



CENACE[®]
CENTRO NACIONAL DE
CONTROL DE ENERGÍA

Niveles de cortocircuito de la Red Nacional de Transmisión 2024

Dirección de Operación y Planeación
del Sistema
Subdirección de Planeación

Diciembre de 2021

*Capacidad 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.

2. Fundamento legal

De conformidad con los Criterios INTG 11, así como 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 8 de abril de 2016, corresponde al Centro Nacional de Control de Energía (CENACE) calcular y publicar 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 se calcularon con base en lo siguiente:

- 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 2024.
- b) Para el escenario de mínima capacidad, se considera red completa (sin contingencia) y las condiciones esperadas para invierno de 2024.
- 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, para dos condiciones: con los retiros solicitados al CENACE para 2024, así como con el Programa Indicativo Para el Retiro de Centrales Eléctricas 2021-2035.
- d) Los modelos eléctricos del Sistema Eléctrico Nacional (SEN) contemplan las obras indicadas en 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) 2021-2035 y en el Programa de Desarrollo del Sistema Eléctrico Nacional (PRODESEN) 2021-2035.

- e) Los modelos eléctricos del SEN se desarrollaron con base en la información proporcionada por los Transportistas y Distribuidores.
- 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 2021-2035.
- 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 V34.9.1, 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., que tienen fecha de entrada en operación entre 2021 y 2024.

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.

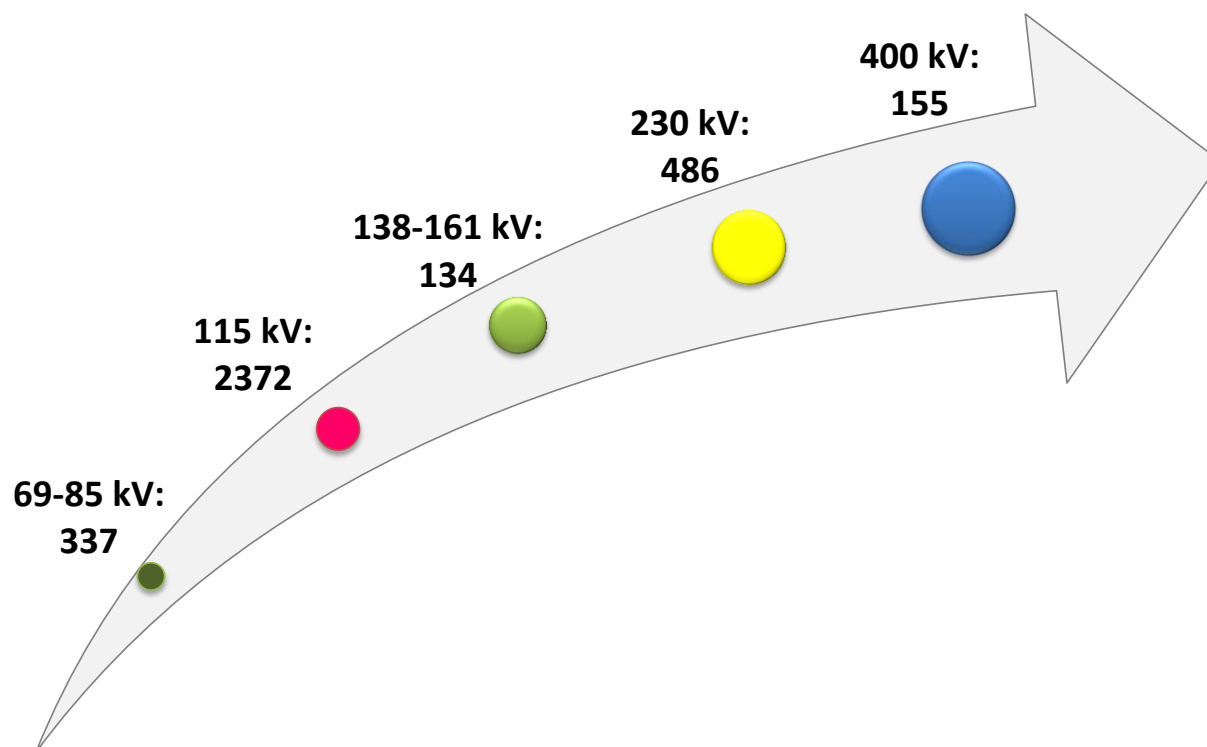
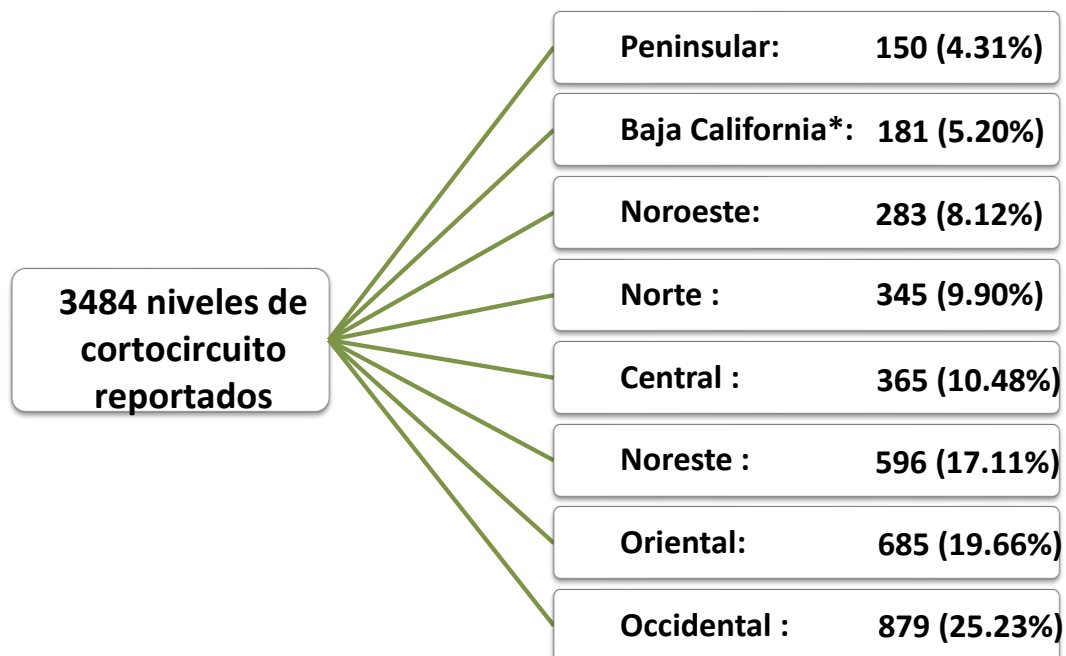


Figura 1: Niveles de cortocircuito por nivel de tensión

Considerando las diferentes Gerencias de Control Regional, en la figura 2 se indica el número de subestaciones eléctricas reportadas por Gerencia de Control, por ejemplo, el 25% de los niveles de cortocircuito reportados corresponde a la Gerencia de Control Regional Occidental.



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

Figura 2: Niveles de cortocircuito por Gerencia de Control Regional

5. Referencias

- [1] Ley de la Industria Eléctrica. DOF: 11/08/2014.
- [2] Reglamento de la Ley de la Industria eléctrica. DOF: 31/10/14.
- [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: 08/04/2016.
- [4] Programa de Ampliación y Modernización de la Red Nacional de Transmisión y Redes Generales de Distribución del Mercado Eléctrico Mayorista 2021-2035.
- [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	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ACEROS CAMESA	ACM-85	85	17.67	6.05	0.507+j2.730	2.007+j18.699	20.35	8.19	0.420+j2.620	2.590+j14.228
ACEROS CORSA	ACC-85	85	13.84	5.52	0.675+j3.482	2.636+j19.432	15.82	8.09	0.593+j3.361	2.926+j12.883
ACEROS CORSA	ACS-230	230	12.86	9.55	1.625+j10.193	3.712+j20.764	14.84	10.67	1.343+j9.749	3.772+j21.074
ACEROS NACIONALES	ACN-85	85	17.67	6.35	0.579+j2.717	2.179+j17.502	20.17	9.14	0.504+j2.629	2.641+j12.090
ACOLMAN	ACO-230	230	24.34	18.99	1.000+j5.363	2.069+j9.869	29.28	21.69	0.692+j4.940	2.104+j10.027
ACTOPAN	AAN-85	85	5.74	2.43	2.460+j8.192	8.355+j42.781	6.29	2.66	2.434+j8.225	8.450+j42.866
ACULCO	AUO-115	115	2.43	1.43	5.434+j26.728	16.833+j83.460	2.70	1.57	5.235+j26.506	16.897+j83.799
AGUAVIVA	AGV-85	85	5.70	1.43	1.791+j8.415	8.468+j85.300	6.21	1.57	1.772+j8.515	8.468+j85.300
ÁGUILAS	AGU-230	230	25.91	27.79	1.391+j4.933	0.640+j4.065	32.27	32.88	0.919+j4.432	0.663+j4.227
AGUSTÍN MILLÁN	ANM-115	115	16.17	12.47	0.770+j4.034	1.238+j7.651	21.57	15.12	0.501+j3.349	1.271+j7.604
ALMOLOYA	AML-400	400	11.71	10.39	3.655+j19.376	2.017+j27.260	15.54	12.58	1.963+j16.228	2.186+j27.733
ALPURA	ALR-85	85	18.12	5.89	0.509+j2.660	2.155+j19.472	21.21	7.97	0.408+j2.512	2.737+j14.991
ALTAMIRANO (115 KV)	ATM-115	115	2.71	1.61	6.751+j23.572	20.172+j72.002	3.35	2.34	5.449+j21.135	11.904+j48.328
AMOMOLULCO	AMO-85	85	9.34	4.89	1.180+j5.119	2.549+j19.458	10.24	5.40	1.124+j5.150	2.599+j19.308
APAPLASTIC	AAP-85	85	9.69	5.00	1.113+j4.940	2.764+j19.159	10.62	5.51	1.057+j4.971	2.815+j19.008
APASCO	APA-85	85	19.82	4.67	0.359+j2.450	1.943+j26.520	21.37	5.11	0.329+j2.505	1.987+j26.593
APASCO	APA-230	230	20.06	18.30	1.106+j6.527	1.011+j8.483	24.41	21.05	0.756+j5.936	1.098+j8.775
APM TERMINALS	ATS-115	115	10.60	9.58	1.095+j6.170	1.471+j8.012	13.54	11.66	0.839+j5.328	1.487+j7.835
ARAGÓN	ARA-85	85	10.17	2.86	0.530+j4.794	0.311+j41.847	11.23	3.15	0.483+j4.782	0.311+j41.847
ARAGÓN	ARA-230	230	18.32	18.08	1.250+j7.139	1.228+j7.458	21.83	20.79	0.878+j6.635	1.263+j7.606
ARCELIA NUEVA	ANU-69	69	2.24	2.77	3.997+j17.356	0.553+j7.524	2.52	3.05	3.349+j17.087	0.618+j8.250
ARCELIA NUEVA	ANU-115	115	2.35	1.44	9.388+j26.623	26.963+j77.601	2.94	2.41	7.449+j23.676	8.559+j40.530
ARMEX	ARX-230	230	23.79	19.23	0.998+j5.491	1.887+j9.377	29.88	22.85	0.636+j4.847	1.905+j9.213
ARTEAGA	ATG-69	69	1.60	1.71	2.736+j24.786	2.378+j20.013	2.20	2.19	4.055+j19.525	2.684+j19.922
ARTEAGA	ATG-115	115	2.37	1.84	5.623+j27.402	8.066+j51.367	2.96	2.19	5.327+j24.089	8.246+j50.003
ATENCO	ATE-85	85	16.03	7.92	0.621+j2.998	1.066+j12.451	17.52	8.75	0.564+j3.029	1.117+j12.302
ATENCO	ATE-230	230	16.58	17.83	1.986+j7.758	0.670+j6.356	20.18	20.71	1.402+j7.102	0.714+j6.650
ATIZAPÁN	ATI-230	230	20.62	17.83	1.358+j6.297	1.639+j9.335	25.12	20.57	0.919+j5.742	1.687+j9.529
ATLACOMULCO	ATU-115	115	8.05	5.78	1.647+j8.083	3.246+j17.677	8.98	6.35	1.525+j7.993	3.282+j17.926
ATLACOMULCO INDUSTRIAL	AIN-115	115	6.28	4.30	2.352+j10.303	5.293+j24.675	6.99	4.72	2.230+j10.215	5.330+j24.926
ATLACOMULCO POTENCIA	AMP-115	115	15.62	15.04	0.635+j4.203	0.321+j4.744	17.61	16.42	0.512+j4.116	0.355+j5.037
ATLACOMULCO POTENCIA	AMP-400	400	9.48	8.63	4.174+j24.012	2.405+j31.475	12.10	10.22	2.455+j20.858	2.621+j32.396
ATOTONILCO	ANL-85	85	2.94	1.40	4.242+j16.166	14.467+j70.457	3.22	1.54	4.221+j16.203	14.590+j70.543
AURORA	AUR-85	85	21.91	2.78	0.340+j2.214	0.097+j48.465	23.61	3.06	0.301+j2.266	0.097+j48.465
AURORA	AUR-230	230	31.45	32.51	0.974+j4.108	0.592+j3.788	39.28	38.44	0.608+j3.669	0.616+j3.919
AUTOMETALES	AUM-85	85	13.69	5.48	0.700+j3.516	2.728+j19.508	15.76	8.27	0.610+j3.370	2.895+j12.411
AVANDARO	AVA-115	115	6.87	4.68	2.757+j9.260	6.716+j22.270	8.21	5.37	2.463+j8.551	6.704+j22.021
AVANTE TEXTIL	AVT-85	85	13.75	7.17	0.738+j3.492	1.293+j13.377	15.11	7.93	0.677+j3.508	1.344+j13.200
AYOTLA	AYO-85	85	18.27	2.25	0.409+j2.655	3.150+j59.881	19.58	2.47	0.377+j2.731	3.150+j59.881
AYOTLA	AYO-230	230	20.94	20.77	1.244+j6.219	0.759+j6.481	24.73	23.47	0.882+j5.841	0.808+j6.815
AZCAPOTZALCO	AZC-230	230	31.04	30.60	1.113+j4.130	2.396+j3.912	40.13	37.08	0.653+j3.581	2.443+j4.042
AZTECA	ATK-230	230	26.62	26.08	0.970+j4.892	0.726+j5.271	32.82	30.59	0.614+j4.408	0.742+j5.383



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
BANCOMER	BBV-230	230	21.29	11.76	1.353+j6.087	2.055+j21.382	26.05	13.33	0.907+j5.534	2.098+j21.564
BÁRBARA (SANTA)	BBR-115	115	7.29	4.91	2.037+j8.880	4.543+j21.841	9.72	7.68	1.418+j7.376	1.885+j13.335
BARRIENTOS	BAR-85	85	20.47	7.00	0.505+j2.344	1.762+j16.178	23.51	10.39	0.431+j2.256	2.224+j10.766
BECTON DICKINSON	BDK-85	85	17.72	5.82	0.522+j2.719	2.189+j19.660	20.75	7.85	0.419+j2.567	2.771+j15.179
BOSQUES	BOS-230	230	23.08	21.12	1.507+j5.553	1.586+j7.194	28.46	24.62	1.041+j5.027	1.621+j7.354
CAMPO MORADO	CMO-115	115	1.78	1.08	11.264+j35.476	32.439+j105.192	2.16	1.60	9.312+j32.548	13.857+j67.887
CAMPOS HERMANOS	CHE-85	85	18.87	6.64	0.544+j2.543	1.984+j16.885	21.60	9.68	0.470+j2.455	2.447+j11.473
CANCHESDA NUEVA	CSN-115	115	3.06	1.91	5.719+j20.965	15.384+j58.609	3.38	2.10	5.595+j20.880	15.425+j58.868
CAÑAS	CNA-69	69	0.74	0.71	21.384+j49.275	20.708+j58.375	1.72	1.42	10.804+j23.096	13.491+j39.436
CARACOL	ROL-230	230	22.78	19.00	1.110+j5.722	1.846+j9.138	27.49	21.82	0.776+j5.257	1.888+j9.282
CARBONER	CSR-115	115	5.40	4.87	2.581+j12.031	3.541+j15.758	6.39	5.63	2.320+j11.194	3.570+j15.628
CAREAGA	CAR-85	85	19.98	6.37	0.489+j2.407	2.164+j18.077	22.55	9.79	0.424+j2.356	2.247+j11.533
CARTAGENA	CTG-230	230	28.77	26.19	0.985+j4.510	0.673+j5.968	36.30	30.97	0.600+j3.979	0.686+j6.071
CARTÓN Y PAPEL DE MÉXICO	CPM-230	230	27.26	24.79	0.977+j4.772	1.137+j6.243	33.81	29.06	0.617+j4.276	1.159+j6.349
CAYACAL	CAY-115	115	7.62	6.90	1.794+j8.527	2.126+j11.121	9.31	8.11	1.529+j7.693	2.195+j11.106
CEILÁN	CEI-230	230	24.10	22.69	1.098+j5.399	1.083+j6.463	30.07	26.48	0.669+j4.812	1.121+j6.747
CEMENTOS ANÁHUAC	CAH-85	85	17.66	6.43	0.583+j2.718	1.942+j17.237	20.22	9.22	0.505+j2.621	2.458+j11.974
CEMENTOS APASCO	CEA-85	85	10.55	3.10	0.825+j4.578	5.478+j37.805	11.52	3.40	0.791+j4.620	5.522+j37.878
CEMENTOS FORTALEZA	CFZ-85	85	2.53	1.17	4.856+j18.810	16.756+j85.650	2.78	1.28	4.830+j18.842	16.851+j85.734
CEMENTOS TOLTECA	TLT-85	85	9.89	2.77	0.869+j4.886	6.935+j42.619	10.78	3.04	0.836+j4.937	6.979+j42.692
CERRO DEL CAMPO	CCM-115	115	3.37	2.31	5.997+j18.777	14.775+j44.396	4.00	2.93	5.270+j17.471	11.384+j36.566
CERRO GORDO	CRG-85	85	25.26	8.44	0.355+j1.910	0.953+j13.538	31.84	17.54	0.251+j1.677	0.998+j5.781
CERRO GORDO	CRG-230	230	34.95	37.58	0.857+j3.701	0.411+j2.999	45.04	45.71	0.501+j3.204	0.427+j3.083
CERVECERÍA MODELO	CVM-85	85	14.00	4.65	0.699+j3.435	7.261+j23.607	15.69	6.43	0.633+j3.382	7.292+j16.943
CHALCO	CHA-85	85	13.09	1.95	0.679+j3.687	4.863+j67.991	14.04	2.14	0.658+j3.788	4.863+j67.991
CHALCO	CHA-85B	85	13.09	1.95	0.679+j3.687	4.863+j67.991	14.04	2.14	0.658+j3.788	4.863+j67.991
CHALCO	CHA-230	230	16.60	16.86	2.380+j7.635	2.070+j7.370	19.38	19.00	2.020+j7.260	2.135+j7.710
CHAPINGO	CPG-230	230	38.16	34.43	0.749+j3.399	0.899+j4.539	49.17	41.56	0.429+j2.939	0.902+j4.523
CHICOLOAPAN	CHC-230	230	34.79	24.22	0.770+j3.738	1.837+j8.638	44.14	28.19	0.451+j3.278	1.874+j8.742
CHIMALPA	MLP-230	230	29.02	31.02	1.254+j4.400	0.841+j3.607	37.05	37.34	0.793+j3.862	0.863+j3.752
CHIMALPA DOS	MLD-230	230	30.33	32.67	1.181+j4.215	0.545+j3.419	38.94	39.43	0.721+j3.681	0.573+j3.567
CHIMALPA DOS	MLD-400	400	22.27	22.05	2.572+j10.048	1.709+j10.580	30.59	27.55	1.256+j8.209	1.783+j10.903
CHRYSLER DE MÉXICO	KDM-85	85	12.98	7.26	0.765+j3.702	1.122+j12.707	14.39	8.09	0.697+j3.686	1.176+j12.463
CIUDAD BICENTENARIO	CDB-115	115	6.24	5.10	1.347+j10.556	2.195+j17.676	6.62	5.39	1.339+j10.953	2.255+j18.458
COAPA	COA-230	230	17.76	16.09	1.507+j7.323	1.662+j9.684	21.18	18.34	1.069+j6.815	1.717+j9.960
COFRADÍA UNO	CFI-230	230	27.76	25.13	1.044+j4.668	0.846+j6.254	35.11	29.72	0.629+j4.113	0.864+j6.369
COMALCO	COM-115	115	3.70	2.42	4.285+j17.436	10.673+j45.269	4.09	2.66	4.159+j17.353	10.707+j45.552
CONDESA	CDS-230	230	21.08	22.80	1.754+j6.050	1.066+j4.775	25.61	26.47	1.276+j5.559	1.117+j5.022
CONTADERO	CTD-230	230	22.29	20.83	1.530+j5.758	1.377+j7.093	27.32	24.18	1.061+j5.240	1.422+j7.291
CONTRERAS	CRS-230	230	15.58	13.72	1.702+j8.350	1.173+j11.981	18.30	15.45	1.255+j7.881	1.223+j12.348
COVADONGA	CVD-85	85	12.51	1.96	0.705+j3.858	4.628+j66.988	13.48	2.16	0.679+j3.948	4.628+j66.988
COYOACÁN	COY-230	230	22.24	23.97	1.580+j5.757	1.165+j4.542	27.15	27.92	1.103+j5.266	1.217+j4.785



