JOVITA	JOV-230	230.0	7.70	8.53	1.901+j17.132	0.899+j13.046	9.12	10.00	1.652+j15.928	0.884+j12.632
LA MESA	LMS-69	69.0	22.25	16.80	0.342+j1.757	0.711+j3.464	26.48	19.35	0.298+j1.628	0.709+j3.427
LA ROSITA	ROA-230	230.0	33.81	29.36	0.398+j3.907	0.917+j5.564	42.74	40.23	0.299+j3.404	0.622+j3.973
LAGO	LGO-69	69.0	15.17	11.48	0.505+j2.577	1.007+j5.058	17.54	13.03	0.461+j2.455	1.004+j5.010
LIBRAMIENTO	LIB-230	230.0	14.78	13.47	0.892+j8.938	2.190+j11.283	16.15	14.84	0.900+j8.999	2.176+j11.113
LIBRAMIENTO MANIOBRAS	LMA-230	230.0	23.77	23.17	0.598+j5.553	0.862+j5.884	26.93	26.14	0.571+j5.394	0.876+j5.796
LIBRAMIENTO MANIOBRAS	LMA-161	161.0	19.17	14.97	0.493+j4.825	1.230+j8.774	21.31	16.70	0.483+j4.775	1.203+j8.630
LOMAS	LOS-230	230.0	6.17	6.29	3.519+j21.236	2.226+j20.488	7.80	7.74	2.702+j18.533	2.111+j19.388
LOMAS	LOS-115	115.0	9.53	11.38	1.151+j6.873	0.296+j3.635	11.99	14.17	0.900+j6.024	0.273+j3.355
LOMAS	LOS-69	69.0	2.61	2.76	2.822+j14.974	0.615+j12.966	2.92	3.20	2.723+j14.753	0.498+j11.162
MABAMEX	MAB-69	69.0	17.07	10.96	0.394+j2.300	1.016+j6.151	19.80	12.40	0.359+j2.183	1.010+j6.104
MANEADERO	MND-115	115.0	7.62	7.95	1.584+j8.569	1.094+j7.613	9.43	9.71	1.292+j7.635	1.022+j7.081
MANIOBRAS CIA	CIA-230	230.0	16.32	17.02	0.754+j8.102	0.873+j6.914	17.74	18.74	0.768+j8.196	0.847+j6.704
MANIOBRAS LRC	LRC-230	230.0	17.81	19.56	0.662+j7.425	0.496+j5.267	19.35	21.51	0.675+j7.518	0.480+j5.090
MANIOBRAS MCI	MCI-230	230.0	16.22	15.56	0.858+j8.141	1.162+j9.067	18.05	17.48	0.842+j8.049	1.106+j8.739
MANIOBRAS MCI	MCI-161	161.0	17.04	13.65	0.569+j5.426	1.500+j9.351	18.92	15.29	0.559+j5.376	1.439+j9.095
MANIOBRAS MV	MKR-230	230.0	16.50	14.86	1.108+j7.973	2.161+j10.560	24.08	20.95	0.654+j6.030	1.964+j8.836
MANIOBRAS PARQUE INDUSTRIAL SUR	MIS-230	230.0	16.38	13.46	1.143+j8.025	2.792+j13.111	21.95	17.03	0.807+j6.606	2.751+j12.302
MANIOBRAS PUERTO PEÑASCO	CFP-400	400.0	5.19	6.58	1.976+j44.421	1.023+j16.344	5.67	7.22	1.956+j44.762	0.989+j15.884
MATRIX	MATRIX-69	69.0	10.92	6.36	0.846+j3.549	2.454+j11.222	12.44	7.11	0.810+j3.428	2.452+j11.185
MESA INDUSTRIAL GROUP	MGI-69	69.0	15.26	9.76	0.557+j2.551	1.462+j6.867	17.63	11.01	0.520+j2.431	1.460+j6.830
METRÓPOLI POTENCIA	MEP-230	230.0	21.69	20.99	0.811+j6.069	1.104+j6.657	30.97	28.81	0.498+j4.691	1.068+j5.838
METRÓPOLI POTENCIA	MEP-69	69.0	31.30	31.42	0.175+j1.261	0.123+j1.255	38.14	37.79	0.140+j1.140	0.116+j1.190



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
MEXICALI DOS	MXI-230	230.0	29.47	26.28	0.484+j4.480	1.014+j6.003	34.64	30.74	0.425+j4.196	0.988+j5.705
MEXICALI DOS	MXI-161	161.0	27.15	26.54	0.339+j3.407	0.468+j3.595	31.83	30.90	0.291+j3.199	0.447+j3.451
MEXICALI ORIENTE	MOE-161	161.0	16.02	14.75	0.657+j5.767	1.186+j7.160	17.94	16.53	0.635+j5.664	1.163+j7.033
MÉXICO	MXC-69	69.0	17.56	11.34	0.458+j2.222	1.304+j5.862	20.80	12.95	0.406+j2.068	1.302+j5.813
MINERA	MIN-115	115.0	1.64	1.11	9.851+j39.371	30.947+j94.201	1.80	1.22	9.823+j39.260	30.947+j94.205
MISIÓN	MSN-115	115.0	3.48	2.71	3.028+j18.836	10.111+j34.158	4.15	3.14	2.713+j17.385	10.088+j33.330
MONTECITO	MUE-69	69.0	17.29	13.02	0.428+j2.265	0.910+j4.480	20.17	14.84	0.385+j2.138	0.907+j4.438
NACUZARI	NZI-161	161.0	16.58	12.81	0.698+j5.563	1.888+j10.357	18.73	14.37	0.666+j5.420	1.865+j10.231
OJOS NEGROS	ONG-69	69.0	1.25	0.94	11.187+j29.971	16.444+j60.566	1.38	1.06	11.085+j29.751	16.326+j58.758
ÓPTICA	OPT-69	69.0	22.95	16.20	0.270+j1.715	0.765+j3.830	27.13	18.56	0.235+j1.598	0.763+j3.793
ORIZABA	OZA-230	230.0	23.04	17.73	0.646+j5.728	1.952+j10.715	26.99	20.61	0.574+j5.381	1.904+j10.236
P. I. VALLE SUR	VAL-69	69.0	15.79	9.96	0.488+j2.475	1.428+j6.809	18.58	11.33	0.436+j2.318	1.425+j6.758
PACÍFICO	PAF-69	69.0	23.77	17.59	0.263+j1.655	0.698+j3.377	29.01	20.52	0.215+j1.495	0.697+j3.336
PACKARD	PKD-161	161.0	21.86	19.35	0.484+j4.224	1.033+j5.787	25.12	22.05	0.443+j4.046	1.016+j5.661
PANAMERICANA FRACCIONAMIENTO	PNM-115	115.0	6.38	5.49	1.336+j10.326	3.466+j15.152	9.59	7.61	0.888+j7.560	3.381+j13.216
PANAMERICANA POTENCIA	PAP-230	230.0	17.55	17.94	1.082+j7.490	0.898+j7.067	25.89	25.61	0.625+j5.607	0.863+j5.993
PANAMERICANA POTENCIA	PAP-69	69.0	36.58	41.78	0.152+j1.078	0.047+j0.687	47.35	52.89	0.105+j0.920	0.046+j0.653
PAREDONES	PAR-161	161.0	8.30	5.98	1.439+j11.104	5.562+j23.606	9.16	6.60	1.434+j11.073	5.551+j23.541
PARQUE INDUSTRIAL	PID-230	230.0	17.49	18.88	0.687+j7.562	0.623+j5.711	19.01	20.77	0.700+j7.653	0.606+j5.532
PARQUE INDUSTRIAL LOS OLIVOS	POL-69	69.0	17.48	18.67	0.397+j2.244	0.289+j1.820	20.31	21.62	0.362+j2.127	0.282+j1.757
PARQUE INDUSTRIAL PACÍFICO	PFCO	69.0	15.12	12.43	0.451+j2.596	0.862+j4.264	17.73	14.23	0.404+j2.439	0.861+j4.231
PLANTA DE BOMBEO UNO	PB1-69	69.0	13.34	6.97	0.633+j2.919	2.633+j10.853	15.53	7.86	0.581+j2.760	2.629+j10.788
POPOTLA	POP-115	115.0	4.87	4.27	1.898+j13.508	5.719+j18.685	6.49	5.43	1.490+j11.155	5.674+j17.110
PRESIDENTE JUÁREZ	PJZ-230	230.0	19.47	21.59	0.970+j6.752	0.560+j4.868	33.51	41.43	0.407+j4.341	0.170+j2.157
PRESIDENTE JUÁREZ	PJZ-115	115.0	9.07	10.49	0.700+j7.284	0.204+j4.391	16.20	19.21	0.276+j4.500	0.110+j2.424
PUERTO NUEVO	PNU-115	115.0	4.00	3.82	2.454+j16.411	5.632+j18.349	5.01	4.70	2.086+j14.425	5.588+j16.823
PUNTA CHINA	PCH-115	115.0	2.35	2.07	7.264+j27.353	9.570+j38.617	2.66	2.33	6.990+j26.519	9.505+j38.144
RÍO	RII-69	69.0	22.65	15.92	0.348+j1.724	0.875+j3.898	27.32	18.41	0.298+j1.576	0.874+j3.856
RÍO NUEVO	RIN-161	161.0	19.60	16.11	0.546+j4.711	1.476+j7.656	22.46	18.33	0.504+j4.523	1.448+j7.480
RSI HOME PRODUCTS	RSI-69	69.0	24.77	20.73	0.250+j1.589	0.483+j2.504	29.50	24.14	0.214+j1.470	0.476+j2.443
RUBÍ	RUB-230	230.0	13.68	13.54	1.386+j9.607	1.486+j9.979	19.94	19.12	0.819+j7.281	1.427+j8.440
RUBÍ	RUB-69	69.0	28.45	28.90	0.190+j1.387	0.132+j1.336	36.17	35.87	0.136+j1.204	0.127+j1.259
RUIZ CORTINEZ	RZC-230	230.0	12.91	12.08	1.246+j10.211	1.834+j12.131	14.21	13.36	1.245+j10.201	1.821+j11.986
RUIZ CORTINEZ	RZC-161	161.0	12.71	13.63	0.771+j7.275	0.612+j5.744	14.00	15.07	0.769+j7.262	0.596+j5.660
RUMOROSA	RUM-230	230.0	10.16	8.57	1.551+j12.975	2.734+j20.088	11.61	9.73	1.443+j12.496	2.728+j19.698
RUMOROSA	RUM-69	69.0	10.22	13.53	0.350+j3.882	0.051+j1.033	11.35	15.04	0.339+j3.848	0.050+j1.017
SAMSUNG	SAM-230	230.0	19.18	17.38	0.919+j6.862	1.617+j8.953	26.48	22.88	0.605+j5.484	1.581+j8.134
SAN FELIPE	SAF-115	115.0	2.26	1.85	5.206+j28.931	13.967+j47.099	2.49	2.04	5.180+j28.818	13.967+j47.103
SAN LUIS REY	SRY-230	230.0	12.14	9.81	1.211+j10.870	4.298+j18.162	13.35	10.84	1.209+j10.872	4.282+j17.983
SAN MATÍAS	SMT-115	115.0	3.22	3.45	3.772+j20.283	2.692+j16.204	3.57	3.82	3.734+j20.121	2.683+j16.177