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
COYOTEPEC	CYO-85	85	7.61	3.32	2.013+j6.123	6.633+j30.858	9.81	4.23	1.431+j5.316	7.206+j26.329
CRUZ AZUL	CCZ-230	230	24.63	20.79	0.867+j5.322	1.542+j8.244	31.11	24.96	0.521+j4.667	1.555+j8.021
CUAJIMALPA	CJM-230	230	22.55	22.03	1.408+j5.718	0.790+j6.292	27.50	25.54	0.941+j5.227	0.819+j6.490
CUAUHTÉMOC	CMC-230	230	21.35	20.81	1.254+j6.091	1.104+j6.638	25.98	23.95	0.849+j5.558	1.171+j6.974
CUAUTITLÁN	CTT-85	85	17.35	5.71	0.563+j2.773	2.427+j19.986	21.05	7.75	0.420+j2.530	3.006+j15.485
CUBITOS	CBT-85	85	9.08	3.48	1.233+j5.264	5.126+j31.152	9.91	3.81	1.216+j5.310	5.254+j31.179
CULHUACÁN	LUN-230	230	18.49	8.95	1.490+j7.027	1.542+j30.267	22.02	9.83	1.065+j6.547	1.635+j31.321
DEACERO	DCO-85	85	20.68	7.02	0.492+j2.322	1.769+j16.144	24.14	10.35	0.405+j2.199	2.311+j10.935
DEPORTIVA	DVA-230	230	16.66	17.81	1.549+j7.816	0.533+j6.444	19.79	20.28	1.035+j7.308	0.578+j6.817
DEPORTIVA	DVA-400	400	14.43	13.20	3.171+j15.686	1.353+j20.535	19.14	15.97	1.597+j13.179	1.463+j21.092
DÍANA	DAA-230	230	21.06	22.81	1.761+j6.055	1.087+j4.744	25.58	26.49	1.284+j5.564	1.139+j4.991
DISTRIBUCIÓN BMX	BMX-85	85	16.82	5.57	0.565+j2.863	2.433+j20.452	19.74	7.46	0.456+j2.696	3.015+j15.967
DISTRIBUCIÓN DRT	DRT-115	115	6.26	4.27	2.361+j10.342	5.322+j24.821	6.96	4.70	2.238+j10.254	5.359+j25.071
DONATO GUERRA	DOG-115	115	23.97	22.99	0.468+j2.730	0.222+j3.122	35.57	30.12	0.206+j2.043	0.262+j3.147
DONATO GUERRA	DOG-115B	115	24.81	23.77	0.472+j2.634	0.233+j3.021	37.10	31.39	0.209+j1.957	0.271+j3.023
DONATO GUERRA	DOG-400	400	14.65	14.37	3.317+j15.414	1.291+j16.625	23.58	20.18	1.321+j10.691	1.695+j16.003
DOS CARLOS	DCA-85	85	5.81	2.50	1.921+j8.223	6.850+j41.503	6.37	2.74	1.900+j8.260	6.973+j41.590
ECATEPEC	ECA-230	230	21.91	19.39	1.145+j5.951	1.516+j8.308	26.72	22.48	0.777+j5.411	1.548+j8.436
EL CARMEN	CRM-85	85	5.58	3.14	2.508+j8.422	7.440+j28.425	6.68	3.87	2.318+j7.736	6.839+j24.747
EL CERRILLO	ECR-230	230	12.58	11.76	2.392+j10.285	1.648+j12.706	14.84	13.35	1.822+j9.671	1.699+j13.036
EL GALLO	ELG-115	115	2.10	1.29	7.147+j30.780	19.879+j88.553	2.97	3.22	4.336+j24.173	1.638+j18.901
EL ROSAL	RSL-230	230	15.49	13.45	1.674+j8.405	1.238+j12.462	18.14	15.12	1.240+j7.955	1.288+j12.822
EL SALTO	SAO-85	85	9.20	7.49	0.846+j5.268	1.698+j8.838	13.50	15.10	0.466+j3.971	0.264+j2.643
EL SALTO	SAO-230	230	6.05	6.54	3.626+j21.660	1.570+j17.003	7.61	7.72	2.516+j19.039	1.740+j18.159
EL VIDRIO	EVD-230	230	14.02	11.04	1.804+j9.297	2.740+j16.941	16.53	12.47	1.390+j8.727	2.838+j17.249
ENERGÍA DEL VALLE DE MÉXICO DOS MANIOBRAS	MAN-230	230	19.56	15.91	1.053+j6.706	1.558+j11.401	22.75	17.76	0.813+j6.368	1.631+j11.745
MANIOBRAS COFUJIN	MAN-230	230	9.73	6.79	2.162+j13.471	6.348+j30.823	11.21	7.57	1.835+j12.897	6.436+j31.241
MANIOBRAS SICARTSA	MAN-230	230	12.06	10.66	2.563+j10.707	2.622+j14.697	18.98	15.02	1.293+j7.587	2.562+j13.365
ENERGÍA DEL VALLE DE MÉXICO DOS MANIOBRAS	MAN-400	400	21.81	18.97	1.636+j10.464	1.948+j15.236	27.72	22.46	0.878+j9.122	2.035+j15.459
ESMERALDA	ESR-85	85	10.62	2.94	0.488+j4.596	0.000+j40.867	11.66	3.23	0.445+j4.608	0.000+j40.867
ESMERALDA	ESR-230	230	18.06	18.42	1.259+j7.243	1.098+j6.855	21.50	21.22	0.886+j6.736	1.126+j6.982
ESMERALDA	ESR-230B	230	18.06	18.42	1.259+j7.243	1.098+j6.855	21.50	21.22	0.886+j6.736	1.126+j6.982
ESTADIO	EST-230	230	15.47	15.65	1.630+j8.428	0.769+j8.288	18.28	17.75	1.118+j7.914	0.819+j8.664
ESTRELLA	ETR-230	230	21.71	20.24	1.874+j5.822	2.674+j6.976	26.24	23.39	1.471+j5.368	2.690+j7.132
ESTRELLA	ETR-230B	230	16.52	14.04	2.108+j7.758	3.172+j11.903	19.65	16.01	1.676+j7.243	3.195+j12.092
FERROCARRILES NACIONALES	FNL-230	230	32.72	33.23	0.927+j3.951	0.568+j3.848	42.47	40.24	0.520+j3.400	0.584+j3.973
FERTIMÉX	FTM-230	230	6.00	4.37	4.013+j21.764	11.514+j45.114	8.18	6.05	2.588+j17.665	9.091+j35.912
FISISA	FIS-230	230	15.51	13.05	1.630+j8.407	2.430+j13.199	18.17	14.70	1.210+j7.945	2.496+j13.510
FORD MOTOR COMPANY	FMC-85	85	23.52	7.14	0.388+j2.050	1.537+j16.406	27.62	10.11	0.298+j1.932	2.120+j11.933
FRANCISCO DE LOS REYES	FRR-115	115	1.87	1.14	9.706+j34.076	27.423+j99.513	2.07	1.26	9.581+j33.991	27.466+j99.776
FUNDIDORA MÉXICO	FUM-85	85	21.75	6.99	0.431+j2.214	1.443+j16.497	25.32	9.84	0.343+j2.104	2.026+j12.027
GENERAL MOTORS	GMC-85	85	13.40	7.37	0.740+j3.588	1.369+j12.586	14.87	8.23	0.671+j3.568	1.427+j12.332



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
GUACAMAYAS	GMV-115	115	9.80	9.28	1.253+j6.656	1.277+j7.719	12.36	11.48	0.988+j5.824	1.174+j7.159
GUADALUPE	GUA-85	85	15.05	5.84	0.665+j3.192	2.529+j18.541	17.89	10.21	0.552+j2.966	2.245+j9.591
HÉROES DE CARRANZA	HRC-230	230	10.60	7.91	2.144+j12.339	5.804+j24.689	12.83	9.16	1.670+j11.264	5.804+j24.410
HIDALGO	HDG-85	85	6.75	3.35	1.621+j7.088	3.677+j29.262	7.40	3.66	1.596+j7.122	3.831+j29.499
HIPÓDROMO	HIP-85	85	16.11	5.22	0.571+j2.992	3.222+j21.899	18.11	7.52	0.505+j2.939	3.272+j15.243
HUASTECA	HTC-85	85	15.09	4.84	0.665+j3.184	7.163+j22.848	16.94	6.76	0.598+j3.131	7.194+j16.184
HUETAMO	HTM-69	69	1.86	2.19	3.269+j21.193	0.582+j11.644	2.08	2.39	2.635+j20.906	0.641+j12.809
HUETAMO	HTM-115	115	2.40	1.46	6.905+j26.816	19.257+j78.940	3.13	2.51	4.958+j22.779	7.408+j39.951
INDIANILLA	INN-85	85	9.91	0.17	0.706+j4.901	0.458-j876.784	10.29	0.19	0.697+j5.198	0.458-j876.784
INDUSTRIA DE LA DEFENSA NAL.	IDN-85	85	16.47	5.17	0.612+j2.917	5.334+j21.883	18.52	7.39	0.546+j2.863	5.374+j15.224
INDUSTRIA MILITAR	INM-85	85	9.96	3.94	1.045+j4.817	4.737+j27.088	11.09	5.25	0.980+j4.768	4.818+j20.538
INDUSTRIAL SAN CRISTÓBAL	ISC-85	85	15.06	5.48	0.586+j3.206	2.748+j20.163	20.01	13.27	0.397+j2.668	1.103+j6.773
INDUSTRIAS UNIDAS S. A.	INU-115	115	9.49	7.37	1.347+j6.864	2.375+j12.804	10.60	8.09	1.223+j6.778	2.408+j13.096
INFIERNILLO	IFR-69	69	0.55	0.64	30.998+j65.061	6.510+j44.374	1.00	1.02	20.255+j39.074	6.833+j41.334
INSURGENTES	INS-85	85	18.21	6.73	0.545+j2.639	1.688+j16.412	22.68	14.55	0.411+j2.344	0.998+j6.307
IROLO	IRO-230	230	13.09	10.31	1.645+j10.008	3.037+j18.143	15.07	11.45	1.373+j9.596	3.160+j18.652
IUSASOL 1	IUN-115	115	14.98	14.17	0.671+j4.381	0.403+j5.182	16.88	15.48	0.546+j4.292	0.437+j5.478
IXTAPALUCA	IXL-230	230	21.36	21.09	1.190+j6.101	0.680+j6.458	25.28	23.94	0.831+j5.719	0.710+j6.722
IXTAPAN DE LA SAL	IXS-115	115	2.36	1.36	6.100+j27.412	18.997+j88.236	4.21	2.82	3.715+j16.937	9.354+j41.910
IXTAPANTONGO	IXT-115	115	10.02	7.20	1.399+j6.474	2.661+j14.170	13.96	10.93	0.868+j5.161	1.378+j9.436
IXTLAHUACA DOS	ITD-115	115	10.15	7.94	1.172+j6.437	1.717+j11.877	11.34	8.71	1.048+j6.352	1.751+j12.160
IZTAPALAPA	IZT-230	230	20.14	18.80	1.369+j6.450	0.966+j7.983	24.31	21.65	0.938+j5.936	0.989+j8.172
JABÓN LA CORONA	JLC-230	230	22.73	20.53	1.091+j5.741	1.312+j7.628	27.59	23.71	0.727+j5.245	1.353+j7.789
JAMAICA	JAM-85	85	10.80	0.17	0.547+j4.513	0.041-j877.953	11.15	0.19	0.538+j4.810	0.041-j877.953
JAMAICA	JAM-230	230	19.11	19.96	1.478+j6.789	0.813+j6.036	22.71	22.76	1.067+j6.344	0.866+j6.340
JASSO	JAS-85	85	16.08	2.96	0.347+j3.031	6.888+j43.014	17.18	3.24	0.321+j3.126	6.932+j43.087
JASSO	JAS-230	230	25.29	22.19	0.838+j5.183	1.094+j7.380	32.25	26.75	0.490+j4.502	1.146+j7.230
JILOTEPEC	JIL-115	115	7.99	6.39	1.525+j8.163	2.661+j14.294	9.04	7.07	1.344+j7.964	2.720+j14.596
JILOTEPEC INDUSTRIAL	JID-115	115	7.30	5.67	1.663+j8.945	3.145+j16.631	8.26	6.27	1.470+j8.717	3.208+j16.968
JILOTEPEC POTENCIA	JIP-115	115	8.44	7.10	1.406+j7.742	2.221+j12.109	9.60	7.86	1.214+j7.513	2.284+j12.446
JILOTEPEC POTENCIA	JIP-230	230	5.01	4.18	4.911+j26.071	8.401+j41.394	5.94	4.75	4.027+j24.270	8.613+j42.107
JOROBAS	JRB-230	230	24.74	20.27	0.966+j5.280	1.728+j8.758	31.25	24.19	0.604+j4.636	1.746+j8.594
JUANDO	JUA-85	85	6.66	2.64	2.106+j7.056	6.966+j40.423	7.30	2.90	2.077+j7.095	7.030+j40.502
JUCHITEPEC	JCP-85	85	6.63	1.54	1.489+j7.251	7.490+j80.730	7.20	1.69	1.469+j7.351	7.490+j80.730
JUGOS DEL VALLE	JDV-85	85	7.07	3.08	2.084+j6.617	7.073+j33.227	8.82	3.86	1.557+j5.917	7.645+j28.701
JUGSMEX	JMX-85	85	18.38	6.54	0.520+j2.619	2.057+j17.054	22.67	11.87	0.402+j2.347	1.981+j8.684
KILOMETRO 110	KMC-85	85	10.28	4.60	0.798+j4.708	4.003+j22.086	11.77	5.40	0.762+j4.525	3.964+j20.413
KILOMETRO 110	KMC-230	230	10.66	10.71	1.984+j12.300	1.691+j12.201	12.97	12.36	1.460+j11.170	1.787+j12.763
KILOMETRO 42	KCD-85	85	2.16	1.06	9.142+j20.817	44.501+j82.100	2.39	1.19	9.105+j20.632	44.044+j79.861
KILOMETRO 48	KCO-85	85	4.37	2.69	2.037+j11.034	5.291+j31.916	6.18	3.80	1.654+j8.581	4.257+j24.649
KILOMETRO CERO	KCR-230	230	22.15	21.63	1.188+j5.876	0.776+j6.414	27.05	24.93	0.783+j5.342	0.840+j6.747
LA CEIBA	LAC-115	115	2.54	1.57	6.152+j25.432	16.822+j72.340	3.49	3.27	3.973+j20.528	3.640+j24.864