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
SAN QUINTÍN	SQN-115	115.0	1.32	0.78	16.447+j47.375	39.839+j151.426	1.47	0.86	16.183+j46.824	39.794+j151.139
SAN SIMÓN	SMN-115	115.0	1.05	0.60	19.567+j60.242	50.836+j198.273	1.16	0.66	19.298+j59.698	50.790+j197.986
SAN VICENTE	SVE-115	115.0	3.18	2.19	5.228+j20.195	11.818+j47.938	3.62	2.45	4.993+j19.535	11.770+j47.612
SÁNCHEZ TABOADA	STB-230	230.0	25.43	21.38	0.587+j5.188	1.646+j7.978	29.45	24.55	0.535+j4.931	1.630+j7.739
SANTA ISABEL	SIS-230	230.0	26.93	22.54	0.528+j4.903	1.371+j7.630	32.41	27.52	0.444+j4.484	1.257+j6.769
SANTA ISABEL	SIS-161	161.0	26.20	25.52	0.325+j3.534	0.539+j3.762	30.36	29.55	0.285+j3.356	0.491+j3.592
SAUZAL	SAZ-115	115.0	3.41	2.62	3.306+j19.210	9.971+j35.800	4.01	3.01	2.981+j17.959	9.936+j35.269
SEMINARIO	SIO-69	69.0	15.18	8.97	0.478+j2.581	1.729+j7.893	17.56	10.10	0.438+j2.457	1.727+j7.854
SHARP	SHA-115	115.0	8.28	8.79	0.824+j7.978	0.701+j6.624	14.01	14.46	0.396+j5.197	0.622+j4.729
SIDERÚRGICA	CSC-230	230.0	16.44	12.25	1.038+j8.008	3.292+j16.002	18.76	13.94	0.980+j7.726	3.200+j15.508
SKYWORKS	SKW-161	161.0	18.68	15.81	0.596+j4.939	1.267+j7.553	21.14	17.81	0.567+j4.804	1.244+j7.426
SONY	SON-69	69.0	11.05	6.17	0.692+j3.539	2.565+j11.901	12.60	6.89	0.648+j3.417	2.562+j11.853
TAYCO	TYC-69	69.0	16.17	12.60	0.450+j2.423	0.881+j4.473	18.77	14.34	0.407+j2.299	0.878+j4.426
TECATE DOS	TCD-69	69.0	7.69	5.48	0.903+j5.103	2.235+j11.207	8.63	6.13	0.873+j5.004	2.193+j11.072
TECATE UNO	TCU-69	69.0	8.74	3.60	0.975+j4.452	6.080+j23.344	9.85	3.99	0.943+j4.350	6.072+j23.307
TECNOLÓGICO	TEK-230	230.0	21.69	18.71	0.673+j6.085	1.792+j8.819	24.61	21.14	0.637+j5.901	1.782+j8.642
TECOLOTE	TEE-69	69.0	15.99	10.68	0.378+j2.462	1.290+j6.085	18.95	12.21	0.325+j2.289	1.288+j6.033
TECRA	TCR-69	69.0	8.42	3.39	1.045+j4.615	6.506+j24.972	9.47	3.76	1.013+j4.513	6.499+j24.935
TENSHO	TSHO-115	115.0	8.50	9.26	0.787+j7.770	0.534+j5.890	14.60	15.67	0.360+j4.989	0.455+j3.996
THOMSOM	THO-230	230.0	20.77	16.16	0.749+j6.350	2.448+j11.570	23.82	18.36	0.697+j6.093	2.432+j11.331
TIJUANA I	TJI-230	230.0	24.70	25.75	0.704+j5.329	0.662+j4.675	35.30	35.42	0.427+j4.115	0.659+j4.174
TIJUANA I	TJI-69	69.0	38.54	39.11	0.125+j1.026	0.078+j0.987	47.83	47.47	0.094+j0.911	0.076+j0.947
TIJUANA I	TJI-69A	69.0	18.49	20.55	0.350+j2.126	0.099+j1.511	21.57	23.95	0.311+j2.007	0.093+j1.442
TOYOTA	TOY-230	230.0	15.47	12.52	1.101+j8.515	2.677+j14.405	19.58	15.10	0.843+j7.411	2.683+j13.970
TRINIDAD	TRI-115	115.0	2.80	2.10	5.435+j23.089	11.256+j46.178	3.12	2.33	5.333+j22.764	11.243+j46.094
UNIVERSIDAD	UND-69	69.0	14.53	9.13	0.521+j2.691	1.666+j7.422	16.83	10.30	0.477+j2.559	1.665+j7.387
VALLE DE GUADALUPE	VLP-69	69.0	2.26	1.54	6.107+j16.495	11.129+j41.284	2.52	1.71	6.031+j16.315	11.086+j40.569
VALLE DE LAS PALMAS	VPM-69	69.0	3.22	2.19	5.165+j11.227	7.012+j29.369	3.58	2.42	5.121+j11.099	7.021+j29.258
VALLE DE PUEBLA	VPA-230	230.0	21.74	19.74	0.668+j6.072	1.451+j7.767	24.59	22.22	0.638+j5.906	1.457+j7.657
VALLE DORADO	VLD-115	115.0	8.06	7.60	1.448+j8.110	3.155+j9.365	10.07	9.23	1.158+j7.157	3.075+j8.878
VALLE POTENCIA	VPO-230	230.0	11.75	10.07	1.314+j11.224	3.254+j16.545	12.91	11.11	1.316+j11.240	3.244+j16.405
VALLECITOS	VLC-69	69.0	2.46	1.63	6.598+j14.792	10.865+j39.501	2.73	1.81	6.543+j14.644	10.861+j39.198
VICTORIA POTENCIA	VIC-230	230.0	7.91	5.20	2.162+j16.649	10.549+j41.718	8.77	5.76	2.135+j16.527	10.509+j41.436
VIGOBITE	VIB-69	69.0	21.02	13.28	0.338+j1.865	1.103+j5.096	24.84	15.13	0.298+j1.738	1.101+j5.061
WISTERIA	WIS-230	230.0	30.21	25.99	0.477+j4.369	1.151+j6.379	35.98	30.93	0.410+j4.039	1.101+j5.920
XOCHIMILCO	XCO-230	230.0	26.50	21.30	0.549+j4.982	1.603+j8.475	31.08	24.79	0.486+j4.675	1.566+j8.104

Gerencia de Control Regional Baja California

Sistema Interconectado Baja California Sur



Regresar a mapa del SEN



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
AEROPUERTO SAN JOSÉ	ASJ-115	115.0	3.69	3.48	4.804+j17.334	4.904+j20.524	5.48	4.60	2.713+j13.047	4.897+j20.296
AURA SOLAR	ASU-115	115.0	4.92	5.85	2.656+j13.226	0.994+j6.956	9.49	9.96	0.977+j7.637	1.050+j6.496
BLEDALES	BLE-115	115.0	4.88	4.90	2.847+j13.312	2.841+j13.079	9.49	8.17	1.095+j7.615	2.701+j11.136
BUENA VISTA	BUV-115	115.0	2.27	1.53	8.051+j28.129	17.303+j69.792	3.03	1.84	5.882+j23.353	17.055+j68.655
CABO BELLO	CAB-115	115.0	4.07	4.17	4.047+j15.799	3.131+j14.637	6.38	5.93	2.036+j11.267	3.046+j13.606
CABO DEL SOL	CAS-115	115.0	3.97	4.09	4.227+j16.184	2.835+j14.824	6.10	5.67	2.203+j11.777	2.814+j14.291
CABO FALSO	CAF-115	115.0	4.54	4.95	3.711+j14.159	2.260+j10.576	7.49	7.46	1.723+j9.602	2.188+j9.513
CABO REAL	CRE-115	115.0	4.19	4.65	4.138+j15.287	2.218+j10.774	6.55	6.60	2.093+j10.949	2.216+j10.570
CABO SAN LUCAS DOS	CAD-115	115.0	4.65	5.22	3.689+j13.809	1.829+j9.253	7.74	7.97	1.692+j9.278	1.760+j8.345
CAMINO REAL	CAR-115	115.0	3.00	1.87	5.591+j21.437	11.093+j61.128	4.82	2.50	3.318+j14.773	10.281+j56.451
CENTRAL TURBOGÁS LOS CABOS	TCB-230	230.0	2.46	3.10	12.792+j52.385	1.848+j20.249	4.19	4.88	5.124+j34.513	1.793+j19.477
COROMUEL	COR-230	230.0	2.81	3.64	8.006+j46.496	0.885+j14.947	5.24	6.48	2.482+j27.743	0.663+j11.824
EL PALMAR	ELP-230	230.0	2.53	3.27	13.139+j50.838	1.350+j16.287	4.35	5.26	5.437+j33.136	1.356+j15.696
EL PALMAR	ELP-115	115.0	4.84	6.40	3.633+j13.231	0.280+j3.566	8.11	10.21	1.625+j8.857	0.278+j3.362
EL RECREO	RCO-115	115.0	4.90	5.05	2.792+j13.263	2.469+j12.054	9.50	8.38	1.051+j7.613	2.417+j10.514
EL TRIUNFO	ETR-115	115.0	2.68	1.69	6.640+j23.868	13.863+j67.192	3.94	2.13	4.370+j18.011	13.276+j64.351
ERENDIRA	ERE-115	115.0	4.95	5.39	2.834+j13.119	1.475+j9.977	12.18	13.69	0.641+j5.964	0.530+j3.968
GENERAL AGUSTÍN OLACHEA	GAO-115	115.0	1.45	1.77	11.950+j44.259	1.603+j20.765	3.32	4.22	2.554+j21.826	0.306+j8.032
INSURGENTES	INS-115	115.0	1.35	1.46	16.899+j46.326	12.312+j35.724	2.70	2.72	5.995+j26.349	7.534+j25.587
LA PAZ	LPZ-115	115.0	4.19	3.84	3.705+j15.393	4.566+j19.590	7.78	6.18	1.729+j9.233	4.135+j16.186
LAS PILAS	LAP-115	115.0	1.99	1.77	9.531+j32.005	13.804+j43.534	3.37	2.63	4.613+j21.196	11.338+j38.231
LORETO	LRO-115	115.0	0.65	0.46	35.425+j96.484	54.162+j221.103	0.90	0.58	23.459+j77.298	49.095+j210.593
LOS FILOS	LF1-115	115.0	2.63	1.99	5.738+j24.592	13.051+j47.739	3.82	2.57	3.780+j18.719	12.565+j45.398
MONTE REAL	MOR-115	115.0	3.98	4.03	4.515+j16.076	3.353+j15.571	6.07	5.50	2.428+j11.786	3.350+j15.355
OLAS ALTAS	OLA-230	230.0	2.90	3.63	8.616+j44.962	2.082+j17.867	5.58	6.40	2.656+j26.057	2.123+j15.840
OLAS ALTAS	OLA-115	115.0	5.46	7.09	2.440+j11.920	0.341+j3.718	11.39	13.69	0.772+j6.368	0.388+j3.145
PALMILLA	PAA-115	115.0	4.03	3.70	3.658+j16.047	4.912+j20.345	7.49	6.04	1.645+j9.617	4.320+j16.234
PALMILLA	PML-115	115.0	3.49	3.30	4.828+j18.424	5.042+j21.543	5.08	4.31	2.744+j14.124	5.040+j21.338
PUERTO ESCONDIDO	PES-115	115.0	0.71	0.52	32.309+j87.912	46.997+j189.858	1.02	0.67	20.450+j68.589	41.938+j179.360
PUNTA PRIETA	PUP-115	115.0	5.05	5.71	2.766+j12.847	1.345+j8.493	12.76	16.25	0.570+j5.695	0.189+j2.018
PUNTA PRIETA II	PUP-115B	115.0	5.00	5.61	2.796+j12.989	1.376+j8.791	12.54	16.17	0.590+j5.795	0.133+j1.890
REFORMAS AGRARIAS	REA-115	115.0	2.40	1.83	6.499+j26.943	14.760+j51.236	3.44	2.36	4.356+j20.807	14.116+j48.543
ROFOMEX	RFO-115	115.0	1.17	0.91	24.341+j51.043	30.429+j101.086	1.52	1.11	20.756+j43.233	29.241+j98.216
SAN JOSÉ DEL CABO	SJC-115	115.0	4.02	4.19	4.492+j15.885	3.123+j14.041	6.16	5.77	2.390+j11.612	3.121+j13.834
SANTIAGO	SNT-115	115.0	2.42	1.73	7.322+j26.389	15.844+j57.976	3.24	2.10	5.176+j21.919	15.707+j57.337
SANTO DOMINGO	DOM-115	115.0	1.20	1.17	18.329+j52.378	16.981+j57.021	2.19	1.90	7.297+j32.512	12.187+j46.863
TURBOGÁS LOS CABOS	TCB-115	115.0	5.19	6.75	3.063+j12.414	0.255+j3.820	9.35	12.00	1.157+j7.728	0.154+j2.502
VILLA CONSTITUCIÓN	VIO-115	115.0	1.57	1.70	13.580+j39.995	8.162+j31.664	3.58	3.97	3.540+j20.081	1.945+j14.226

Gerencia de Control Regional Baja California

Sistema Interconectado Mulegé



Regresar a mapa del SEN



Niveles de cortocircuito de la Red Nacional de Transmisión

Gerencia de Control Regional Mulege

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Gerencia de Control Regional Peninsular



[Regresar a mapa del SEN](#)