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
LA COSTEÑA	LCT-85	85	18.05	6.46	0.495+j2.674	1.935+j17.263	23.19	14.02	0.351+j2.301	1.301+j6.807
LA ESTANCIA	LES-115	115	5.93	4.13	3.012+j10.775	6.886+j24.947	7.02	4.74	2.697+j10.042	6.835+j24.526
LA LOMA	LOM-85	85	14.68	5.49	0.705+j3.267	2.919+j19.924	16.57	7.74	0.635+j3.195	3.233+j14.061
LA MIRA	MIR-115	115	6.61	5.60	2.208+j9.807	2.777+j15.084	8.13	7.36	1.921+j8.773	1.895+j11.675
LA PAZ	LAP-230	230	27.64	30.46	1.007+j4.698	0.328+j3.490	33.50	35.25	0.650+j4.312	0.354+j3.705
LA PAZ	LAP-400	400	25.70	25.94	2.120+j8.733	0.912+j8.781	34.78	32.12	1.067+j7.227	0.958+j9.080
LA QUEBRADA	LAQ-85	85	17.63	6.45	0.586+j2.722	2.033+j17.150	20.47	9.35	0.496+j2.590	2.560+j11.775
LAFARGE	LFG-230	230	20.46	15.48	0.993+j6.415	2.230+j12.570	25.17	18.09	0.646+j5.768	2.253+j12.420
LAGO	LGO-230	230	22.34	23.59	0.964+j5.867	0.782+j4.953	26.51	26.99	0.626+j5.474	0.822+j5.162
LAGO	LGO-400	400	23.16	15.19	1.890+j9.792	3.655+j25.438	30.38	17.53	0.969+j8.307	3.866+j26.473
LAGO DE GUADALUPE	LDG-230	230	26.78	23.65	1.069+j4.842	1.046+j6.867	33.69	27.87	0.652+j4.286	1.063+j6.977
LAS AMÉRICAS	LAR-230	230	24.05	18.12	0.959+j5.438	2.177+j10.735	29.98	21.17	0.591+j4.836	2.211+j10.744
LÁZARO CÁRDENAS DISTRIBUCIÓN	LCD-115	115	9.71	9.29	1.278+j6.715	1.220+j7.559	12.24	11.24	1.015+j5.880	1.256+j7.442
LÁZARO CÁRDENAS POTENCIA	LCP-115	115	14.94	16.06	0.554+j4.410	0.186+j3.406	20.41	21.09	0.309+j3.564	0.198+j3.205
LÁZARO CÁRDENAS POTENCIA	LCP-230	230	16.91	19.87	1.563+j7.698	0.192+j3.929	32.86	37.46	0.480+j4.420	0.142+j2.634
LÁZARO CÁRDENAS POTENCIA	LCP-400	400	11.97	13.20	3.331+j19.001	0.812+j12.857	29.67	32.53	0.652+j8.537	0.315+j5.588
LECHERÍA	LEC-85	85	25.66	7.99	0.393+j1.872	1.242+j14.574	30.28	12.18	0.308+j1.756	1.816+j9.570
LERMA	LER-85	85	0.87	0.46	14.699+j54.636	50.733+j198.643	2.56	2.80	2.353+j20.954	0.341+j10.277
LIQUIMEX	LQX-85	85	9.75	3.98	1.440+j4.820	5.003+j26.475	12.02	5.12	1.129+j4.349	5.576+j21.952
LOMAS VERDES	LVE-230	230	21.61	18.87	1.333+j5.998	1.499+j8.708	26.48	21.85	0.887+j5.444	1.542+j8.890
LOS REYES	RES-85	85	18.63	2.47	0.421+j2.601	1.986+j54.297	20.13	2.71	0.382+j2.655	1.986+j54.297
LOS REYES	RES-230	230	25.14	26.63	1.076+j5.172	0.468+j4.400	30.29	30.72	0.716+j4.769	0.494+j4.601
MADERO	MAD-230	230	22.94	23.53	1.035+j5.697	1.008+j5.268	27.67	27.21	0.681+j5.234	1.040+j5.464
MAGDALENA	MAG-85	85	21.02	2.07	0.361+j2.307	5.736+j66.307	23.11	2.27	0.299+j2.317	5.736+j66.307
MAGDALENA	MAG-230	230	24.85	25.58	1.179+j5.213	0.738+j4.854	30.29	29.75	0.773+j4.760	0.762+j5.035
MANIOBRAS ASL	ASL-MAN	230	15.47	11.47	1.222+j8.497	2.766+j17.358	18.08	12.81	0.897+j8.028	2.861+j17.825
MATILDE	MAT-85	85	5.75	2.12	1.654+j8.375	12.235+j51.065	6.25	2.33	1.659+j8.478	12.379+j50.824
MERCEDE (A)	MER-230	230	17.34	17.31	1.651+j7.477	1.137+j7.645	20.46	19.62	1.238+j7.033	1.197+j7.972
MERCEDE (B)	MER-230B	230	17.34	17.31	1.651+j7.477	1.137+j7.645	20.46	19.62	1.238+j7.033	1.197+j7.972
MILAGROS	MGR-85	85	12.88	2.30	0.732+j3.740	2.621+j56.462	14.09	2.53	0.687+j3.770	2.621+j56.462
MILLÁN DOS	MDO-400	400	14.05	13.27	3.345+j16.089	1.394+j19.324	21.72	17.98	1.383+j11.611	1.744+j18.799
MINERA TIZAPA	MTI-115	115	7.08	5.37	1.925+j9.180	3.291+j17.997	8.87	6.93	1.460+j8.101	2.495+j14.888
MOCTEZUMA	MZA-85	85	8.65	2.62	0.754+j5.624	1.266+j44.922	9.54	2.88	0.706+j5.612	1.266+j44.922
MORALES	MOS-85	85	18.00	5.53	0.505+j2.679	3.027+j20.955	20.29	8.12	0.439+j2.625	3.077+j14.300
MORALES	MOS-230	230	18.12	18.15	1.541+j7.163	1.519+j7.155	21.71	20.77	1.135+j6.631	1.591+j7.495
MORELOS	MOR-230	230	11.16	9.19	2.016+j11.729	3.435+j19.251	12.76	10.18	1.608+j11.334	3.567+j19.832
NACEL Y NACOBRE	NYN-85	85	12.71	5.25	0.832+j3.770	2.779+j20.172	14.29	7.04	0.763+j3.701	3.336+j15.101
NARVARTE	NAR-230	230	21.46	23.32	1.698+j5.950	1.104+j4.586	26.11	27.12	1.220+j5.460	1.160+j4.833
NAUCALPAN	NAU-85	85	17.94	6.40	0.561+j2.677	1.676+j17.480	20.84	11.09	0.475+j2.546	1.432+j9.320
NECAXA	NEC-85A	85	8.39	6.49	1.051+j5.757	2.246+j10.740	12.08	12.50	0.650+j4.423	0.557+j3.900
NECAXA	NEC-85B	85	8.39	6.49	1.051+j5.757	2.246+j10.740	12.06	12.48	0.653+j4.428	0.557+j3.900
NECAXA	NEC-85C	85	8.39	6.49	1.051+j5.757	2.246+j10.740	12.06	12.48	0.653+j4.428	0.557+j3.900



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
NECAXA	NEC-85D	85	8.39	6.49	1.051+j5.757	2.246+j10.740	12.11	12.53	0.643+j4.410	0.557+j3.900
NESTLÉ	NLE-85	85	12.64	6.78	0.804+j3.798	1.615+j13.878	13.96	7.53	0.739+j3.795	1.670+j13.660
NETZAHUALCÓYOTL	NET-85	85	15.05	2.43	0.599+j3.205	1.911+j54.216	16.44	2.67	0.554+j3.237	1.911+j54.216
NISSAN	NIS-85	85	10.63	5.39	1.005+j4.504	2.635+j17.920	11.65	5.94	0.949+j4.536	2.685+j17.770
NOCHISTONGO	NOC-115	115	7.66	7.17	0.949+j8.612	0.714+j10.422	8.06	7.47	0.940+j9.011	0.775+j11.204
NOCHISTONGO	NOC-230	230	30.19	26.67	0.838+j4.318	1.103+j6.050	39.20	32.40	0.478+j3.695	1.121+j5.970
NONOALCO	NON-85	85	26.35	8.02	0.348+j1.830	1.199+j14.595	35.88	27.71	0.207+j1.490	0.157+j2.855
NOPALA	NOP-230A	230	27.14	27.34	1.126+j4.762	0.646+j4.766	34.09	32.25	0.675+j4.232	0.688+j4.973
NOPALA	NOP-230B	230	27.14	27.34	1.126+j4.762	0.646+j4.766	34.09	32.25	0.675+j4.232	0.688+j4.973
NOPALA	NOP-230C	230	27.22	27.63	1.123+j4.747	0.615+j4.644	34.21	32.62	0.673+j4.217	0.656+j4.850
NOPALA	NOP-400	400	24.56	26.67	2.481+j9.070	0.717+j7.216	34.88	34.51	1.161+j7.189	0.774+j7.478
NUEVO AEROPUERTO INTERNACIONAL MANIOBRAS	NAI-MAN	230	21.57	22.85	1.025+j6.070	0.878+j5.061	25.71	26.25	0.679+j5.640	0.917+j5.266
NUEVO FANAL	NFA-85	85	20.09	6.92	0.508+j2.389	1.812+j16.312	23.43	10.17	0.421+j2.265	2.352+j11.078
NUTRIGO	NTG-115	115	8.18	6.05	1.598+j7.960	2.946+j16.449	9.12	6.63	1.474+j7.875	2.980+j16.733
OCEANÍA	OCE-230	230	16.34	15.50	1.800+j7.926	3.193+j8.942	19.20	17.55	1.388+j7.482	3.253+j9.269
OCEANÍA	OCE-230B	230	14.97	12.49	1.676+j8.710	8.945+j12.011	17.59	14.30	1.302+j8.203	8.775+j12.056
ODÓN DE BUEN	ODB-230	230	14.77	13.11	1.890+j8.792	2.094+j12.242	17.29	14.74	1.424+j8.329	2.190+j12.650
OLIVAR	OLI-230	230	22.40	23.26	1.509+j5.734	0.928+j5.211	27.32	27.05	1.034+j5.246	0.959+j5.421
OTUMBA	OTM-230	230	18.56	14.97	1.107+j7.067	1.707+j12.239	21.53	16.69	0.866+j6.728	1.782+j12.593
PACHUCA	PAC-85	85	9.23	3.65	1.288+j5.158	4.447+j29.408	10.10	4.00	1.267+j5.195	4.570+j29.494
PACHUCA POTENCIA	PHP-230	230	12.18	12.94	1.302+j10.820	0.835+j8.958	13.96	14.39	0.978+j10.420	0.895+j9.465
PACHUCA POTENCIA	PHP-400	400	11.28	9.43	2.542+j20.324	4.289+j32.238	13.64	10.82	1.631+j18.556	4.562+j32.842
PALIZADA	PLZ-115	115	7.85	5.20	2.262+j8.149	5.663+j20.647	9.08	5.84	2.072+j7.771	5.683+j20.682
PANTITLAN	PNT-85	85	10.96	2.08	0.934+j4.378	4.344+j61.919	12.04	2.28	0.883+j4.394	4.344+j61.919
PAPELERA EL NEVADO	PDO-115	115	4.01	2.42	3.547+j16.192	9.746+j48.278	4.60	2.71	3.259+j15.530	9.783+j48.255
PAPELERA SAN RAFAEL	PSR-85	85	4.00	1.22	3.096+j11.858	12.529+j95.930	4.37	1.34	3.078+j11.958	12.529+j95.930
PAPELES HIGIÉNICOS DEL CENTRO	PHC-230	230	11.29	8.44	1.884+j11.608	4.296+j23.317	12.98	9.39	1.592+j11.138	4.406+j23.788
PARQUE INDUSTRIAL	PQI-115	115	6.54	5.28	1.616+j10.015	2.927+j17.162	7.01	5.64	1.582+j10.294	2.973+j17.784
PARQUE INDUSTRIAL REFORMA	PIR-85	85	11.44	3.24	0.745+j4.225	7.502+j36.065	12.29	3.57	0.749+j4.330	7.647+j35.824
PASO DE CORTES	PDC-115	115	2.64	1.60	7.912+j23.864	22.530+j70.548	2.92	1.77	7.825+j23.738	22.525+j70.527
PATERA	PAT-85	85	13.89	5.57	0.659+j3.472	2.269+j19.266	15.63	7.58	0.591+j3.402	2.826+j14.194
PATLA	PTL-85	85	5.91	4.91	1.965+j8.065	3.422+j12.941	8.32	8.23	1.332+j6.349	1.356+j6.489
PEMEX	PEX-85	85	14.97	4.76	0.671+j3.208	8.525+j22.918	16.81	6.59	0.605+j3.154	8.555+j16.254
PEMEX	PEX-85B	85	7.82	0.17	0.825+j6.219	0.187-j877.409	8.22	0.19	0.817+j6.517	0.187-j877.409
PEMEX	PMX-230	230	27.42	26.41	0.797+j4.777	0.519+j5.391	35.97	33.91	0.454+j4.035	0.451+j4.771
PEMEX AZCAPOTZALCO	PXA-85	85	16.20	6.08	0.606+j2.968	1.817+j18.107	18.98	10.80	0.509+j2.798	1.414+j9.208
PEMEX -ZLCP	PMX-115	115	5.41	4.88	2.558+j11.997	3.558+j15.757	6.41	5.65	2.303+j11.156	3.580+j15.601
PEMEX -ZLCP	PMX-115	115	6.64	6.15	0.361+j10.000	0.617+j12.342	8.47	10.07	0.217+j8.621	0.226+j4.516
PENSADOR	PEN-230	230	20.64	18.98	1.293+j6.302	2.700+j7.726	25.03	21.78	0.889+j5.768	2.790+j8.070
PENWALT	PEW-85	85	19.72	7.19	0.463+j2.445	1.552+j15.442	24.09	13.16	0.358+j2.212	1.598+j7.684
PERALVILLO	PEV-230	230	17.09	16.00	1.324+j7.657	3.784+j8.762	20.25	18.45	0.950+j7.149	3.613+j8.807
PITIRERA	PIT-230A	230	11.33	12.42	1.677+j11.601	0.649+j8.299	17.24	17.96	0.701+j8.443	0.463+j7.321



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
PITIRERA	PIT-230B	230	11.33	12.42	1.677+j11.601	0.649+j8.299	17.24	17.96	0.701+j8.443	0.463+j7.321
PITIRERA	PIT-230C	230	11.33	12.42	1.677+j11.601	0.649+j8.299	17.24	17.96	0.701+j8.443	0.463+j7.321
PITIRERA	PIT-230D	230	11.33	12.42	1.677+j11.601	0.649+j8.299	17.24	17.96	0.701+j8.443	0.463+j7.321
PITIRERA	PIT-400	400	11.09	10.89	3.505+j20.521	2.836+j20.981	25.87	27.21	0.785+j9.787	0.627+j7.729
PLACERES DEL ORO	PLO-115	115	1.62	0.96	11.402+j39.321	34.919+j121.364	1.91	1.24	10.091+j36.891	26.321+j97.227
POLANCO	POO-230	230	29.08	28.73	1.158+j4.417	2.654+j4.112	37.16	34.61	0.698+j3.868	2.703+j4.243
PROCTER & GAMBLE	PYG-230	230	24.42	19.88	0.987+j5.349	1.935+j8.965	30.78	23.70	0.625+j4.704	1.952+j8.800
PRODUCTORA MEXICANA DE TUB.	PMT-115	115	6.71	5.92	2.081+j9.669	2.787+j13.475	8.10	6.89	1.817+j8.834	2.851+j13.445
PROGRESO	PGS-85	85	3.42	1.60	4.709+j13.548	14.830+j61.797	3.76	1.75	4.680+j13.588	14.894+j61.876
PROPIMEX	PRO-85	85	12.93	6.82	0.790+j3.713	1.529+j13.951	14.25	7.56	0.727+j3.719	1.584+j13.764
PUERTA DE HIERRO	PTH-85	85	7.05	4.88	1.316+j6.839	1.600+j16.211	8.57	5.83	1.147+j6.192	1.626+j15.031
PUESTO CENTRAL DE CONTROL	PCC-85	85	9.68	0.17	0.743+j5.015	0.566-j876.484	10.07	0.19	0.734+j5.312	0.566-j876.484
PUESTO CENTRAL DE CONTROL	PCC-85B	85	20.84	6.48	0.521+j2.296	6.104+j16.973	27.07	14.98	0.379+j1.958	5.037+j5.224
REFORMA	REF-85	85	12.04	4.55	0.892+j3.976	4.003+j23.900	13.45	6.27	0.827+j3.928	4.083+j17.351
REMEDIOS	REM-85	85	33.23	8.36	0.281+j1.450	1.077+j14.629	38.16	14.73	0.217+j1.398	1.160+j8.086
REMEDIOS	REM-230	230	34.24	39.44	1.048+j3.734	0.268+j2.362	45.12	48.83	0.589+j3.183	0.285+j2.488
ROBERT BOSCH	RBS-85	85	12.69	6.90	0.794+j3.784	1.532+j13.555	14.05	7.67	0.727+j3.774	1.587+j13.324
SAFIMEX	SAF-85	85	13.65	7.14	0.743+j3.517	1.298+j13.410	15.01	7.90	0.682+j3.532	1.348+j13.231
SAN ANDRÉS	ANS-85	85	14.33	1.90	0.602+j3.372	6.955+j70.172	15.76	2.09	0.541+j3.383	6.955+j70.172
SAN ÁNGEL	SNG-230	230	23.28	25.21	1.494+j5.505	0.778+j4.348	28.55	29.47	1.018+j5.013	0.809+j4.568
SAN BERNABÉ	BRN-230	230	27.72	30.36	1.229+j4.630	0.365+j3.564	34.65	35.94	0.766+j4.146	0.390+j3.749
SAN BERNABÉ	BRN-400	400	24.41	25.12	2.488+j9.128	1.064+j8.679	34.03	31.81	1.203+j7.367	1.116+j8.959
SAN DIEGO	SDI-85	85	7.13	4.93	1.302+j6.763	1.569+j16.039	8.65	5.88	1.136+j6.138	1.601+j14.910
SAN FELIPE DEL PROGRESO	FPG-115	115	4.32	2.81	3.744+j14.913	9.600+j39.067	4.79	3.08	3.620+j14.826	9.634+j39.360
SAN FRANCISCO	SSO-85	85	12.72	7.56	0.799+j3.774	1.019+j11.763	14.16	8.37	0.727+j3.743	1.092+j11.676
SAN FRANCISCO SOYANIQUILPAN	SFS-230	230	6.19	6.16	4.024+j21.058	2.970+j21.563	7.62	7.19	3.080+j18.913	3.232+j22.358
SAN ISIDRO	ISO-115	115	6.53	5.36	2.241+j9.922	3.274+j16.416	7.99	7.39	1.959+j8.934	1.694+j11.235
SAN MATEO	SMT-115	115	4.88	2.95	2.763+j13.327	7.482+j39.567	5.66	3.32	2.476+j12.664	7.519+j39.544
SAN SEBASTIÁN	SSE-115	115	4.24	2.91	3.760+j15.190	10.701+j35.664	4.71	3.20	3.634+j15.073	10.726+j35.842
SANTA CRUZ	CRU-230	230	29.34	33.95	1.067+j4.399	0.262+j2.707	36.51	40.32	0.665+j3.945	0.278+j2.863
SANTA CRUZ	CRU-400	400	24.98	25.00	2.206+j8.976	1.143+j9.236	33.57	30.76	1.125+j7.484	1.201+j9.581
SANTA FÉ	SFE-230	230	22.60	21.78	1.508+j5.679	1.187+j6.452	27.72	25.33	1.037+j5.167	1.227+j6.645
SANTIAGO TLAUTLA	STU-115	115	4.90	3.50	3.326+j13.149	7.479+j28.815	5.33	3.80	3.263+j13.300	7.515+j29.288
SECRETARÍA DE SEGURIDAD PÚBLICA	SSP-85	85	10.42	4.08	1.004+j4.600	4.516+j26.292	11.62	5.48	0.939+j4.552	4.596+j19.742
SMURFIT KAPPA	SKP-85	85	10.64	4.41	0.813+j4.540	3.598+j23.905	11.79	5.62	0.757+j4.514	4.240+j19.205
SUBESTACIÓN CINCO BOMBEO	ENB-115	115	10.98	7.52	1.144+j5.939	2.378+j14.193	14.93	9.06	0.715+j4.838	2.413+j14.189
SUBESTACIÓN CUATRO BOMBEO	ECB-115	115	21.50	18.89	0.556+j3.037	0.495+j4.341	32.00	24.51	0.260+j2.267	0.530+j4.336
SUBESTACIÓN DOS BOMBEO	EDB-115	115	12.17	8.88	1.071+j5.351	1.902+j11.358	16.80	11.41	0.660+j4.298	1.730+j10.346
SUBESTACIÓN SEIS BOMBEO	ESB-115	115	12.45	8.98	0.986+j5.242	1.819+j11.367	16.57	10.78	0.644+j4.359	1.854+j11.360
SUBESTACIÓN TRES BOMBEO	ETB-115	115	18.34	15.05	0.668+j3.558	0.791+j5.938	26.87	19.16	0.336+j2.697	0.826+j5.932
SUBESTACIÓN UNO BOMBEO	EUB-115	115	9.10	6.23	1.508+j7.142	3.100+j17.097	12.53	8.00	0.940+j5.753	2.767+j15.481
TACUBA	TAC-85	85	17.28	6.36	0.580+j2.781	1.710+j17.404	20.91	12.99	0.462+j2.541	1.029+j7.245