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
AH KIM PECH	AKI-115	115.0	5.04	4.28	3.757+j12.631	6.349+j18.810	6.41	5.19	3.060+j10.984	6.346+j18.504
AK TUNCHEN	AUC-115	115.0	8.64	6.94	1.910+j7.440	3.089+j12.955	10.35	8.02	1.547+j6.881	3.086+j12.859
AKBAL	AKL-115	115.0	2.92	2.58	8.053+j21.287	4.588+j31.834	3.32	2.92	7.616+j20.653	4.431+j31.152
AKUMAL II	AKD-115	115.0	7.26	5.39	2.369+j8.831	4.400+j18.129	8.57	6.16	1.999+j8.282	4.395+j18.026
ALOM	ALO-115	115.0	16.31	14.04	0.798+j3.992	1.308+j5.860	22.17	17.59	0.556+j3.247	1.295+j5.720
AVENTURA PALACE	AVP-115	115.0	8.73	7.64	1.839+j7.378	2.493+j10.545	10.47	8.88	1.478+j6.816	2.491+j10.450
BALAM	BLM-230	230.0	6.45	7.26	4.814+j20.029	1.062+j13.795	8.82	9.52	2.781+j16.321	0.982+j13.021
BALAM	BLM-115	115.0	13.73	17.29	1.310+j4.656	0.188+j1.878	19.73	24.16	0.758+j3.624	0.171+j1.689
BICENTENARIO	BIN-115	115.0	13.25	10.99	1.119+j4.885	1.990+j7.882	17.01	13.25	0.880+j4.202	1.986+j7.767
BONAMPAK	BNP-115	115.0	12.75	15.62	1.459+j4.998	0.368+j2.351	18.59	22.28	0.835+j3.839	0.285+j1.990
BONFIL	BNI-115	115.0	10.12	9.35	1.669+j6.342	1.934+j7.986	14.05	12.04	1.006+j5.099	1.841+j7.623
BUENA VISTA (SET7)	BNV-115	115.0	2.75	1.71	7.403+j22.940	24.239+j62.642	3.49	2.01	6.059+j20.039	24.183+j61.892
CALICA	CLC-115	115.0	9.11	8.68	1.766+j7.068	2.332+j8.018	11.15	10.24	1.357+j6.408	2.332+j7.979
CALKINI II	CKD-115	115.0	3.80	2.34	4.774+j16.818	16.823+j47.152	4.39	2.63	4.454+j16.048	16.810+j47.029
CAMPECHE	CPE-400	400.0	6.32	2.31	4.400+j36.278	48.749+j219.531	8.04	2.65	2.723+j31.487	48.641+j218.270
CANCUN	CNC-115	115.0	12.79	15.30	1.432+j4.990	0.446+j2.645	19.06	22.46	0.772+j3.753	0.289+j2.108
CANDELARIA II	CAS-115	115.0	1.88	1.27	8.860+j34.214	33.890+j78.787	2.13	1.43	8.470+j33.189	33.888+j78.728
CANEK	CEK-115	115.0	12.08	12.15	1.490+j5.291	1.189+j5.295	16.73	15.77	0.936+j4.264	1.145+j5.060
CAPATACIÓN	CAP-115	115.0	5.70	4.45	2.788+j11.316	5.390+j20.776	6.74	5.10	2.394+j10.572	5.381+j20.646
CAUCEL POTENCIA	CCP-230	230.0	10.55	11.46	1.996+j12.422	1.034+j9.515	16.19	17.13	1.012+j8.967	0.952+j7.639
CAUCEL POTENCIA	CCP-115	115.0	18.66	21.34	0.651+j3.498	0.201+j2.194	26.17	28.71	0.408+j2.761	0.190+j2.056
CAYAL	CYL-115	115.0	2.54	1.67	6.864+j25.226	18.206+j63.688	3.02	1.93	6.099+j23.417	18.070+j63.135
CD. DEL CARMEN	CRE-115	115.0	3.74	4.46	3.528+j17.376	1.413+j8.957	5.44	6.71	1.978+j13.274	0.716+j6.414
CEMENTOS MAYA	CMY-115	115.0	13.35	11.00	1.078+j4.856	2.074+j7.827	17.55	13.55	0.828+j4.078	2.021+j7.542
CENTRO	CNO-115	115.0	16.19	13.18	0.915+j3.998	1.581+j6.716	21.38	16.09	0.692+j3.345	1.574+j6.625
CHAAC	HAA-115	115.0	10.26	11.88	1.822+j6.210	0.812+j3.760	14.19	15.75	1.173+j5.013	0.783+j3.553
CHAMPOTON	CMO-115	115.0	4.65	2.93	3.299+j13.899	9.609+j37.196	6.00	3.74	2.557+j11.906	8.082+j33.918
CHANKANAAB	CHB-115	115.0	6.79	5.06	3.223+j9.232	6.622+j18.657	8.57	5.95	2.449+j8.161	6.627+j18.658
CHANKANAAB II	CHS-115	115.0	7.00	6.05	3.145+j8.954	5.167+j12.961	8.86	7.21	2.380+j7.896	5.172+j12.963
CHEMAX	CEX-115	115.0	3.13	2.10	5.030+j20.634	15.938+j49.812	3.79	2.43	4.471+j18.762	15.898+j49.157
CHEMUYIL (SET5)	CHY-115	115.0	5.81	4.14	3.045+j11.023	5.781+j24.556	6.76	4.69	2.669+j10.476	5.772+j24.427
CHETUMAL NORTE	CTE-115	115.0	3.73	3.54	4.819+j17.119	3.892+j18.604	5.39	4.75	3.055+j13.207	3.866+j17.837
CHICBUL	CBU-115	115.0	3.23	2.08	4.790+j19.969	14.062+j52.593	3.78	2.37	4.365+j18.800	13.885+j52.167
CHOLUL	HOL-115	115.0	13.50	11.81	1.120+j4.788	2.253+j6.701	17.21	14.23	0.894+j4.149	2.253+j6.621
CHUBURNA	CBR-115	115.0	13.27	10.94	1.135+j4.874	1.950+j7.985	17.01	13.18	0.897+j4.199	1.947+j7.872
CHUNHUHUB	CHH-230	230.0	3.18	3.68	8.823+j40.787	2.537+j23.061	4.01	4.79	6.522+j35.856	1.862+j17.952
CHUNHUHUB	CHH-115	115.0	5.44	4.89	2.452+j11.956	1.751+j15.772	6.73	5.99	1.861+j10.690	1.526+j14.642
CONCORDIA	CNR-115	115.0	3.39	3.67	4.194+j19.152	2.753+j14.705	4.77	5.12	2.617+j15.085	2.259+j12.559
CONKAL	CNK-115	115.0	10.08	7.87	1.570+j6.397	3.905+j11.561	12.29	9.17	1.350+j5.785	3.904+j11.473
DZITAS	DZI-115	115.0	3.59	2.39	4.342+j17.967	14.146+j44.384	4.35	2.76	3.883+j16.334	14.109+j43.670