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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TACUBAYA	TYA-85	85	9.63	3.86	1.084+j4.979	5.045+j27.533	10.72	5.12	1.018+j4.930	5.125+j20.983
TACUBAYA	TYA-230	230	21.57	23.08	1.617+j5.941	0.966+j4.867	26.24	26.81	1.140+j5.449	1.012+j5.110
TAXQUEÑA	TAX-85	85	13.70	1.80	0.543+j3.540	8.179+j74.050	14.89	1.98	0.493+j3.592	8.179+j74.050
TAXQUEÑA	TAX-230	230	13.38	11.29	1.959+j9.731	2.464+j15.239	15.52	12.62	1.500+j9.290	2.576+j15.709
TAXQUEÑA	TAX-230B	230	13.38	11.29	1.959+j9.731	2.464+j15.239	15.52	12.62	1.500+j9.290	2.576+j15.709
TECÁMAC	TCM-230	230	16.28	12.45	1.174+j8.072	2.214+j15.537	19.06	13.90	0.854+j7.616	2.320+j16.035
TECAMACHALCO	TEH-230	230	22.63	20.54	1.542+j5.663	1.707+j7.474	27.83	23.91	1.076+j5.137	1.744+j7.637
TEJUPILCO	TJP-115	115	7.66	6.46	1.910+j8.460	2.655+j13.238	9.32	7.69	1.563+j7.676	2.568+j12.530
TEOLOAPAN	TLP-69	69	0.87	1.10	18.259+j42.257	2.069+j17.394	0.96	1.20	17.620+j42.033	2.344+j18.918
TENANGO DEL VALLE	TDV-85	85	5.40	4.05	2.210+j8.813	1.744+j18.162	5.98	4.44	2.129+j8.775	1.831+j18.417
TEOTIHUACÁN	TTH-230	230	34.99	33.65	0.725+j3.725	0.515+j4.243	43.58	39.32	0.429+j3.324	0.549+j4.414
TEOTIHUACÁN	TTH-400	400	29.79	30.27	1.679+j7.568	0.771+j7.405	41.53	38.46	0.773+j6.068	0.817+j7.537
TEPEXIC	TEP-85	85	7.52	5.53	1.375+j6.375	3.021+j13.222	10.76	10.63	0.899+j4.934	0.778+j5.071
TEXCALTITLÁN	TTT-115	115	5.67	4.73	2.542+j11.437	3.698+j18.261	6.90	5.66	2.139+j10.364	3.491+j17.198
TEXCOCO	TEX-230	230	42.17	44.55	0.679+j3.075	0.310+j2.652	55.35	54.47	0.362+j2.614	0.333+j2.753
TEXCOCO	TEX-400	400	30.62	32.78	1.759+j7.333	0.613+j6.098	43.91	42.83	0.791+j5.730	0.655+j6.198
TIANGUISTENCO	TIA-230	230	10.11	8.77	2.810+j12.826	2.730+j19.034	11.79	9.84	2.232+j12.187	2.853+j19.558
TINGAMBATO	TIN-115	115	5.46	4.45	2.448+j11.921	3.857+j20.072	7.41	6.85	1.580+j9.730	1.618+j12.031
TIQUICHEO	TQC-115	115	1.88	1.15	8.167+j34.437	22.917+j100.061	2.42	1.93	5.977+j29.542	9.569+j52.271
TIZAPA MANIOBRAS	TMA-115	115	7.77	6.06	1.765+j8.358	2.831+j15.512	9.88	8.00	1.301+j7.278	2.035+j12.403
TIZAYUCA	TIZ-230	230	14.85	11.75	1.311+j8.846	2.167+j15.889	17.43	13.14	0.969+j8.323	2.285+j16.430
TLAPEHUALA	TPA-115	115	2.44	1.46	8.249+j25.974	24.468+j78.328	2.99	2.14	6.804+j23.455	13.813+j51.737
TLATELULCO MÓVIL	TTO-85	85	10.43	6.78	1.016+j4.595	1.048+j12.316	11.59	7.39	0.943+j4.562	1.157+j12.539
TOLUCA	TOL-85	85	15.61	8.88	0.602+j3.086	0.653+j10.309	17.40	9.96	0.531+j3.056	0.710+j10.021
TOLUCA	TOL-230	230	14.63	14.72	2.037+j8.843	0.960+j8.913	17.47	16.80	1.466+j8.232	1.020+j9.307
TOLUCA 2000	TDK-230	230	11.53	10.10	2.511+j11.240	1.981+j16.341	13.49	11.37	1.962+j10.651	2.052+j16.759
TOPILEJO	TOP-230	230	23.49	23.99	1.169+j5.530	0.518+j5.316	28.16	27.36	0.765+j5.131	0.558+j5.625
TOPILEJO	TOP-400	400	26.13	26.86	2.208+j8.559	1.145+j8.099	35.63	33.58	1.099+j7.045	1.192+j8.361
TOTOLTEPEC	TTC-230	230	14.02	13.59	2.213+j9.209	1.411+j10.319	16.73	15.54	1.635+j8.576	1.461+j10.644
TRATAMIENTO AGUAS RESIDUALES	RAT-230	230	24.79	21.51	0.878+j5.285	1.286+j7.703	31.24	25.62	0.530+j4.646	1.334+j7.638
TREN INTERURBANO MÉXICO-TOLUCA DOS	TTD-230	230	20.48	19.20	1.500+j6.307	1.477+j7.660	24.72	22.14	1.030+j5.819	1.498+j7.828
TREN INTERURBANO MÉXICO-TOLUCA UNO	TTU-230	230	14.71	11.83	1.762+j8.851	3.114+j15.313	17.33	13.43	1.276+j8.330	3.132+j15.474
TREN SUBURBANO	TSU-230	230	22.86	21.14	1.147+j5.694	1.644+j7.053	28.37	24.54	0.714+j5.099	1.744+j7.377
TRIMEX	TRX-85	85	18.86	6.04	0.497+j2.554	2.301+j19.060	22.57	8.25	0.376+j2.362	2.880+j14.567
TULA	TUL-230	230	34.28	37.02	0.661+j3.817	0.226+j3.022	46.95	51.57	0.321+j3.095	0.123+j2.264
TULA	TUL-400	400	26.81	24.14	1.744+j8.436	1.603+j11.380	39.15	37.25	0.725+j6.448	0.716+j7.444
TULANCINGO	TLG-85	85	6.68	3.23	1.923+j7.087	7.268+j30.088	7.49	3.67	1.871+j6.958	7.266+j28.782
VALLE DE MÉXICO (230 KV)	VAE-230	230	43.95	47.03	0.604+j2.961	0.303+j2.431	58.33	62.99	0.318+j2.484	0.186+j1.950
VALLE DE MÉXICO (85 KV)	VDM-85	85	12.12	4.15	0.646+j3.996	3.965+j27.137	20.57	23.49	0.271+j2.610	0.102+j1.803
VALLE SAN PEDRO	VAP-230	230	16.34	11.74	1.389+j8.009	2.358+j17.545	19.30	13.28	1.033+j7.499	2.393+j17.701
VALLE TULANCINGO	VTU-85	85	5.06	2.90	2.611+j9.346	7.658+j30.353	5.65	3.31	2.562+j9.202	7.633+j28.857
VALLEJO	VAJ-85	85	18.00	6.44	0.430+j2.693	1.565+j17.333	20.05	8.90	0.375+j2.666	2.207+j12.634



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
VALLEJO	VAJ-230	230	22.86	21.14	1.147+j5.694	1.644+j7.053	28.37	24.54	0.714+j5.099	1.744+j7.377
VERÓNICA	VRN-85	85	14.43	4.91	0.679+j3.332	3.548+j22.915	16.19	6.95	0.613+j3.278	3.598+j16.259
VERÓNICA	VRN-85B	85	8.05	0.17	0.779+j6.050	0.053-j877.911	8.44	0.19	0.770+j6.348	0.053-j877.911
VERÓNICA	VRN-230	230	20.17	19.77	1.425+j6.427	1.407+j6.859	24.42	22.71	1.020+j5.894	1.478+j7.197
VERTIZ	VER-230	230	18.52	18.58	1.513+j7.007	1.971+j6.848	21.95	21.15	1.101+j6.562	2.042+j7.160
VICTORIA	VIC-85	85	26.22	7.70	0.351+j1.839	1.221+j15.354	30.88	11.15	0.263+j1.728	1.804+j10.884
VICTORIA	VIC-230	230	36.31	39.86	0.879+j3.549	0.282+j2.695	48.13	49.25	0.473+j2.998	0.299+j2.820
VICTORIA	VIC-400	400	23.62	22.80	2.293+j9.506	1.474+j10.778	32.60	28.78	1.082+j7.718	1.525+j10.779
VIDRIERA LOS REYES	VLR-85	85	11.16	4.57	0.771+j4.329	3.408+j23.179	12.38	5.86	0.715+j4.303	4.050+j18.479
VIDRIERA TOLUCA	VDT-85	85	14.75	7.47	0.685+j3.256	1.237+j13.013	16.17	8.27	0.626+j3.280	1.287+j12.850
VIDRIO PLANO	VPM-85	85	11.86	5.15	0.791+j4.063	2.493+j20.165	13.48	7.15	0.711+j3.942	2.866+j14.360
VILLA DE LAS FLORES	VDF-85	85	7.60	3.10	1.335+j6.321	6.832+j33.893	10.03	5.86	0.955+j5.295	4.746+j16.297
VILLA GUERRERO	VGU-115	115	1.95	1.12	8.053+j33.170	24.232+j107.166	3.12	2.00	5.617+j22.744	14.578+j60.819
VILLITA	VIL-115	115	11.45	11.18	0.970+j5.716	0.803+j6.068	14.79	14.55	0.708+j4.888	0.568+j5.150
VILLITA	VIL-230	230	11.55	10.42	2.339+j11.252	2.906+j14.547	20.30	22.39	0.940+j7.136	0.490+j5.357
VITO	VIT-85	85	10.21	2.88	0.834+j4.736	6.473+j41.002	11.13	3.16	0.800+j4.782	6.517+j41.075
VITRO FIBRAS	VFI-85	85	11.93	5.15	0.785+j4.037	2.518+j20.200	13.54	7.12	0.706+j3.923	2.905+j14.486
VOLCÁN GORDO	VOG-115	115	8.50	8.85	1.448+j7.673	0.454+j6.915	10.35	10.53	1.132+j6.968	0.503+j6.664
VOLCÁN GORDO	VOG-400	400	7.17	5.69	4.888+j31.843	4.029+j57.242	9.33	6.84	2.736+j27.077	4.337+j56.774
XALOSTOC	XAL-230	230	21.35	19.73	1.136+j6.116	1.250+j7.671	25.75	22.70	0.770+j5.620	1.296+j7.863
XICOTEPEC	XIP-85	85	7.23	7.88	1.396+j6.644	0.307+j5.147	10.11	11.54	0.962+j5.254	0.413+j3.257
XOCHIMILCO	XOC-230	230	19.39	18.28	1.439+j6.697	1.361+j8.000	23.19	20.91	1.014+j6.216	1.410+j8.246
XOCHITLA	XCH-230	230	22.00	15.80	1.038+j5.946	2.641+j12.880	27.00	18.23	0.657+j5.369	2.684+j12.966
YEBUCIBI	YBC-115	115	7.60	5.17	2.241+j8.449	5.351+j20.380	8.62	5.74	2.083+j8.215	5.377+j20.520
ZAPATA ENVASES	ZAE-85	85	18.42	5.92	0.513+j2.614	2.354+j19.414	22.10	8.06	0.387+j2.411	2.934+j14.919
ZARAGOZA	ZAR-230	230	24.14	19.00	1.163+j5.376	1.917+j9.796	29.30	21.77	0.775+j4.925	1.957+j9.978
ZICTEPEC	ZIC-85	85	5.35	3.19	2.219+j8.906	4.286+j27.550	5.96	3.51	2.117+j8.810	4.359+j27.734
ZIRANDARO	ZIR-69	69	1.21	0.96	13.001+j30.316	35.231+j48.087	1.35	1.05	12.371+j30.039	35.291+j49.254
ZUMPANGO	ZUM-85	85	8.18	2.86	1.167+j5.882	5.902+j39.065	8.93	3.13	1.139+j5.936	5.946+j39.137

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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
AB CALSA	ABL-115	115	1.89	1.04	7.710+j34.199	32.926+j117.213	2.20	1.21	7.142+j32.382	31.491+j110.801
ABENT 3T	ABT-230	230	8.19	9.37	2.033+j16.076	0.939+j10.783	9.57	10.54	1.654+j15.168	1.042+j11.510
ACACOYAUJA	AYA-115	115	3.12	2.13	5.973+j20.460	16.678+j48.222	3.66	2.47	5.269+j19.250	16.016+j45.913
ACAHUIZOTLA	AHZ-115	115	1.95	1.34	9.151+j32.824	17.103+j78.429	2.34	1.54	7.380+j30.337	17.128+j78.318
ACAJETE	ACJ-115	115	5.23	3.39	2.461+j12.446	6.969+j32.666	6.15	3.82	2.098+j11.689	6.980+j32.806
ACALA	AAA-115	115	4.94	3.53	3.094+j13.074	9.882+j28.039	5.82	4.06	2.742+j12.248	9.744+j27.235
ACAPULCO	APC-115	115	5.30	6.84	4.128+j11.840	1.272+j3.823	7.35	9.13	2.483+j9.618	1.317+j3.915
ACATLÁN	ACA-115	115	2.87	1.70	7.219+j21.981	17.081+j68.877	3.18	1.87	7.100+j21.876	17.093+j68.959
ACATZINGO	ACZ-115	115	4.38	2.76	5.560+j14.087	10.666+j40.628	4.87	3.04	5.466+j13.974	10.688+j40.774
ACAYUCAN	ACY-115	115	10.82	7.41	1.230+j6.014	3.067+j14.384	12.93	8.73	1.060+j5.548	2.904+j13.547
ACEROS TLAXCALA	ATX-230	230	6.71	5.01	3.426+j19.495	8.863+j39.105	7.77	5.70	2.941+j18.578	8.767+j38.303
ACTOPAN	AOC-115	115	3.00	1.93	6.106+j21.254	12.360+j57.599	3.33	2.13	5.986+j21.098	12.383+j57.867
ACUITLAPILCO	ACU-115	115	12.50	7.80	1.077+j5.201	3.233+j14.586	14.10	8.68	0.993+j5.083	3.230+j14.563
ADOLFO RUIZ CORTINEZ	ARC-115	115	5.25	6.50	4.223+j11.931	1.352+j5.158	7.25	8.56	2.565+j9.736	1.396+j5.249
AEROPUERTO	ARP-69	69	5.88	3.88	1.936+j6.490	4.527+j16.668	6.36	4.23	1.936+j6.613	4.529+j16.716
AEROPUERTO	ARU-115	115	18.31	17.97	0.652+j3.567	0.958+j3.725	23.26	22.05	0.467+j3.104	0.944+j3.619
AGRONITROGENADOS	ARG-115	115	6.93	4.45	1.666+j9.437	4.969+j25.256	7.87	5.05	1.569+j9.141	4.783+j24.483
AGUA DULCE DOS	ADD-115	115	5.28	4.02	2.862+j12.233	5.622+j23.840	5.91	4.46	2.815+j12.038	5.629+j23.806
AGUA FRÍA	AGF-69	69	3.11	2.78	4.455+j12.014	4.980+j16.690	3.39	3.04	4.457+j12.134	4.982+j16.737
AGUA SANTA	AGA-115	115	9.57	5.81	1.384+j6.795	5.308+j19.752	10.75	6.44	1.293+j6.670	5.310+j19.763
AGUA ZARCA	AZA-115	115	1.57	0.92	14.710+j39.532	36.307+j127.722	1.78	1.02	13.740+j38.744	36.361+j127.869
ALMECATLA	LML-115	115	35.81	30.16	0.331+j1.824	0.495+j2.877	42.76	35.08	0.249+j1.690	0.485+j2.814
ALTOTONGA DOS	TTG-115	115	9.48	10.56	1.112+j6.916	0.467+j4.849	11.65	12.67	0.830+j6.212	0.458+j4.680
ALTZAYANCA	AZY-115	115	5.57	3.53	3.147+j11.491	7.482+j31.726	6.26	3.92	3.020+j11.271	7.485+j31.684
ALTZAYANCA MANIOBRAS	AZM-230	230	7.11	5.18	3.167+j18.404	9.577+j38.537	8.54	6.15	2.534+j16.917	8.922+j35.796
ALUMINIO	AMN-115	115	20.58	21.86	0.585+j3.173	0.573+j2.605	26.45	26.92	0.404+j2.732	0.584+j2.619
ALVARADO DOS	AVD-115	115	1.98	1.13	10.611+j31.759	30.283+j104.755	2.31	1.45	9.500+j30.200	23.369+j84.842
AMATLAN DOS	ATD-115	115	16.34	18.56	0.745+j3.995	0.202+j2.621	19.86	21.64	0.575+j3.633	0.229+j2.775
AMATLAN DOS	ATD-230	230	8.11	8.29	2.838+j16.125	1.299+j15.362	9.73	9.47	2.182+j14.849	1.459+j16.256
AMOZOC	AMZ-115	115	7.28	4.72	3.195+j8.537	6.291+j23.149	8.13	5.22	3.109+j8.432	6.302+j23.234
ANA CHIAUTEMPAN SANTA	ANC-115	115	14.82	9.76	0.990+j4.370	2.746+j11.151	16.78	10.88	0.907+j4.256	2.743+j11.131
ANDRÉS DOS SAN	ADS-115	115	2.09	1.17	11.079+j29.726	26.963+j103.059	2.69	2.32	8.336+j25.861	8.972+j39.310
ANGOSTURA	ANG-115	115	13.33	11.86	0.720+j4.927	0.573+j6.837	18.45	16.45	0.336+j3.944	0.204+j5.365
ANGOSTURA	ANG-400	400	7.15	6.73	5.701+j31.779	6.311+j38.057	15.12	18.27	1.468+j16.741	0.377+j7.478
ANTUÑO	AUN-115	115	19.04	12.76	0.880+j3.374	1.650+j8.503	21.81	14.28	0.793+j3.254	1.649+j8.507
APAXTLA SWITCHEO	AXS-115	115	2.20	1.52	10.165+j28.457	20.930+j67.712	2.66	1.78	8.296+j26.217	20.266+j65.274
APIZACO DOS	API-115	115	14.99	11.74	0.954+j4.326	1.839+j7.943	17.03	13.18	0.857+j4.201	1.817+j7.872
API	API-115	115	5.36	4.30	2.568+j12.108	6.309+j20.827	6.04	4.75	2.423+j11.854	6.371+j21.077
AQUASISTEMAS	ASI-115	115	2.53	2.53	5.929+j25.598	6.932+j25.871	3.20	3.05	4.669+j22.374	6.828+j25.520
ARRIAGA	ARR-115	115	2.60	2.74	6.683+j24.680	2.921+j21.614	3.03	3.08	5.995+j23.335	3.013+j22.756
ASTATA	AST-115	115	1.63	1.46	9.273+j39.620	5.369+j54.804	1.84	1.60	8.748+j38.652	5.934+j57.969
ATENCINGO	AEN-115	115	1.80	1.05	11.323+j35.073	28.620+j112.346	1.99	1.16	11.202+j34.953	28.625+j112.374