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
DZITNUP	DZT-400	400.0	10.39	12.54	2.662+j22.058	0.809+j9.896	12.62	15.22	1.695+j20.051	0.798+j9.754
DZYTIA	DYT-115	115.0	13.39	10.80	0.871+j4.883	2.012+j8.528	16.48	12.69	0.672+j4.380	2.010+j8.452
EL TINTAL (SET3)	TIN-115	115.0	2.57	1.64	6.637+j24.972	21.864+j66.108	2.99	1.85	6.100+j23.652	21.844+j65.833
ENVASES UNIVERSALES DE MEXICO	EUM-115	115.0	4.04	2.81	3.362+j16.102	9.757+j36.853	4.65	3.16	3.102+j15.406	9.749+j36.727
ESCÁRCEGA	ESA-400	400.0	6.41	6.73	4.652+j35.750	1.314+j28.964	8.54	8.71	2.566+j29.631	1.278+j27.942
ESCÁRCEGA	ESA-230	230.0	7.05	8.56	2.972+j18.612	0.455+j8.144	10.07	11.96	1.539+j14.422	0.433+j7.767
ESCÁRCEGA	ESA-115	115.0	9.09	11.29	0.912+j7.249	0.061+j2.814	11.71	14.45	0.543+j6.211	0.059+j2.755
ESCARCEGA 2	ES2-400	400.0	5.64	5.64	5.290+j40.576	3.505+j38.783	7.41	7.20	3.175+j34.154	3.299+j37.100
HECELCHACAN	HCE-115	115.0	3.19	1.86	5.937+j19.970	14.894+j63.634	3.69	2.09	5.514+j18.997	14.891+j63.492
HEROES	HER-115	115.0	12.96	10.06	1.212+j4.977	3.131+j9.055	16.19	11.87	1.006+j4.397	3.128+j8.983
HIDROGENADORA YUCATECA	HRA-115	115.0	18.76	19.49	0.678+j3.473	0.523+j3.035	26.76	26.41	0.433+j2.695	0.473+j2.757
HOLPECHEN	HOP-115	115.0	1.26	0.79	15.501+j50.344	43.546+j138.805	1.41	0.88	15.049+j49.408	43.543+j138.661
HUNABKU	HBK-115	115.0	10.55	12.42	1.804+j6.032	0.711+j3.401	14.62	16.58	1.162+j4.857	0.678+j3.181
HUNUCMA	HNC-115	115.0	5.09	3.54	2.452+j12.819	7.623+j29.293	5.93	4.00	2.193+j12.122	7.615+j29.167
HUNXECTAMÁN	HUX-115	115.0	14.17	12.06	0.991+j4.581	1.739+j6.855	18.75	14.98	0.748+j3.823	1.686+j6.592
IBEROESTAR	IBR-115	115.0	8.28	7.11	1.628+j7.853	2.635+j11.650	10.12	8.36	1.170+j7.121	2.618+j11.492
INSURGENTES	INS-115	115.0	3.77	3.72	4.738+j16.964	2.898+j16.455	5.46	5.04	2.978+j13.049	2.877+j15.731
ISLA DE TRIS	ILT-115	115.0	3.76	4.30	3.449+j17.300	2.420+j10.556	5.38	6.15	1.978+j13.433	2.129+j8.838
ITZAES	IZE-115	115.0	14.87	12.38	0.996+j4.354	1.591+j6.939	19.59	15.20	0.761+j3.650	1.566+j6.774
ITZIMNA	IZI-115	115.0	13.80	13.13	1.053+j4.693	2.119+j5.219	17.66	16.03	0.825+j4.051	2.120+j5.123
IXCHEL	IXC-115	115.0	7.29	6.28	2.737+j8.682	6.113+j12.167	9.16	7.50	2.168+j7.673	6.095+j11.977
IZAMAL	IZL-115	115.0	3.31	1.80	5.443+j19.316	21.272+j67.271	3.80	2.02	5.167+j18.534	21.258+j66.961
KABAH	KAB-115	115.0	10.96	13.04	1.737+j5.803	0.631+j3.133	15.33	17.57	1.100+j4.636	0.596+j2.906
KALA	KAL-115	115.0	6.02	5.56	2.822+j10.662	3.903+j12.810	7.98	7.03	2.075+j8.916	3.899+j12.487
KAMBUL	KBL-115	115.0	3.27	3.37	5.465+j19.555	2.026+j18.285	3.90	3.93	4.714+j18.121	2.028+j18.233
KANASÍN POTENCIA	KNP-230	230.0	11.91	11.69	1.797+j11.003	1.883+j11.474	17.40	16.04	0.995+j8.338	1.863+j10.503
KANASÍN POTENCIA	KNP-115	115.0	18.30	24.85	0.689+j3.562	0.102+j0.729	24.69	33.74	0.475+j2.920	0.098+j0.590
KANTENÁH	KTH-400	400.0	4.97	5.66	9.855+j45.393	2.425+j29.160	6.33	7.01	6.357+j39.640	2.382+j28.421
KANTENÁH	KTH-115	115.0	11.80	14.10	1.200+j5.495	0.178+j2.878	14.64	17.19	0.847+j4.918	0.176+j2.779
KAY	KAY-115	115.0	8.19	6.90	1.704+j7.924	3.240+j12.269	10.60	8.33	1.101+j6.801	3.228+j12.139
KEEH	KEE-115	115.0	9.62	8.71	1.697+j6.690	2.161+j8.829	13.24	11.02	1.031+j5.420	2.123+j8.617
KEKEN	KEK-115	115.0	12.42	13.62	1.312+j5.184	0.949+j3.822	16.91	17.67	0.811+j4.243	0.944+j3.670
KIMBILA (SET1)	KIM-115	115.0	3.56	1.87	4.999+j17.958	20.761+j65.900	4.08	2.09	4.747+j17.255	20.745+j65.648
KINICH AHAU	KAH-230	230.0	4.53	5.39	5.194+j28.834	1.587+j15.065	7.86	9.03	2.052+j18.470	1.218+j11.316
KOHUNLICH	KHN-115	115.0	12.23	12.37	1.277+j5.278	1.091+j5.140	16.10	15.47	0.841+j4.458	1.085+j4.997
KOPTE	KOP-115	115.0	4.70	3.31	3.625+j13.664	10.832+j30.153	5.32	3.69	3.494+j13.280	10.826+j30.088
KUKULKAN	KUK-115	115.0	11.24	10.86	1.621+j5.682	1.272+j6.428	15.49	13.98	1.034+j4.600	1.221+j6.147
LAGUNA DE TÉRMINOS	LTE-115	115.0	3.41	3.77	4.184+j19.008	2.275+j13.534	4.81	5.29	2.607+j14.943	1.864+j11.556
LÁZARO CÁRDENAS	LAC-115	115.0	2.66	1.61	7.745+j23.722	26.280+j67.628	3.33	1.89	6.455+j20.973	26.220+j66.892
LEE	LEE-115	115.0	8.63	4.30	1.249+j7.596	9.833+j29.373	10.29	4.88	1.053+j7.022	9.829+j29.298



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
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			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
LEONA VICARIO	LEV-400	400.0	5.15	5.69	9.235+j43.866	3.187+j31.667	6.63	7.09	5.719+j37.864	3.204+j30.818
LEONA VICARIO	LEV-115	115.0	13.58	15.39	1.097+j4.766	0.352+j3.157	17.99	19.67	0.688+j4.001	0.348+j3.020
LERMA	LRA-230	230.0	4.11	5.10	7.008+j31.550	0.354+j12.207	5.80	7.25	4.165+j24.840	0.323+j10.847
LERMA	LRA-115	115.0	8.08	10.66	1.856+j8.010	0.047+j1.886	11.76	15.94	1.086+j6.115	0.044+j1.537
MAHAHUAL	MHH-115	115.0	1.27	0.68	16.849+j49.641	63.084+j178.215	1.48	0.76	15.527+j46.897	63.018+j177.465
MANIOBRAS DZILAM	MAN-230	230.0	4.82	3.20	3.645+j27.336	14.999+j66.573	6.00	3.82	2.783+j24.179	15.016+j65.708
MANIOBRAS EÓLICA PROGRESO	MEP-115	115.0	5.89	6.64	1.830+j11.130	0.911+j9.432	6.16	7.08	1.832+j11.719	0.858+j9.463
MAXCANU	MAX-115	115.0	7.42	4.71	2.424+j8.612	9.272+j22.542	8.83	5.38	2.180+j7.978	9.254+j22.433
MAYA KOBÁ	MYK-115	115.0	8.31	7.40	1.776+j7.790	2.458+j10.631	10.21	8.71	1.288+j7.038	2.456+j10.584
MÉRIDA II	MDA-115	115.0	21.47	26.66	0.545+j3.045	0.135+j1.214	31.99	39.56	0.299+j2.264	0.083+j0.929
MÉRIDA IV	MDC-115	115.0	21.32	27.02	0.533+j3.069	0.049+j1.078	31.39	39.41	0.294+j2.308	0.039+j0.863
MÉRIDA ORIENTE	MDN-115	115.0	14.02	11.52	1.081+j4.609	2.018+j7.540	17.96	13.85	0.862+j3.974	2.017+j7.447
MÉRIDA POTENCIA	MDP-230	230.0	10.76	11.64	1.871+j12.195	0.990+j9.438	17.48	20.19	0.824+j8.316	0.293+j5.119
METROPOLITANA	MTO-115	115.0	15.08	13.03	0.936+j4.303	1.693+j6.207	19.96	16.11	0.703+j3.590	1.667+j6.048
MOON PALACE	MPA-115	115.0	7.56	6.01	1.792+j8.599	3.839+j15.099	9.46	7.11	1.235+j7.620	3.825+j14.957
NACHI COCOM	NCM-230	230.0	9.61	7.71	2.215+j13.634	5.020+j23.438	13.27	9.76	1.368+j10.923	5.034+j22.566
NACHI COCOM	NCM-115	115.0	20.40	19.73	0.658+j3.188	0.886+j3.474	28.20	25.34	0.440+j2.553	0.884+j3.398
NICHUPTE	NCT-115	115.0	11.48	13.87	1.653+j5.541	0.509+j2.785	16.05	18.76	1.047+j4.429	0.477+j2.560
NICTE HA	NIH-115	115.0	10.16	11.35	1.755+j6.296	0.967+j4.397	14.13	14.97	1.091+j5.053	0.945+j4.213
NIZUC	NIZ-230	230.0	7.08	7.56	4.345+j18.256	1.894+j15.087	9.72	10.00	2.417+j14.839	1.626+j13.700
NIZUC	NIZ-115	115.0	12.89	17.82	1.352+j4.968	0.100+j0.901	19.68	26.89	0.680+j3.648	0.084+j0.743
NORTE	NTE-230	230.0	10.12	11.09	2.214+j12.936	0.907+j9.649	14.63	15.28	1.293+j9.899	0.960+j8.912
NORTE	NTE-115	115.0	18.88	23.05	0.686+j3.449	0.143+j1.670	25.71	30.68	0.458+j2.804	0.140+j1.558
OXTANKAH	OXT-115	115.0	3.57	3.08	5.209+j17.879	8.009+j24.428	5.08	4.02	3.444+j13.970	7.983+j23.660
PETEMPICH (SET4)	PTP-115	115.0	7.59	6.08	1.789+j8.558	3.761+j14.797	9.54	7.21	1.223+j7.556	3.748+j14.659
PHOTOEMERIS SUSTENTABLE	PHS-115	115.0	3.16	3.33	5.629+j20.258	1.769+j17.662	3.77	3.88	4.851+j18.770	1.772+j17.615
PLAYA CAR	PLY-115	115.0	11.05	9.83	1.555+j5.806	1.634+j8.079	14.28	11.87	1.053+j5.007	1.639+j8.081
PLAYA DEL CARMEN	PCN-230	230.0	6.08	6.90	4.958+j21.265	1.408+j14.051	7.85	8.56	3.155+j18.343	1.439+j13.967
PLAYA DEL CARMEN	PCN-115	115.0	11.62	14.43	1.467+j5.523	0.179+j2.384	15.15	18.25	0.965+j4.722	0.184+j2.386
PLAYA MUJERES	PMU-115	115.0	8.73	7.90	2.062+j7.321	2.256+j9.755	11.27	9.62	1.494+j6.308	2.239+j9.565
POKTAPOK	PKP-115	115.0	11.99	14.59	1.592+j5.303	0.460+j2.572	17.13	20.16	0.964+j4.154	0.420+j2.330
POLYUC	PYU-115	115.0	5.28	4.71	2.598+j12.304	2.101+j16.574	6.51	5.74	2.008+j11.042	1.886+j15.469
PONIENTE	PTE-115	115.0	16.50	15.81	0.818+j3.940	0.833+j4.469	22.27	20.01	0.574+j3.229	0.826+j4.343
POPOLNAH	PPH-115	115.0	2.86	2.08	5.574+j22.534	13.379+j47.832	3.23	2.32	5.315+j21.942	13.371+j47.740
PUERTO JUÁREZ	PJU-115	115.0	13.16	15.25	1.368+j4.854	0.483+j2.966	18.73	20.74	0.809+j3.814	0.457+j2.757
PUERTO MORELOS	PMO-115	115.0	9.86	8.85	1.383+j6.590	1.820+j8.836	12.40	10.68	0.925+j5.817	1.788+j8.571
PUERTO PROGRESO	PPO-115	115.0	4.82	4.75	2.574+j13.535	3.207+j16.137	5.09	5.10	2.579+j14.123	3.154+j16.167
PUERTO REAL	PTR-230	230.0	2.84	3.76	8.828+j45.950	0.374+j11.667	3.89	5.11	5.351+j37.203	0.411+j11.584
PUERTO REAL	PTR-115	115.0	4.64	6.52	2.594+j14.057	0.044+j1.787	6.49	9.18	1.510+j11.151	0.053+j1.765
PUNTA SAM	PSA-115	115.0	10.72	9.52	1.606+j5.981	1.839+j8.363	14.41	11.85	1.044+j4.960	1.822+j8.173