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ATEXCACO	AXO-115	115	3.46	2.76	4.445+j18.678	11.080+j31.886	4.61	4.66	3.067+j15.547	2.284+j15.172
ATLIHUETZIA	ATZ-115	115	17.64	13.22	0.882+j3.659	1.849+j7.367	20.07	14.80	0.798+j3.550	1.845+j7.347
ATLIXCO	ATC-115	115	7.99	4.78	1.843+j8.098	6.232+j24.335	8.99	5.30	1.732+j7.941	6.229+j24.325
ATLIXCOYOTL	AXT-115	115	21.11	13.51	0.766+j3.050	1.943+j8.246	24.31	15.16	0.679+j2.927	1.940+j8.235
AUTO MANUFACTURAS	AMF-115	115	17.04	12.70	0.653+j3.842	1.895+j7.682	18.97	13.93	0.596+j3.804	1.908+j7.828
AYUTLA	AYT-115	115	0.82	0.47	24.271+j76.753	64.610+j257.592	0.92	0.52	23.273+j75.993	64.667+j257.743
BALSAS	BAA-115	115	3.26	2.54	6.695+j19.255	12.976+j35.277	4.15	3.12	4.891+j16.901	12.325+j32.861
BARRA NORTE	BRN-115	115	3.12	3.47	4.865+j20.701	3.285+j14.593	3.43	3.78	4.857+j20.762	3.381+j14.995
BELISARIO DOMÍNGUEZ	BDZ-115	115	5.91	4.95	2.864+j10.862	3.954+j17.330	7.45	6.09	2.127+j9.565	3.687+j15.955
BELISARIO DOMÍNGUEZ II	BDD-115	115	2.25	1.48	9.099+j28.075	24.914+j71.215	2.59	1.68	8.312+j26.897	24.540+j69.539
BENITO JUÁREZ	BJU-115	115	7.21	5.76	1.620+j9.066	2.319+j16.272	8.25	6.35	1.503+j8.728	2.474+j16.796
BENTELER	BEN-115	115	15.73	9.60	1.049+j4.089	2.198+j12.135	17.84	10.67	0.965+j3.979	2.203+j12.177
BERRIOZÁBAL	BRZ-115	115	7.37	5.19	1.585+j8.870	3.930+j19.999	8.68	5.89	1.333+j8.305	3.935+j19.959
BII HIOXO	BII-115	115	4.45	5.27	1.497+j14.833	0.267+j8.011	5.65	6.35	1.195+j12.866	0.310+j8.657
BII HIOXO	BII-115B	115	3.49	4.30	2.090+j18.916	0.235+j8.297	4.90	5.65	1.392+j14.848	0.275+j8.990
BII NEE STIPA	BNS-115	115	5.56	7.37	1.691+j11.824	0.218+j3.386	7.32	9.34	1.089+j9.913	0.243+j3.616
BII STINÚ I	BSU-115	115	7.06	9.32	1.661+j9.263	0.221+j2.785	9.74	12.28	1.061+j7.420	0.241+j2.959
BII STINÚ II	BSD-230	230	5.12	5.62	2.395+j25.837	1.841+j18.953	6.87	7.00	1.783+j21.177	2.032+j19.996
BIO PAPEL PRINTING	BPP-115	115	7.63	6.47	1.820+j8.507	1.771+j13.354	9.47	7.65	1.478+j7.572	1.963+j13.216
BOCA DEL RIO	BDR-115	115	17.05	13.00	0.754+j3.820	1.298+j7.427	22.39	16.78	0.521+j3.220	1.127+j6.541
BOCHIL	BCH-115	115	3.68	2.36	4.245+j17.515	10.357+j47.393	4.19	2.63	3.995+j16.951	10.369+j47.402
BONFIL	BNL-115	115	4.94	5.24	4.520+j12.647	2.271+j10.955	6.64	6.57	2.888+j10.606	2.311+j11.107
BOSQUES	BOE-115	115	19.15	13.55	0.688+j3.399	1.670+j7.600	21.81	15.06	0.607+j3.293	1.680+j7.682
BRIDGESTONE	BDG-115	115	8.48	6.89	1.302+j7.718	2.381+j13.062	9.37	7.54	1.164+j7.705	2.408+j13.271
BUENA VISTA	BVI-115	115	7.29	4.61	1.868+j8.911	6.418+j24.134	8.01	5.06	1.849+j8.924	6.423+j24.214
BUGAMBILIAS	BGB-115	115	17.58	10.82	0.924+j3.661	2.823+j10.495	20.06	12.07	0.837+j3.542	2.825+j10.514
BUGAMBILIAS SF6	BGS-115	115	17.41	10.69	0.938+j3.695	2.870+j10.649	19.86	11.92	0.850+j3.577	2.872+j10.669
CACTUS PEMEX	CAX-115	115	7.52	7.52	1.647+j8.677	1.615+j9.123	8.93	8.49	1.408+j8.055	1.751+j9.626
CACTUS SWITCHEO	CSX-115	115	17.01	19.96	0.514+j3.870	0.163+j2.637	19.65	22.16	0.444+j3.689	0.183+j2.833
CALPULALPAN	CPL-115	115	4.30	3.77	4.893+j14.641	4.085+j21.658	4.64	4.03	4.987+j14.940	4.265+j22.610
CANTICAS	CIC-115	115	13.85	10.88	0.974+j4.695	1.665+j8.749	16.48	12.47	0.882+j4.343	1.687+j8.677
CAPILLA	CAP-115	115	5.18	3.24	2.844+j12.496	9.642+j34.547	7.28	4.72	2.167+j9.793	7.621+j25.370
CARACOL	CRL-115	115	1.78	1.19	12.096+j35.249	26.279+j89.728	2.11	1.37	10.220+j33.014	25.611+j87.283
CARACOL	CRL-230	230	3.30	2.72	10.168+j38.929	14.327+j64.389	8.90	10.26	1.578+j16.338	0.285+j9.352
CARDEL	CAE-115	115	4.11	3.51	3.623+j15.745	3.694+j24.279	4.50	3.79	3.627+j15.817	3.836+j25.226
CÁRDENAS	CDN-115	115	10.90	9.75	1.184+j5.972	1.758+j8.186	12.60	10.93	1.055+j5.699	1.784+j8.343
CÁRDENAS CENTRO	CDC-115	115	8.81	7.75	1.613+j7.363	2.667+j10.411	10.07	8.62	1.489+j7.098	2.727+j10.637
CÁRDENAS DOS	CDD-115	115	13.33	13.65	0.751+j4.922	0.519+j4.743	15.57	15.43	0.617+j4.650	0.527+j4.873
CÁRDENAS DOS	CDD-230	230	8.74	8.73	2.381+j15.005	2.243+j15.581	10.93	10.44	1.743+j13.247	2.235+j15.349
CÁRDENAS SUR	CSU-115	115	7.16	6.52	2.113+j9.033	2.720+j11.825	8.11	7.18	1.998+j8.783	2.873+j12.219
CARLOS A. CARRILLO	CAC-115	115	3.94	2.45	5.225+j16.035	13.680+j45.779	4.55	2.87	4.855+j15.300	12.643+j42.491
CASABLANCA	SBL-115	115	9.89	7.47	1.239+j6.599	2.614+j13.115	11.46	8.39	1.058+j6.282	2.627+j13.229



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CATEMACO	CTO-115	115	2.27	1.28	10.227+j27.343	24.469+j94.481	2.96	2.68	7.575+j23.506	7.168+j31.669
CAVERNAS TUZANDEPETL	CVN-115	115	13.65	10.18	1.004+j4.759	1.958+j9.731	16.43	11.65	0.880+j4.356	1.972+j9.757
CAYACO	CAY-115	115	6.07	7.11	3.806+j10.258	0.951+j6.165	8.69	9.45	2.163+j8.125	0.987+j6.295
CAZONES	CZN-115	115	9.90	6.83	0.916+j6.643	3.220+j15.438	10.85	7.47	0.896+j6.671	3.224+j15.530
CD. HIDALGO. CHIAPAS.	CGO-115	115	2.04	1.46	9.228+j31.186	25.785+j67.047	2.33	1.63	8.624+j30.187	25.903+j66.698
CD. INDUSTRIAL VILLAHERMOSA	CIH-115	115	14.01	12.69	0.870+j4.659	1.047+j6.277	16.60	14.41	0.694+j4.344	1.069+j6.421
CEBADAS Y MALTA	CBM-115	115	4.09	3.51	5.159+j15.400	4.849+j23.979	4.41	3.75	5.254+j15.699	5.029+j24.932
CECILIO DEL VALLE	CCL-69	69	2.05	2.26	1.911+j19.337	0.917+j13.926	2.99	3.65	0.905+j14.646	0.190+j6.620
CEFERESO	CFS-85	85	2.58	1.38	3.426+j18.679	12.937+j67.281	2.79	1.51	3.405+j19.017	12.927+j67.701
CEFERESO VILLACOMALTITLAN	CFV-115	115	2.99	2.07	6.221+j21.302	17.058+j48.932	3.51	2.40	5.493+j20.095	16.559+j46.964
CELANESE	CLS-115	115	12.11	8.73	1.190+j5.352	2.420+j11.704	14.42	9.93	1.065+j4.950	2.433+j11.730
CELCSA MANIOBRAS	CCB-115	115	13.53	12.40	0.789+j4.845	0.831+j6.578	15.77	13.86	0.721+j4.574	0.882+j6.791
CEMENTOS APASCO (TABASCO)	CEM-115	115	5.09	3.77	2.914+j12.712	9.690+j25.214	5.91	4.24	2.540+j12.084	9.703+j25.464
CEMENTOS APASCO S.A. DE C.V.	CSS-115	115	5.92	7.51	3.924+j10.517	0.446+j4.150	8.46	10.16	2.273+j8.333	0.486+j4.275
CEMENTOS CRUZ AZUL (OAXACA)	CCA-115	115	4.45	3.27	4.370+j14.260	7.479+j30.395	5.30	3.71	3.986+j13.196	7.513+j30.638
CEMENTOS MOCTEZUMA (MORELOS)	CUM-230	230	12.51	11.27	1.971+j10.429	3.001+j13.817	14.89	13.69	1.380+j9.715	2.290+j12.165
CEMENTOS MOCTEZUMA(APAZAPAN)	CMT-115	115	4.26	2.80	3.171+j15.258	5.738+j39.711	4.75	3.08	3.029+j15.066	5.759+j39.936
CEMENTOS TOLTECA	TOC-230	230	8.53	6.92	2.251+j15.405	5.482+j25.922	9.57	7.64	1.956+j15.137	5.521+j26.327
CEMENTOS VERACRUZ	CVE-115	115	10.64	8.46	1.187+j6.125	2.662+j10.757	12.49	9.59	1.019+j5.757	2.683+j10.840
CENTENARIO	CIO-85	85	3.91	2.33	2.105+j12.380	6.274+j37.484	4.19	2.52	2.078+j12.721	6.263+j37.899
CENTRAL EÓLICA SURESTE UNO FASE DOS	SUD-230	230	8.70	11.56	1.332+j15.200	0.697+j3.941	12.97	16.39	0.829+j11.228	0.717+j4.170
CENTRO DE EXPOSICIONES Y CONVENCIONES FUERTES	CEF-115	115	15.43	9.05	1.067+j4.170	2.564+j13.175	17.48	10.05	0.983+j4.060	2.569+j13.217
CERRO AZUL DOS	CDO-115	115	4.20	2.43	3.662+j15.385	19.526+j46.542	4.61	2.67	3.651+j15.404	19.539+j46.659
CERRO DE ORO	EDO-115	115	19.41	19.21	0.353+j3.402	0.175+j3.558	25.36	23.29	0.201+j2.873	0.208+j3.599
CERRO DE ORO	EDO-400	400	16.79	18.10	2.468+j13.534	1.294+j10.886	26.76	25.39	1.119+j9.427	1.352+j10.972
CERVECERÍA DEL TRÓPICO	CVT-115	115	6.00	4.22	2.059+j10.878	4.495+j24.834	6.84	4.68	1.929+j10.503	4.608+j25.191
CERVECERÍA MOCTEZUMA (ORIZABA)	CMA-115	115	11.63	10.48	1.572+j5.488	1.681+j7.415	14.36	12.59	1.297+j4.917	1.639+j7.059
CHAPULCO	CPO-115	115	8.67	5.06	1.439+j7.524	5.441+j23.423	9.70	5.60	1.351+j7.407	5.443+j23.470
CHICONTEPEC	CHI-115	115	3.14	3.82	4.975+j20.549	1.600+j9.766	3.45	4.17	4.971+j20.598	1.635+j10.037
CHIGNAHUAPAN	CHH-115	115	2.79	1.71	6.169+j22.994	19.138+j65.870	3.09	1.89	6.059+j22.882	19.123+j65.839
CHILAPA	CIP-115	115	3.54	3.27	4.813+j18.132	5.442+j22.842	4.58	3.96	3.034+j15.642	5.482+j22.756
CHILAPAN	CHP-115	115	2.20	1.24	10.606+j28.227	25.419+j97.605	2.91	2.80	7.630+j23.950	5.943+j27.372
CHILPANCINGO	CHG-69	69	1.73	1.87	1.716+j23.004	0.000+j17.953	2.12	2.31	1.161+j20.609	1.623+j15.612
CHILPANCINGO	CHG-115	115	4.49	4.34	4.260+j14.157	2.820+j16.129	6.19	5.50	2.476+j11.533	2.846+j15.973
CHILPANCINGO DOS	CCS-115	115	5.18	5.67	3.626+j12.307	1.167+j9.469	7.35	7.49	1.896+j9.755	1.188+j9.274
CHILPANCINGO POTENCIA	CGP-115	115	5.31	6.27	3.478+j12.004	0.569+j6.858	7.57	8.39	1.760+j9.482	0.608+j6.774
CHILPANCINGO POTENCIA	CGP-230	230	3.37	3.57	11.594+j37.620	4.510+j32.901	5.35	5.12	5.038+j26.839	4.806+j30.361
CHINAMECA DOS	CHD-115	115	19.57	16.23	0.572+j3.344	0.851+j5.537	24.84	19.39	0.432+j2.909	0.839+j5.418
CHINAMECA POTENCIA	CHM-115	115	22.07	20.87	0.461+j2.972	0.403+j3.630	28.30	25.13	0.333+j2.559	0.414+j3.601
CHINAMECA POTENCIA	CHM-400	400	9.10	8.60	3.432+j25.147	4.293+j30.254	13.70	11.25	2.119+j18.428	4.425+j30.544
CHONTALPA	CHT-115	115	3.98	2.94	3.901+j16.231	12.429+j32.425	4.45	3.25	3.768+j15.962	12.455+j32.583
CIA. GRESS	GRE-115	115	13.16	8.41	1.062+j4.933	3.222+j13.251	14.85	9.36	0.980+j4.820	3.219+j13.230



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CICLO COMBINADO CENTRO (HUEXCA)	CBE-400	400	18.58	19.11	1.782+j12.298	0.928+j11.429	22.26	21.78	1.105+j11.357	1.040+j12.137
CINCO DE MAYO	CIY-115	115	14.49	9.32	1.178+j4.429	3.552+j11.697	16.41	10.36	1.091+j4.315	3.556+j11.740
CINTALAPA DOS	CIT-115	115	6.30	4.41	2.092+j10.334	4.754+j23.630	7.36	4.98	1.826+j9.755	4.760+j23.638
CIUDAD PEMEX	CPX-115	115	7.13	5.66	1.306+j9.218	2.930+j16.400	8.49	6.44	0.985+j8.541	2.941+j16.644
CIUDAD TEXTIL	CDX-115	115	10.16	6.35	1.161+j6.434	4.568+j17.773	11.32	6.99	1.094+j6.358	4.650+j17.914
CIVAC	CIV-115	115	10.67	9.68	1.018+j6.140	1.173+j8.058	11.80	10.57	0.879+j6.127	1.201+j8.267
CLORO DE TEHUANTEPEC	CLO-115	115	13.29	9.68	0.851+j4.923	1.842+j10.507	15.94	11.06	0.718+j4.526	1.855+j10.533
COAPAN	CPA-115	115	4.59	2.78	4.001+j13.885	10.010+j41.535	5.12	3.07	3.856+j13.721	10.031+j41.687
COATEPEC	COP-115	115	4.68	3.70	2.789+j13.900	5.301+j24.888	5.31	4.11	2.534+j13.506	5.343+j25.167
COATZACOALCOS DOS	CTS-115	115	27.63	27.62	0.327+j2.381	0.257+j2.518	35.11	33.28	0.231+j2.067	0.264+j2.483
COATZACOALCOS DOS	CTS-400	400	11.39	11.91	2.883+j20.077	2.110+j18.263	17.17	15.92	1.561+j14.710	2.224+j18.369
COATZINTLA	CZT-115	115	14.84	13.26	0.668+j4.423	1.898+j5.824	16.17	14.39	0.651+j4.471	1.903+j5.922
COGENERACIÓN DE ENERGÍA LIMPIA DE COSOLEACAQUE	CGC-115	115	12.10	11.87	0.846+j5.421	0.542+j6.281	13.90	13.07	0.794+j5.194	0.606+j6.632
COGENERACIÓN NUEVO PEMEX	CNX-115	115	17.01	19.96	0.514+j3.870	0.163+j2.637	19.65	22.16	0.444+j3.689	0.183+j2.833
COLOTLIPA	CLT-69	69	0.89	0.99	11.936+j43.189	22.964+j24.265	1.31	1.48	6.759+j32.827	10.918+j19.449
COMALCALCO	COM-115	115	8.49	7.47	1.566+j7.663	2.976+j10.752	9.71	8.33	1.427+j7.389	3.020+j10.937
COMALCALCO ORIENTE	CAO-115	115	8.86	8.34	1.308+j7.381	1.648+j8.869	10.12	9.27	1.166+j7.120	1.706+j9.106
COMALCALCO POTENCIA	CMP-115	115	9.17	9.18	1.188+j7.145	1.039+j7.259	10.48	10.20	1.046+j6.890	1.101+j7.528
COMALCALCO POTENCIA	CMP-230	230	5.68	5.29	3.793+j23.079	4.758+j28.669	6.74	6.02	3.143+j21.457	5.014+j29.256
COMALCALCO SUR	CMU-115	115	7.01	5.93	2.224+j9.212	4.752+j13.996	7.95	6.58	2.101+j8.948	4.831+j14.211
COMITÁN	CJT-115	115	1.50	1.00	13.958+j41.913	42.724+j101.644	1.71	1.13	13.184+j40.745	42.333+j100.143
COMPLEJO PETROQUÍMICO CANGREJERA	CGJ-115	115	8.21	4.94	1.756+j7.890	5.605+j23.583	9.30	5.61	1.691+j7.669	5.419+j22.810
COMPLEJO PETROQUÍMICO COSOLEACAQUE	CPQ-115	115	6.97	4.40	1.893+j9.341	5.695+j25.670	9.21	6.86	1.336+j7.813	2.224+j16.074
COMPLEJO PETROQUÍMICO INDEPENDENCIA	PEI-115	115	11.27	9.54	1.190+j5.768	1.215+j9.057	12.46	10.30	1.142+j5.747	1.317+j9.476
COMPLEJO PETROQUÍMICO MORELOS	PMO-115	115	9.50	8.97	1.102+j6.899	1.870+j8.431	10.45	9.59	1.086+j6.901	1.997+j9.004
CONALEP	LEP-115	115	7.38	6.73	1.650+j8.850	3.398+j11.199	8.67	7.65	1.339+j8.313	3.409+j11.445
CONEJOS	CNJ-115	115	1.44	0.98	13.167+j44.029	21.243+j110.497	1.61	1.07	12.679+j43.429	21.604+j112.222
CONTLA	CNU-115	115	21.26	14.37	0.619+j3.061	1.687+j7.447	24.48	16.18	0.536+j2.935	1.682+j7.415
CÓRDOBA	COR-115	115	11.93	8.88	1.015+j5.472	2.641+j10.999	14.11	10.08	0.844+j5.109	2.655+j11.080
CÓRDOBA DOS	CBS-115	115	13.98	12.25	0.881+j4.666	1.369+j6.629	16.74	14.04	0.710+j4.304	1.390+j6.753
COSCOMATEPEC	CSE-115	115	4.79	2.87	2.461+j13.635	11.763+j40.006	5.42	3.19	2.284+j13.277	11.777+j40.075
COSOLAPA	CSL-115	115	4.30	2.78	2.337+j15.262	5.991+j40.458	5.38	3.44	1.835+j13.443	5.707+j36.020
COSOLEACAQUE	CSQ-115	115	11.06	7.47	1.067+j5.909	2.840+j14.508	13.15	8.54	0.922+j5.477	2.818+j14.324
COSTA AZUL	CAZ-115	115	5.57	6.45	4.017+j11.220	1.101+j7.074	7.75	8.38	2.374+j9.119	1.139+j7.237
COYOACO MANIOBRAS	CYM-230	230	5.44	5.68	4.088+j24.079	2.534+j21.272	6.87	6.72	3.008+j21.053	2.818+j22.345
COYUCA	CYC-115	115	4.65	4.59	4.403+j13.588	2.815+j14.647	6.54	5.99	2.657+j10.852	2.821+j13.957
CRISOL TEXTIL	CTX-115	115	11.00	7.15	1.026+j5.950	3.822+j15.352	12.25	7.86	0.962+j5.886	3.896+j15.508
CRISTÓBAL SAN	CRI-115	115	4.87	3.32	3.400+j13.215	9.546+j31.354	5.66	3.76	3.085+j12.541	9.539+j31.002
CRUCES	CRC-69	69	6.78	7.32	1.727+j5.617	1.893+j4.201	8.98	9.15	1.109+j4.752	1.952+j4.226
CRUCES GENERACIÓN	CUG-115	115	6.04	7.06	3.795+j10.310	1.013+j6.226	8.67	9.42	2.146+j8.142	1.053+j6.324
CRUZ AZUL MANIOBRAS	CZM-400	400	12.00	9.83	2.775+j19.037	5.960+j31.557	15.20	11.58	1.736+j16.624	6.079+j32.022
CRUZ GRANDE	CGN-115	115	2.09	1.31	10.170+j30.018	27.304+j84.081	2.43	1.47	8.883+j28.692	27.350+j84.188



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CRYO INFRA DOS	CRX-115	115	8.79	6.18	1.484+j7.407	3.459+j16.893	10.14	6.96	1.385+j7.067	3.468+j16.780
CRYO_INFRA	CRY-115	115	13.76	12.27	0.983+j4.724	0.928+j6.653	16.64	14.61	0.870+j4.301	0.942+j6.223
CRYOINFRA - PRAXAIR	CYX-115	115	9.44	8.13	1.134+j6.941	2.306+j10.570	10.40	8.79	1.117+j6.935	2.397+j10.980
CRYOINFRA CÁRDENAS	ICD-115	115	10.54	9.31	1.240+j6.179	1.982+j8.695	12.15	10.42	1.111+j5.905	2.008+j8.853
CUAUHTEMOC	CTM-115	115	8.60	5.90	1.786+j7.515	4.102+j17.906	9.67	6.57	1.679+j7.365	4.081+j17.830
CUAUTLA	CUA-115	115	9.45	7.81	1.396+j6.885	1.659+j11.357	10.36	8.44	1.321+j6.923	1.731+j11.747
CUAUTLA DOS	CUS-115	115	7.21	4.92	1.919+j9.003	4.660+j21.620	7.91	5.37	1.845+j9.042	4.674+j21.859
CUAUTLA INDUSTRIAL	CIL-115	115	6.45	4.61	2.423+j10.006	5.527+j21.965	7.08	5.03	2.350+j10.045	5.567+j22.279
CUCHAPA PEMEX	CUH-115	115	9.09	6.12	1.617+j7.125	3.663+j17.655	10.46	6.87	1.518+j6.814	3.670+j17.621
CUERNAVACA	CUE-85	85	5.91	5.03	1.256+j8.203	1.561+j12.563	6.25	5.34	1.226+j8.545	1.550+j12.978
CUETZALAN	CTZ-115	115	3.51	2.09	3.367+j18.600	11.982+j56.066	3.94	2.32	3.221+j18.236	12.000+j55.975
CUICATLAN	CUX-115	115	1.82	1.16	9.670+j35.228	37.849+j90.994	2.01	1.28	9.490+j35.057	37.875+j91.303
CUICHAPA DOS	CCP-115	115	9.34	6.26	1.563+j6.933	3.588+j17.335	10.77	7.03	1.464+j6.621	3.595+j17.301
CUITLÁHUAC	CTH-115	115	4.62	2.88	2.626+j14.142	8.996+j39.498	5.22	3.19	2.451+j13.786	9.023+j39.653
CUNDUACÁN	DUA-115	115	5.88	3.98	1.897+j11.139	5.678+j26.943	6.65	4.43	1.755+j10.844	5.688+j27.036
CYCNA DE ORIENTE	CYR-400	400	9.01	6.86	3.314+j25.411	9.275+j48.937	10.99	7.90	2.269+j23.001	9.496+j49.651
DISTRIBUCIÓN TRC-115	TRC-115	115	6.00	3.95	1.894+j10.894	6.020+j27.777	6.92	4.42	1.651+j10.422	6.028+j27.863
DISTRITO INDUSTRIAL	DIN-69	69	12.49	11.30	0.321+j3.174	0.587+j4.158	13.22	11.99	0.322+j3.299	0.616+j4.288
DONAJI	DOJ-115	115	4.01	2.53	4.080+j16.034	10.143+j44.607	4.61	2.83	3.837+j15.361	10.137+j44.631
DOS BOCAS CICLO COMBINADO	DBC-115	115	23.58	23.80	0.497+j2.771	0.357+j2.725	33.91	36.63	0.264+j2.138	0.164+j1.778
DOS BOCAS CICLO COMBINADO	DBC-230	230	10.69	9.35	2.103+j12.242	3.920+j17.375	13.40	11.09	1.468+j10.799	3.963+j17.456
DOS BOCAS DOS	DBD-400	400	11.30	11.55	3.348+j20.161	2.556+j19.031	15.76	15.32	1.719+j16.026	2.056+j17.647
DOS BOCAS PEMEX	DBX-115	115	4.54	3.53	3.161+j14.273	8.593+j26.017	5.09	3.90	3.015+j14.020	8.654+j26.267
DPA DRAEXLMAIER, PARTES AUTOMOTORAS DE MÉXICO	DXM-115	115	10.91	6.87	1.074+j5.992	4.195+j16.315	12.17	7.57	1.007+j5.915	4.277+j16.456
EASTMAN (CHEMICAL)	EAS-115	115	6.73	4.33	2.956+j9.414	6.301+j25.690	7.76	4.86	2.812+j8.983	6.290+j25.570
EJUTLA	EJT-115	115	3.31	2.47	5.051+j19.424	8.562+j39.501	3.69	2.72	4.812+j19.212	8.635+j39.907
EL CARMEN	CNM-115	115	12.20	13.85	0.672+j5.400	0.277+j3.630	13.88	15.29	0.561+j5.231	0.300+j3.886
EL CARMEN	CNM-230	230	9.21	10.34	2.038+j14.281	1.184+j10.182	11.11	11.96	1.545+j13.061	1.253+j10.642
EL CASTILLO	ELC-115	115	7.78	9.00	1.611+j8.377	0.367+j5.093	9.06	10.15	1.352+j7.944	0.414+j5.396
EL CASTILLO	ELC-230	230	4.98	4.96	4.877+j26.230	3.200+j26.833	6.05	5.72	3.817+j23.851	3.632+j27.718
EL CERRO	CEO-115	115	6.79	4.38	1.923+j9.582	5.573+j25.369	7.92	4.90	1.639+j9.080	5.597+j25.558
EL CONDE	ECN-115	115	20.33	14.93	0.735+j3.182	1.268+j6.715	23.38	16.78	0.651+j3.055	1.266+j6.713
EL GIRASOL	GIS-115	115	1.57	0.98	10.771+j40.970	41.630+j110.219	1.73	1.08	10.592+j40.799	41.656+j110.528
EL GUAYABO	GYB-115	115	7.87	4.75	1.624+j8.283	5.220+j24.500	12.91	8.15	0.953+j5.575	3.200+j15.325
EL JÍCARO	JIC-115	115	5.52	3.23	2.114+j11.833	7.940+j36.896	6.58	3.88	1.839+j10.938	7.087+j33.515
EL MEZQUITE	MEQ-115	115	5.32	4.81	2.814+j12.158	2.866+j16.385	6.69	5.64	2.322+j10.671	2.993+j16.825
EL MORAL (OAXACA)	MOR-115	115	2.64	1.96	6.926+j24.204	18.572+j47.780	2.93	2.16	6.748+j24.032	18.597+j48.086
EL MORAL (PUEBLA)	MOA-115	115	10.25	6.67	1.109+j6.383	3.844+j16.473	11.38	7.34	1.046+j6.330	3.874+j16.604
EL SABINO	SAB-115	115	16.92	16.68	0.578+j3.882	0.370+j4.099	21.92	20.44	0.340+j3.314	0.375+j4.017
EL SABINO	SAB-400	400	9.03	9.05	4.004+j25.273	3.455+j25.362	15.89	13.96	1.361+j15.934	3.536+j22.016
EL TEJAR	TJR-115	115	21.93	20.74	0.525+j2.982	0.520+j3.519	30.83	30.31	0.291+j2.351	0.329+j2.578
EL TREINTA	ETT-115	115	5.09	5.13	4.337+j12.309	2.461+j12.545	7.01	6.50	2.674+j10.067	2.505+j12.617



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
EL TULE	TLE-115	115	3.99	3.10	4.200+j16.090	6.893+j30.328	4.46	3.41	4.006+j15.876	6.929+j30.649
EL ZOPO	ZOP-115	115	5.61	4.20	2.589+j11.552	8.456+j22.410	6.55	4.74	2.216+j10.921	8.469+j22.660
EMILIANO ZAPATA	EMZ-115	115	2.55	1.56	6.727+j25.198	21.675+j72.470	2.86	1.73	6.544+j24.700	21.599+j72.098
ENCANTO	ECT-115	115	4.50	4.86	3.392+j14.360	2.081+j11.306	5.39	5.95	2.874+j13.237	1.493+j9.626
ENTABLADERO	ETD-115	115	6.37	4.03	1.916+j10.246	9.841+j26.984	7.02	4.42	1.878+j10.236	9.871+j27.117
ESCÁMELA	ECM-115	115	10.90	8.63	1.137+j5.985	2.399+j10.652	12.92	9.86	0.950+j5.572	2.403+j10.659
ESFUERZO	ESF-115	115	3.43	3.01	4.580+j18.819	7.945+j26.238	3.76	3.29	4.573+j18.879	7.986+j26.521
ESPERANZA	ERZ-115	115	6.96	6.12	2.488+j9.216	2.170+j13.343	7.80	6.69	2.373+j9.064	2.282+j13.889
ETLA	ETX-115	115	4.02	3.57	4.331+j15.923	7.532+j21.566	4.49	3.93	4.148+j15.739	7.566+j21.916
EXCELOPOLIS	EXE-115	115	18.67	11.47	0.852+j3.452	2.450+j9.978	21.37	12.82	0.764+j3.331	2.447+j9.983
FENO QUIMIA	FNQ-115	115	7.04	4.37	1.925+j9.231	5.804+j26.219	8.46	5.31	1.683+j8.467	4.942+j23.588
FERMEX	FEM-115	115	10.85	8.56	1.634+j5.895	3.064+j10.600	13.21	10.14	1.390+j5.352	2.950+j10.130
FLORES MAGÓN	FLM-115	115	3.85	2.76	4.183+j16.723	13.255+j35.486	4.55	3.21	3.656+j15.624	12.876+j34.001
FORJAMEX	FJM-115	115	13.19	10.01	1.117+j4.909	2.315+j9.598	14.95	11.23	1.017+j4.780	2.284+j9.503
FORTÍN	FOR-115	115	13.93	10.74	0.845+j4.690	2.158+j8.769	16.69	12.29	0.675+j4.324	2.172+j8.837
FRAMBOYANES	FRY-115	115	20.73	28.73	0.574+j3.150	0.223+j0.503	26.42	36.80	0.401+j2.736	0.226+j0.452
FRONTERA	FRT-115	115	1.47	1.15	12.031+j43.689	32.960+j76.793	1.62	1.27	11.846+j43.409	32.980+j76.951
FRONTERA COMALAPA	FCM-115	115	1.02	0.63	17.645+j62.430	53.063+j179.366	1.15	0.70	16.801+j61.314	52.678+j177.668
FUERTES	FUE-115	115	16.58	10.79	0.994+j3.880	1.986+j10.278	18.83	12.01	0.910+j3.770	1.991+j10.321
GABINO BARREDA	GBA-115	115	9.62	7.12	1.351+j6.767	3.138+j13.895	11.71	8.31	1.134+j6.135	3.177+j13.591
GARITA	GAR-115	115	5.70	6.42	3.837+j11.008	1.260+j7.710	8.07	8.43	2.193+j8.780	1.303+j7.798
GAVIOTAS	GAV-115	115	13.64	11.76	0.897+j4.785	1.291+j7.229	16.17	13.36	0.716+j4.460	1.308+j7.349
GIRANDAS PEMEX	GIR-115	115	5.36	3.68	2.558+j12.112	7.213+j28.602	6.02	4.08	2.463+j11.878	7.230+j28.730
GRAN PRIDECO	GRA-115	115	15.77	14.56	0.852+j4.123	1.619+j5.034	19.38	17.26	0.679+j3.707	1.623+j4.983
GRIJALVA	GIA-115	115	6.47	4.22	2.479+j9.953	5.438+j26.156	7.67	4.83	2.171+j9.268	5.376+j25.764
GUADALUPE ANALCO	GAN-115	115	17.97	13.03	0.869+j3.590	2.357+j7.562	20.47	14.52	0.784+j3.481	2.363+j7.621
GUTIÉRREZ ZAMORA DOS	GZD-115	115	5.92	4.15	1.728+j11.083	5.428+j25.015	6.60	4.59	1.647+j10.951	5.428+j25.019
HELIPUERTO	HEL-115	115	2.49	2.45	6.609+j25.783	3.838+j27.893	3.06	2.87	4.784+j23.383	3.920+j28.453
HUAJUAPAN	HJP-115	115	1.83	1.09	10.687+j34.660	27.063+j106.274	2.02	1.20	10.545+j34.541	27.077+j106.380
HUAMANTLA DOS	HUA-115	115	9.16	6.36	1.621+j7.067	3.774+j16.454	10.32	7.09	1.514+j6.911	3.754+j16.379
HUAMUXTITLAN	HUU-115	115	1.02	0.65	18.711+j62.180	40.566+j172.856	1.18	0.73	16.769+j59.831	40.607+j172.765
HUATULCO	HCO-115	115	1.44	0.96	13.628+j43.922	22.574+j113.643	1.61	1.05	13.150+j43.373	22.909+j115.210
HUATUSCO	HTU-115	115	3.51	2.04	3.360+j18.627	16.530+j57.364	3.94	2.27	3.180+j18.270	16.543+j57.433
HUAUTLA DE JIMENEZ	HUJ-69	69	0.68	0.50	30.979+j50.124	50.817+j110.915	0.73	0.54	31.058+j51.248	50.821+j112.242
HUEJOTZINGO	HJO-115	115	13.01	8.59	0.887+j5.027	3.508+j12.552	14.53	9.43	0.822+j4.959	3.607+j12.727
HUEYAPAN	HYN-115	115	2.76	2.13	5.830+j23.371	15.533+j42.907	3.52	3.20	4.446+j20.251	6.735+j26.190
HUEYAPAN DE OCAMPO	HOC-115	115	3.19	1.77	6.854+j19.620	17.930+j68.704	3.87	2.67	5.832+j17.972	10.450+j43.287
HUIMANGUILLO	HMG-115	115	5.57	4.62	2.801+j11.576	5.893+j18.555	6.26	5.08	2.703+j11.348	6.033+j18.922
HUIXTLA	HUX-115	115	3.46	2.50	5.614+j18.350	13.633+j39.052	4.10	2.91	4.858+j17.137	13.269+j37.392
HUMEROS DOS	HMD-115	115	6.76	6.55	1.601+j9.685	1.541+j10.666	8.13	7.73	1.353+j8.883	1.598+j10.234
HUMEROS LOS	HMS-115	115	4.37	4.30	2.755+j14.940	2.903+j15.725	5.34	5.46	2.247+j13.483	1.794+j12.638
HUMEROS TRES	HMT-115	115	6.60	6.49	1.621+j9.932	1.149+j10.518	7.78	7.45	1.418+j9.275	1.274+j10.552