Subestación Eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2028				NCC máximo 2028			
			3F	1F	ZTH(+)	ZTH(0)	3F	1F	ZTH(+)	ZTH(0)
QUETZAL	QTZ-115	115.0	6.62	4.85	2.084+j9.804	4.696+j20.459	7.94	5.59	1.669+j9.047	4.691+j20.320
RIVIERA MAYA	RMV-400	400.0	5.09	6.05	10.465+j44.114	2.027+j23.558	6.70	7.75	6.364+j37.365	1.921+j22.591
RIVIERA MAYA	RMV-230	230.0	7.31	8.97	4.096+j17.688	0.519+j8.096	9.70	11.61	2.431+j14.863	0.480+j7.680
RIVIERA MAYA	RMV-115	115.0	12.38	13.40	1.154+j5.237	0.358+j4.135	16.00	16.93	0.722+j4.507	0.318+j3.818
SABANCUY	SBY-115	115.0	2.80	1.73	5.753+j22.992	17.272+j64.717	3.27	1.99	5.273+j21.686	16.855+j63.812
SAMULA	SAM-115	115.0	5.99	5.68	2.776+j10.739	3.441+j12.056	8.00	7.24	2.003+j8.911	3.437+j11.718
SAMULA II	SAD-115	115.0	5.45	5.22	3.012+j11.812	3.039+j13.042	7.13	6.57	2.245+j9.998	3.036+j12.702
SAN IGNACIO	IGN-115	115.0	6.55	6.83	1.501+j10.031	1.510+j10.403	6.81	7.24	1.501+j10.621	1.478+j10.557
SAN PEDRO	SAE-115	115.0	2.17	1.37	5.212+j30.212	26.613+j79.871	2.58	1.57	4.610+j27.876	26.614+j79.013
SANTA LUCIA	SLC-230	230.0	5.00	5.43	4.836+j26.116	3.125+j19.834	9.10	10.45	1.721+j15.954	0.773+j9.873
SANTO DOMINGO	SDM-115	115.0	3.76	3.93	3.618+j17.265	2.653+j15.427	4.20	4.38	3.580+j17.032	2.600+j15.163
SIAN KA'AN (SET6)	SIK-115	115.0	2.47	1.72	4.549+j26.441	13.294+j60.223	2.87	1.96	3.943+j25.181	13.069+j59.092
SIHOCHAC	SHC-115	115.0	3.62	2.09	4.158+j17.857	13.331+j55.383	4.79	2.83	3.072+j14.919	9.682+j47.159
SUCILA	SUC-115	115.0	3.80	3.18	3.912+j17.038	8.283+j26.915	4.29	3.56	3.815+j16.595	8.272+j26.790
SUR	SUR-115	115.0	18.11	17.40	0.776+j3.583	1.150+j3.922	24.64	22.13	0.551+j2.913	1.141+j3.818
TAMANCHÉ DOS	TMD115	115.0	8.54	6.50	1.221+j7.679	3.596+j15.516	9.48	7.20	1.108+j7.627	3.584+j15.534
TEKAX II	TKD-115	115.0	5.52	3.79	3.016+j11.639	6.904+j27.590	6.40	4.28	2.770+j11.077	6.894+j27.505
TEMAX II	TXS-115	115.0	3.91	3.55	3.584+j16.600	5.985+j21.438	4.35	3.94	3.548+j16.404	5.971+j21.318
TICUL I	TIU-115	115.0	9.61	8.93	1.592+j6.721	2.040+j8.134	11.37	10.38	1.416+j6.263	2.026+j8.022
TICUL II	TIC-400	400.0	8.29	8.01	3.779+j27.605	3.108+j29.501	10.55	9.91	2.346+j23.964	2.884+j28.499
TICUL II	TIC-230	230.0	12.79	13.99	1.498+j10.277	0.691+j7.314	16.64	17.92	0.943+j8.728	0.620+j6.860
TICUL II	TIC-115	115.0	12.77	14.45	0.709+j5.151	0.142+j3.306	15.45	17.33	0.543+j4.697	0.128+j3.192
TIXMEHUAC	TXM-115	115.0	2.77	1.74	4.986+j23.424	18.156+j64.329	3.13	1.93	4.739+j22.862	18.146+j64.244
TIZIMIN	TZM-115	115.0	4.92	4.45	2.769+j13.203	4.689+j17.921	5.68	5.04	2.627+j12.596	4.686+j17.803
TULUM	TUM-115	115.0	3.47	2.89	6.635+j17.947	5.473+j30.544	3.98	3.27	6.203+j17.292	5.362+j30.034
UAYMA (SET2)	UAY-115	115.0	5.72	4.89	2.232+j11.382	4.849+j16.953	7.87	6.23	1.649+j9.129	4.796+j15.977
UCU	UCU-115	115.0	9.94	7.86	1.287+j6.555	2.862+j11.644	12.30	9.24	1.038+j5.848	2.855+j11.519
UMAN	UMA-115	115.0	7.90	4.66	2.398+j8.057	8.376+j24.485	9.44	5.31	2.168+j7.431	8.365+j24.389
VALLADOLID	VAD-230	230.0	9.65	11.76	1.455+j13.679	0.183+j6.400	13.56	16.36	0.704+j10.746	0.123+j5.208
VALLADOLID	VAD-115	115.0	8.54	10.76	1.093+j7.695	0.103+j3.035	14.13	17.83	0.460+j5.148	0.042+j1.941
VALLADOLID DISTRIBUCIÓN	VDD-115	115.0	7.22	6.08	1.570+j9.067	6.266+j13.294	10.74	8.07	0.986+j6.728	6.269+j12.442
XCALACOCO	XLC-115	115.0	8.37	7.19	1.577+j7.773	2.448+j11.574	10.25	8.47	1.123+j7.038	2.430+j11.393
XCUNYA	XCN-115	115.0	9.96	7.34	1.087+j6.578	3.374+j13.966	11.44	8.27	0.935+j6.316	3.369+j13.944
XPUJIL	XPU-115	115.0	1.80	1.34	5.769+j36.486	18.712+j71.794	2.11	1.53	4.824+j34.347	18.683+j71.409
XUL HA	XUL-230	230.0	2.78	3.14	10.466+j46.585	1.917+j27.039	4.06	4.49	5.275+j35.584	1.517+j23.816
XUL HA	XUL-115	115.0	5.09	6.31	3.055+j12.692	0.165+j3.813	8.31	10.36	1.386+j8.680	0.094+j2.836
YAXCHE	YXE-115	115.0	9.14	7.99	1.422+j7.123	2.343+j10.132	11.34	9.48	1.009+j6.363	2.339+j9.993
YAXKIN	YXN-115	115.0	10.00	10.45	1.697+j6.418	1.485+j5.565	12.61	12.65	1.222+j5.663	1.489+j5.559
ZAC NICTÉ	ZNE-115	115.0	9.38	8.66	1.616+j6.891	1.314+j8.750	11.76	10.32	1.121+j6.110	1.318+j8.727
ZAMA	ZMA-115	115.0	3.70	2.89	5.963+j16.921	7.033+j32.518	4.24	3.26	5.549+j16.309	6.957+j32.102