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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
IDESA	IDE-115	115	9.99	8.23	1.069+j6.562	2.417+j10.998	11.07	8.96	1.043+j6.516	2.485+j11.295
IGUALA	IGU-115	115	2.45	2.77	6.975+j26.157	0.984+j18.028	3.00	3.24	5.131+j23.788	1.143+j19.085
INDEPENDENCIA	IPD-115	115	3.59	2.26	4.364+j17.958	10.808+j50.023	4.43	3.36	3.513+j16.102	5.225+j31.858
INDUSTRIAL	INT-115	115	18.37	12.30	0.867+j3.508	1.717+j8.822	20.92	13.68	0.785+j3.402	1.724+j8.882
INDUSTRIAL CUAUTLA DOS	ICS-115	115	6.56	4.80	2.373+j9.831	5.275+j20.608	7.21	5.23	2.299+j9.871	5.318+j20.935
INDUSTRIAL PATRONA	IPA-115	115	13.91	11.63	0.888+j4.691	1.604+j7.416	16.64	13.30	0.716+j4.329	1.625+j7.540
INFONAVIT	IFN-115	115	19.21	16.51	0.702+j3.385	0.963+j5.065	24.89	20.27	0.503+j2.891	0.942+j4.929
INFRA VILLA HERMOSA	IVH-115	115	12.92	11.35	1.038+j5.033	1.410+j7.282	15.23	12.84	0.861+j4.719	1.437+j7.438
INGENIO LA GLORIA	GLR-115	115	3.62	3.53	4.068+j17.859	1.568+j19.992	3.94	3.75	4.141+j18.065	1.772+j21.421
INGENIO SAN NICOLÁS	ISN-115	115	3.39	1.85	3.172+j19.341	16.319+j66.770	4.75	4.44	2.002+j15.229	1.726+j18.582
IQUISA	IQU-115	115	15.31	14.08	0.786+j4.264	0.592+j5.578	18.76	16.97	0.675+j3.835	0.617+j5.166
ISLA	ISL-115	115	2.67	1.59	6.801+j23.914	21.407+j72.701	2.99	1.77	6.617+j23.482	21.351+j72.264
ITUNDUJIA	ITU-115	115	0.77	0.46	22.997+j82.707	62.295+j253.693	0.85	0.51	22.824+j82.569	62.314+j253.889
IXHUATLAN DE MADERO	IXH-115	115	1.51	1.32	8.610+j43.258	24.484+j58.863	1.65	1.45	8.601+j43.311	24.506+j59.047
IXTAPA POTENCIA	ITP-115	115	5.84	5.00	1.225+j11.298	2.742+j16.826	8.91	7.08	1.123+j8.124	2.631+j14.298
IXTAPA POTENCIA	ITP-230	230	6.17	4.55	3.699+j21.214	10.936+j42.788	8.61	6.02	2.273+j16.808	9.857+j37.633
IXTEPEC	IXP-115	115	3.80	3.00	3.982+j16.998	7.165+j31.131	4.72	3.50	3.330+j15.098	7.154+j31.070
IXTEPEC POTENCIA	IPO-115	115	16.44	20.24	0.236+j4.033	0.099+j1.770	23.37	26.87	0.112+j3.123	0.106+j1.900
IXTEPEC POTENCIA	IPO-230	230	9.82	13.25	0.931+j13.490	0.190+j3.073	15.23	19.49	0.440+j9.579	0.206+j3.298
IXTEPEC POTENCIA	IPO-400	400	7.05	8.98	2.943+j32.629	0.761+j11.799	10.93	12.87	1.429+j23.205	0.831+j12.660
IXTLAN DE JUÁREZ	IXJ-115	115	3.05	2.05	5.095+j21.148	11.703+j52.598	3.40	2.26	4.918+j20.892	11.739+j52.831
IZUCAR DE MATAMOROS	IZM-115	115	2.83	1.66	7.758+j22.106	19.184+j71.042	3.14	1.82	7.640+j21.984	19.188+j71.070
IZUCAR DE MATAMOROS DOS	IZD-115	115	2.95	1.73	7.495+j21.230	18.714+j67.583	3.27	1.91	7.378+j21.104	18.718+j67.606
J. B. LOBOS	JBL-115	115	15.41	13.44	0.791+j4.235	1.291+j6.077	19.25	16.11	0.595+j3.746	1.274+j5.962
JALACINGO	JAL-115	115	9.69	11.01	1.077+j6.770	0.366+j4.379	11.94	13.27	0.795+j6.066	0.356+j4.210
JALACINGO	JAL-230	230	7.72	7.52	3.012+j16.946	2.740+j18.365	10.01	9.32	2.059+j14.440	2.661+j17.183
JALAPA DOS	JLD-115	115	4.82	3.89	2.721+j13.499	4.836+j23.129	5.48	4.33	2.461+j13.095	4.880+j23.416
JALPA	JAA-115	115	7.62	5.98	1.649+j8.558	4.391+j15.436	8.68	6.66	1.512+j8.280	4.409+j15.564
JARDÍN	JDN-115	115	22.62	26.45	0.533+j2.887	0.214+j1.657	29.61	33.32	0.351+j2.441	0.230+j1.691
JARDÍN	JDN-230	230	13.57	14.65	1.787+j9.621	1.247+j7.547	17.69	18.08	1.146+j8.177	1.323+j7.754
JIUTEPEC	JIU-115	115	9.97	8.75	1.029+j6.580	1.173+j9.391	11.05	9.54	0.912+j6.546	1.228+j9.677
JOJUTLA	JJT-115	115	6.62	4.70	2.024+j9.821	4.382+j21.867	7.39	5.19	1.877+j9.699	4.398+j22.025
JUCHITÁN DOS	JUD-115	115	8.05	11.14	1.356+j8.131	0.109+j1.633	11.50	15.29	0.761+j6.305	0.115+j1.741
JUCHITÁN DOS	JUD-230	230	5.03	6.59	4.132+j26.073	0.810+j8.141	7.95	9.69	2.018+j18.252	0.853+j8.642
JUCHITÁN UNO	JUC-115	115	6.37	6.85	2.021+j10.233	1.780+j8.387	8.66	8.70	1.377+j8.325	1.770+j8.327
JUILE	JUI-115	115	4.13	2.63	4.029+j15.576	9.778+j42.429	4.69	2.96	3.852+j15.090	9.679+j41.931
JUILE	JUI-230	230	10.62	12.50	1.109+j12.456	0.533+j6.967	13.71	15.25	0.560+j10.638	0.567+j7.423
JUILE	JUI-400	400	13.14	12.79	2.521+j17.392	3.121+j18.976	21.34	17.54	1.105+j11.852	3.271+j19.357
JUY JUY	JUY-115	115	12.49	13.07	0.859+j5.244	0.594+j4.599	15.32	15.32	0.645+j4.722	0.604+j4.705
KILOMETRO VEINTE	KLV-115	115	20.19	21.73	0.546+j3.243	0.279+j2.702	25.27	25.75	0.350+j2.869	0.289+j2.794
KILOMETRO VEINTE	KLV-230	230	12.41	13.08	1.934+j10.526	1.241+j9.343	16.95	16.51	1.079+j8.551	1.282+j9.415
KIMBERLEY CLARK	KIA-115	115	12.67	10.42	1.081+j5.126	1.558+j8.541	14.30	11.63	0.978+j5.011	1.543+j8.510



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KIMBERLEY CLARK, PUÉ.	KIC-115	115	11.75	9.39	1.181+j5.526	1.839+j9.783	13.24	10.46	1.077+j5.411	1.824+j9.752
KIMBERLEY CLARK, VER.	KIM-115	115	12.86	11.35	0.879+j5.086	1.096+j7.159	15.54	12.97	0.687+j4.648	1.168+j7.414
KRUPP METALÚRGICA	KRU-115	115	14.10	8.99	0.806+j4.639	2.973+j12.431	15.94	10.01	0.729+j4.524	2.970+j12.417
LA BARRA	LBR-115	115	3.55	4.21	4.163+j18.227	1.487+j9.859	3.89	4.58	4.156+j18.288	1.534+j10.188
LA CHOCA	LCH-115	115	15.54	14.12	0.795+j4.197	1.153+j5.638	18.42	16.06	0.642+j3.912	1.163+j5.737
LA CIÉNEGA	CIG-115	115	6.50	6.91	2.387+j9.934	0.987+j8.417	7.33	7.60	2.190+j9.717	1.063+j8.879
LA CIÉNEGA	CIG-230	230	3.61	3.68	8.197+j35.815	4.589+j34.643	4.14	4.09	7.331+j34.527	4.936+j36.358
LA CURVA	LVA-115	115	7.56	6.38	1.278+j8.687	2.360+j13.543	8.95	7.24	0.974+j8.106	2.370+j13.788
LA GARZA	LGZ-115	115	1.93	1.15	9.583+j33.126	28.255+j101.141	2.15	1.27	9.297+j32.604	28.257+j101.102
LA GLORIA MANIOBRAS	GLM-115	115	3.71	3.50	4.025+j17.419	2.111+j21.264	4.04	3.74	4.084+j17.593	2.301+j22.578
LA GRANJA TRES	GRT-115	115	10.75	6.92	1.131+j6.069	3.541+j16.095	13.69	9.60	0.854+j5.265	2.424+j11.909
LA GUADALUPE	LGP-115	115	1.67	1.11	10.385+j38.448	30.746+j95.011	1.87	1.24	10.006+j37.669	30.405+j93.817
LA MALINCHE	MLC-115	115	20.73	24.21	0.615+j3.143	0.176+j1.880	23.79	27.68	0.520+j3.026	0.144+j1.811
LA MALINCHE	MLC-230	230	12.90	13.08	2.002+j10.098	1.417+j9.899	15.43	16.36	1.566+j9.338	0.956+j7.820
LA MIRA	MRA-115	115	4.65	4.89	4.419+j13.569	2.758+j11.882	6.24	6.14	2.776+j11.369	2.797+j11.970
LA REFORMA	RFA-115	115	10.28	7.70	1.062+j6.370	2.643+j13.014	11.74	8.57	0.969+j6.143	2.654+j13.130
LA REINA	RNA-115	115	6.61	6.20	1.947+j9.849	2.077+j11.889	7.61	6.93	1.699+j9.449	2.119+j12.167
LA TINAJA	TNJ-115	115	2.28	1.25	6.613+j28.367	27.487+j97.441	2.68	1.47	6.052+j26.545	26.053+j91.033
LA TRINITARIA	TNI-115	115	1.32	0.88	15.335+j47.813	46.847+j118.424	1.49	0.98	14.554+j46.652	46.456+j116.923
LA UNIÓN	UNN-115	115	5.49	2.33	2.624+j11.807	16.516+j58.869	8.43	4.19	1.794+j8.476	9.227+j33.661
LA VENTA DOS	VED-115	115	4.81	3.80	3.161+j13.446	5.669+j24.314	5.33	4.19	3.153+j13.325	5.676+j24.279
LA VENTA DOS	LVD-230	230	4.33	5.54	4.615+j30.323	1.424+j11.047	6.72	7.95	2.357+j21.620	1.490+j11.684
LA VENTA MANIOBRAS	VMN-230	230	3.85	4.82	4.979+j34.087	1.094+j14.182	5.99	6.87	2.478+j24.241	1.205+j15.109
LA VENTA PEMEX	VEP-115	115	4.74	3.72	3.204+j13.629	5.868+j25.038	5.26	4.10	3.199+j13.512	5.875+j25.004
LACANJÁ	LCJ-115	115	0.73	0.40	26.733+j86.399	136.968+j294.208	0.82	0.44	25.881+j85.461	137.003+j294.496
LAGUNA DE TRES PALOS	LTP-115	115	4.85	5.17	4.535+j12.913	2.289+j10.980	6.50	6.47	2.897+j10.858	2.329+j11.133
LAGUNA VERDE	LAV-230	230	11.42	11.93	1.201+j11.569	0.647+j10.120	13.58	13.85	0.800+j10.730	0.599+j10.161
LAGUNA VERDE	LAV-400	400	14.89	16.69	2.038+j15.370	0.810+j10.509	22.05	25.26	0.894+j11.487	0.380+j7.215
LAMOSA	LOA-115	115	21.86	18.65	0.510+j2.994	0.779+j4.556	24.39	20.39	0.452+j2.960	0.799+j4.703
LAPSOLITE	LSL-115	115	15.96	11.65	0.714+j4.099	2.202+j8.520	17.75	12.78	0.656+j4.061	2.213+j8.667
LAS BRISAS	BRS-115	115	19.34	16.86	0.664+j3.368	0.787+j4.895	24.87	20.37	0.471+j2.899	0.792+j4.887
LAS CHOAPAS DOS	LHD-115	115	3.36	2.08	5.654+j18.920	12.407+j55.039	3.76	2.30	5.550+j18.613	12.414+j55.005
LAS HACIENDAS	LHA-115	115	11.50	8.16	1.112+j5.666	2.767+j12.783	13.40	9.17	0.959+j5.366	2.773+j12.853
LAS JUNTAS	LJU-115	115	1.76	1.05	10.956+j36.189	28.384+j109.740	1.94	1.16	10.808+j36.066	28.399+j109.857
LAS MARGARITAS	MGs-115	115	3.85	2.43	3.147+j16.946	9.693+j46.446	4.43	2.73	2.883+j16.233	9.718+j46.148
LAS MATAS	MAS-115	115	11.80	8.02	0.951+j5.546	2.772+j13.408	15.11	10.67	0.710+j4.781	1.911+j10.777
LAS TRANCAS	TRN-115	115	6.28	5.54	2.083+j10.369	2.720+j14.570	7.19	6.18	1.841+j9.986	2.759+j14.837
LAS VIGAS DOS	VGS-115	115	4.64	3.15	2.754+j14.043	7.287+j33.813	5.59	3.60	2.257+j12.860	7.281+j33.922
LERDO	LRD-115	115	1.88	1.05	11.694+j33.337	31.053+j114.312	2.25	1.52	9.924+j30.917	19.380+j76.736
LIBERACIÓN MEXICANA	LMX-115	115	2.90	2.30	5.694+j22.194	7.965+j39.916	3.33	2.58	5.232+j21.270	8.011+j40.474
LIBRES	LIB-115	115	4.77	3.10	3.525+j13.453	8.217+j35.580	5.39	3.45	3.354+j13.120	8.257+j35.570
LOMA BONITA DOS	LBD-115	115	3.45	2.05	5.176+j18.532	17.281+j56.150	3.91	2.29	4.974+j18.027	17.278+j55.804



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LOMAS COCOYOC	LOC-115	115	9.32	6.51	1.484+j6.965	3.240+j16.034	10.22	7.10	1.409+j7.003	3.250+j16.253
LOMAS DEL MAR	LMM-115	115	5.55	6.41	4.047+j11.264	1.147+j7.136	7.71	8.32	2.404+j9.163	1.185+j7.299
LÓPEZ MATEOS	LME-115	115	11.57	9.16	1.621+j5.507	1.939+j10.241	13.70	10.61	1.520+j5.111	1.955+j9.906
LOS AMATES	LAT-115	115	6.20	8.13	3.775+j10.030	0.221+j3.166	8.91	11.12	2.138+j7.916	0.259+j3.329
LOS AMATES	LAT-230	230	3.36	4.14	13.430+j37.227	1.605+j17.528	4.99	5.71	7.081+j28.426	1.852+j18.174
LOS ARCOS	AOS-115	115	14.29	15.46	0.603+j4.606	0.290+j3.588	15.71	16.73	0.517+j4.619	0.298+j3.792
LOS RÍOS	LRS-115	115	5.43	1.48	2.233+j12.019	45.704+j101.254	6.62	1.65	1.512+j10.922	45.729+j101.524
LOS RÍOS	LRS-230	230	4.36	3.63	6.268+j29.785	9.920+j48.063	6.41	5.26	3.133+j22.582	6.917+j38.114
LUIS GIL PEREZ	LGI-115	115	11.49	9.69	0.848+j5.714	2.153+j9.166	13.13	10.77	0.762+j5.510	2.168+j9.318
MACTUMATZA	MAA-115	115	9.79	6.16	1.485+j6.617	2.972+j18.548	11.84	7.06	1.227+j6.043	2.969+j18.436
MACULTEPEC	MCL-115	115	6.86	5.48	2.172+j9.438	6.118+j16.097	7.80	6.10	2.003+j9.147	6.137+j16.254
MACUSPANA	MCP-115	115	5.79	4.73	2.360+j11.225	6.527+j18.243	6.73	5.33	2.027+j10.655	6.539+j18.490
MACUSPANA DOS	MCD-115	115	10.78	12.21	0.879+j6.099	0.250+j4.065	13.00	14.15	0.587+j5.588	0.261+j4.309
MACUSPANA DOS	MCD-230	230	9.38	9.17	2.653+j13.902	2.142+j15.305	12.84	11.51	1.465+j11.286	2.212+j15.404
MAGDALENA MANIOBRAS	MMA-400	400	9.35	9.83	3.078+j24.503	2.077+j20.989	12.17	11.94	1.818+j20.799	2.324+j21.905
MAGDALENA MANIOBRAS DOS	MDM-230	230	8.27	8.87	2.425+j15.878	1.520+j12.764	10.02	10.26	1.851+j14.466	1.680+j13.434
MALINALTEPEC	MLN-115	115	0.84	0.48	22.352+j75.578	61.916+j246.543	0.94	0.53	21.360+j74.801	61.973+j246.694
MALPASO	MPS-115	115	6.17	7.34	1.578+j10.652	0.296+j5.679	6.81	7.95	1.542+j10.610	0.341+j6.133
MALPASO	MPS-400	400	14.86	16.52	2.336+j15.363	1.069+j11.039	28.85	31.58	0.631+j8.783	0.423+j6.182
MALPASO DOS	MPD-230	230	12.63	14.41	1.007+j10.469	0.282+j6.754	17.79	19.55	0.378+j8.200	0.206+j5.936
MALPASO TRES	MPE-115	115	6.06	7.09	1.622+j10.830	0.423+j6.263	6.70	7.68	1.587+j10.789	0.468+j6.718
MANDINGA	MDG-115	115	10.94	4.13	1.040+j5.978	13.797+j33.593	13.48	4.78	0.806+j5.356	13.602+j32.664
MANIOBRAS PRO MDF	MPR-115	115	6.14	5.50	2.494+j10.516	3.458+j14.315	6.91	6.03	2.397+j10.292	3.665+j14.800
MANIOBRAS SOLAR XOXOCOTLA	SMX-115	115	9.41	9.21	1.148+j6.965	0.935+j7.455	10.71	10.21	0.988+j6.746	0.965+j7.774
MANLIO FABIO ALTAMIRANO	MFA-230	230	17.21	19.98	1.410+j7.588	0.515+j4.521	23.04	25.47	0.829+j6.285	0.520+j4.593
MANLIO FABIO ALTAMIRANO	MFA-400	400	13.13	13.91	3.028+j17.324	2.027+j14.612	18.90	18.67	1.487+j13.360	1.918+j13.992
MANUEL MORENO TORRES	MMT-115	115	14.10	17.06	0.692+j4.658	0.072+j2.286	17.50	20.34	0.483+j4.146	0.083+j2.406
MANUEL MORENO TORRES	MMT-400	400	14.18	16.96	2.521+j16.095	0.566+j8.469	31.36	36.55	0.524+j8.083	0.241+j4.341
MAPASTEPEC	MAP-115	115	3.98	2.60	4.484+j16.072	12.198+j41.425	4.77	3.10	3.828+j14.833	11.172+j38.400
MARTÍNEZ DE LA TORRE DOS	MDD-115	115	3.83	3.10	4.165+j16.817	8.782+j28.280	4.44	3.57	3.799+j16.023	8.446+j27.093
MARTÍNEZ DE LA TORRE TRES	MTT-115	115	3.75	2.87	4.042+j17.262	9.355+j32.760	4.30	3.27	3.716+j16.560	9.070+j31.750
MATAPIONCHE	MPH-115	115	2.45	1.39	6.275+j26.391	24.752+j85.669	2.90	1.65	5.723+j24.562	23.321+j79.267
MATÍAS ROMERO	MRO-115	115	6.54	5.50	2.149+j9.928	3.122+j15.719	8.10	6.39	1.774+j8.846	3.156+j15.961
MATÍAS ROMERO POTENCIA	MSP-115	115	9.11	9.73	1.110+j7.201	0.818+j5.944	11.56	11.60	0.792+j6.267	0.850+j6.231
MATÍAS ROMERO POTENCIA	MSP-230	230	5.77	6.03	3.481+j22.752	4.038+j19.976	7.95	7.62	2.172+j18.243	4.181+j20.518
MAZATAN	MAZ-115	115	4.80	4.00	2.998+j13.510	6.489+j21.176	5.76	4.64	2.435+j12.447	6.607+j20.829
MAZATEPEC	MZT-230	230	6.90	5.22	2.798+j19.041	8.762+j36.956	10.98	10.51	1.286+j13.243	1.262+j13.355
MEDIA LUNA	MLU-115	115	3.14	2.43	6.953+j19.985	13.787+j37.121	3.97	2.97	5.145+j17.641	13.135+j34.705
METALOIDES	MET-115	115	19.87	14.39	0.765+j3.252	1.356+j7.057	22.84	16.17	0.681+j3.124	1.354+j7.050
METEPEC	MEC-115	115	7.00	4.19	2.308+j9.202	7.382+j27.666	7.87	4.65	2.184+j9.022	7.379+j27.654
METLATONOC	MTL-115	115	0.94	0.59	19.592+j67.612	44.469+j192.278	1.08	0.66	17.651+j65.246	44.510+j192.187
MEZCALA	MZL-115	115	6.79	6.85	2.739+j9.384	1.525+j9.447	10.67	10.51	1.062+j6.764	0.890+j7.053



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MEZCALA	MZL-230	230	4.52	4.46	9.129+j27.922	6.150+j30.041	9.01	8.57	2.815+j15.958	3.492+j18.130
MEZCALAPA	MEZ-115	115	6.08	4.85	2.337+j10.673	6.204+j18.402	6.83	5.36	2.250+j10.458	6.233+j18.613
MEZCALAPA SWITCHEO	MZW-230	230	7.90	6.37	2.442+j16.632	5.433+j28.735	10.44	8.23	1.588+j13.899	4.581+j24.946
MIAHUATLAN	MHT-115	115	2.00	1.30	9.703+j31.833	20.646+j84.601	2.21	1.43	9.424+j31.599	20.737+j85.049
MIAHUATLÁN DOS	MUD-115	115	2.13	1.41	8.919+j29.793	18.705+j77.295	2.37	1.55	8.649+j29.565	18.789+j77.727
MINAS	MIS-69	69	1.53	1.06	5.529+j25.386	14.941+j59.252	2.30	2.44	2.820+j18.875	0.974+j15.729
MINATITLÁN DOS	MID-115	115	27.38	30.57	0.339+j2.401	0.094+j1.757	36.34	38.03	0.216+j1.998	0.107+j1.783
MINATITLÁN DOS	MID-400	400	12.17	13.31	2.796+j18.764	1.441+j14.810	19.01	18.34	1.476+j13.282	1.566+j14.945
MINATITLÁN UNO	MIU-115	115	9.20	5.79	1.255+j7.104	4.321+j19.628	11.00	6.60	1.071+j6.554	4.316+j19.533
MINERA AUTLÁN, PUÉ.	MAU-115	115	7.48	8.02	1.654+j8.722	0.963+j7.017	9.44	9.94	1.264+j7.635	1.004+j6.463
MINERA CAPELA	MCA-115	115	1.50	0.96	15.558+j41.426	32.353+j115.039	1.75	1.09	13.615+j39.346	31.686+j112.595
MINERA CUZCATLAN	MCN-115	115	3.03	2.19	5.589+j21.176	10.031+j46.084	3.37	2.41	5.374+j20.966	10.105+j46.518
MINERA FILOS-BERMEJAL	MFB-115	115	4.78	3.93	3.811+j13.351	4.450+j22.481	6.66	5.17	2.120+j10.754	3.815+j20.087
MISANTLA DOS	MSD-115	115	2.10	1.63	8.439+j30.459	20.869+j55.577	2.37	1.83	8.061+j29.677	20.529+j54.385
MITLA	MTX-115	115	1.95	1.29	9.073+j32.901	19.651+j84.226	2.16	1.42	8.871+j32.694	19.687+j84.549
MOCAMBO	MCB-115	115	16.33	10.49	0.821+j3.983	1.530+j10.772	21.18	13.00	0.589+j3.398	1.379+j9.963
MOCAMBO	MCB-115B	115	16.33	10.49	0.821+j3.983	1.530+j10.772	21.18	13.00	0.589+j3.398	1.379+j9.963
MOTOZINTLA	MTO-115	115	1.67	1.05	12.655+j37.777	36.282+j103.557	1.90	1.18	11.844+j36.627	35.902+j101.870
MOZIMBA	MOZ-115	115	5.19	5.97	4.003+j12.147	1.924+j7.563	7.16	7.74	2.368+j9.917	1.958+j7.653
MUNDO IMPERIAL	MIP-115	115	4.71	4.64	4.672+j13.305	3.059+j14.490	6.27	5.72	3.034+j11.250	3.099+j14.643
NANCHITAL DOS	NND-115	115	13.04	8.98	0.830+j5.023	2.276+j11.898	15.41	10.23	0.732+j4.682	2.286+j11.784
NAONILCO	NAO-115	115	4.21	3.38	3.491+j15.381	5.469+j26.858	4.78	3.75	3.231+j14.949	5.517+j27.160
NISSAN	NSN-115	115	10.35	9.37	1.116+j6.319	1.252+j8.337	11.45	10.24	0.977+j6.306	1.276+j8.538
NOCHIXTLAN	NCH-115	115	1.94	1.28	9.700+j32.861	26.698+j82.842	2.14	1.41	9.529+j32.708	26.717+j83.079
NOGALES	NGL-115	115	9.36	6.70	1.892+j6.840	3.584+j15.141	11.12	7.71	1.677+j6.347	3.535+j14.894
NORTE	NOR-115	115	33.46	27.41	0.418+j1.940	0.565+j3.271	39.73	31.58	0.334+j1.808	0.559+j3.235
NUEVA XCALA MANIOBRAS	NXM-230	230	9.84	10.04	2.003+j13.341	2.152+j12.537	11.84	11.55	1.527+j12.245	2.271+j13.069
NUEVO MORELOS	NMO-115	115	3.73	2.28	4.658+j17.170	11.638+j50.496	4.25	2.55	4.449+j16.617	11.598+j50.319
NUEVO PEMEX	NPX-115	115	4.57	3.46	3.094+j14.210	10.905+j27.041	5.09	3.81	3.024+j14.030	10.925+j27.238
OAXACA	OAX-115	115	4.58	4.13	3.681+j14.014	4.399+j18.816	5.13	4.55	3.480+j13.795	4.438+j19.159
OAXACA DOS	OXD-115	115	5.78	5.27	2.815+j11.132	3.155+j14.535	6.51	5.82	2.624+j10.914	3.190+j14.855
OAXACA PONIENTE	OAP-115	115	4.93	5.02	3.418+j13.040	2.543+j12.466	5.52	5.54	3.222+j12.828	2.582+j12.821
OAXACA POTENCIA	OXP-115	115	6.72	8.01	2.318+j9.604	0.319+j5.174	7.57	8.83	2.134+j9.409	0.360+j5.549
OAXACA POTENCIA	OXP-230	230	3.96	4.16	7.479+j32.664	2.756+j28.864	4.56	4.63	6.625+j31.318	3.090+j30.542
OAXACA UNO	OAU-230	230	3.48	4.23	6.059+j37.672	2.108+j18.290	5.08	5.71	3.664+j28.517	2.250+j19.205
OCOZINGO	OCO-115	115	1.31	0.87	14.428+j48.399	48.259+j119.826	1.47	0.96	14.076+j47.816	48.270+j119.563
OCOZOUAUTLA	OCZ-115	115	6.81	4.66	2.203+j9.501	4.642+j22.756	7.97	5.28	1.951+j8.950	4.645+j22.717
OJO DE AGUA POTENCIA	OJP-115	115	20.81	21.78	0.502+j3.151	0.247+j2.768	26.07	25.91	0.337+j2.781	0.267+j2.850
OJO DE AGUA POTENCIA	OJP-400	400	12.16	12.91	3.250+j18.707	1.562+j15.793	18.76	17.48	1.882+j13.413	1.688+j16.500
OLINALA	OLN-115	115	1.20	0.86	15.028+j53.271	34.701+j117.066	1.39	0.96	13.135+j50.866	34.742+j116.977
OMEALCA	OME-115	115	3.69	1.83	2.845+j17.758	16.528+j70.955	4.81	3.32	2.082+j15.039	6.557+j34.977
OMETEPEC	OMT-115	115	1.52	0.88	15.395+j40.891	37.228+j133.645	1.71	0.98	14.536+j40.243	37.286+j133.811



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ORIENTE	ORT-115	115	20.72	15.31	0.704+j3.125	1.373+j6.475	23.71	17.06	0.621+j3.018	1.381+j6.546
ORIZABA	ORI-115	115	15.15	13.94	0.866+j4.296	0.979+j5.447	19.20	17.32	0.622+j3.753	0.866+j4.978
OXCHUC	OXC-115	115	1.96	1.30	9.215+j32.518	30.476+j79.726	2.20	1.45	8.881+j31.913	30.487+j79.464
PACHAMAMA II MANIOBRAS	MPA-400	400	11.90	12.82	2.624+j19.231	1.806+j15.195	15.56	15.83	1.506+j16.259	1.924+j15.818
PAGÉS	PAG-115	115	18.66	13.58	0.737+j3.480	1.110+j7.492	24.30	16.71	0.524+j2.959	1.047+j7.107
PAGÉS	PAG-115B	115	18.66	13.58	0.737+j3.480	1.110+j7.492	24.30	16.71	0.524+j2.959	1.047+j7.107
PAJARITOS DOS	PJD-115	115	15.76	14.55	0.757+j4.145	0.568+j5.365	19.39	17.67	0.644+j3.711	0.581+j4.908
PAKAL	PKN-115	115	2.63	1.02	5.805+j24.603	59.432+j131.970	3.03	1.14	5.068+j23.533	59.457+j132.242
PALENQUE	PLQ-115	115	2.12	0.90	7.504+j30.389	65.687+j146.125	2.43	1.00	6.762+j29.329	65.712+j146.396
PALMAR DE BRAVO	PLB-115	115	4.57	3.23	4.850+j13.699	7.935+j31.708	5.08	3.55	4.742+j13.563	8.009+j32.088
PALMAS	PMM-115	115	12.29	9.24	0.646+j5.362	2.091+j10.567	13.42	10.07	0.629+j5.406	2.096+j10.663
PANOTLA	PNA-115	115	12.14	8.10	1.539+j5.246	3.828+j13.143	13.63	8.98	1.463+j5.157	3.832+j13.169
PANTEPEC	PPC-115	115	9.20	10.64	1.205+j7.115	0.304+j4.304	10.03	11.43	1.197+j7.182	0.341+j4.608
PANTEPEC	PPC-230	230	5.72	5.57	3.701+j22.912	2.311+j25.032	6.37	6.05	3.559+j22.665	2.578+j26.484
PAPAGAYO	PPG-115	115	4.15	2.98	5.204+j15.142	13.745+j32.143	5.33	3.51	3.621+j13.208	13.791+j32.248
PAPALOTLA	PPL-115	115	19.68	13.15	0.625+j3.316	1.886+j8.206	22.61	14.80	0.542+j3.185	1.878+j8.159
PAPANOA	PPN-115	115	1.27	1.17	11.924+j51.089	39.108+j55.504	2.40	1.99	7.700+j29.392	25.505+j43.231
PAPANTLA DISTRIBUCIÓN	PPD-115	115	10.25	7.38	0.968+j6.403	3.093+j13.721	11.31	8.10	0.936+j6.388	3.096+j13.796
PAPANTLA POTENCIA	PPT-115	115	20.19	19.06	0.263+j3.279	0.527+j3.837	22.30	20.74	0.224+j3.268	0.556+j3.970
PAPANTLA POTENCIA	PPT-400	400	14.97	12.99	1.602+j15.343	4.142+j22.045	19.34	15.71	1.006+j13.096	4.355+j21.740
PAPELERA TUXTEPEC	PTU-230	230	5.09	3.66	3.843+j25.823	12.541+j55.381	5.98	4.18	3.243+j24.223	12.533+j54.671
PARAÍSO	PSO-115	115	6.88	5.85	1.829+j9.476	3.516+j14.480	7.79	6.48	1.686+j9.221	3.577+j14.729
PAREDÓN PEMEX	PPX-115	115	2.56	1.83	6.225+j25.230	21.512+j53.115	2.84	2.02	6.136+j25.017	21.541+j53.326
PARQUE INDUSTRIAL	PRQ-115	115	5.53	3.74	2.092+j11.830	6.548+j28.610	6.24	4.15	1.950+j11.536	6.560+j28.706
PARQUE INDUSTRIAL DE ENERGÍA RENOVABLE, S.A. DE C.V.	PIE-230	230	4.90	5.36	2.579+j27.001	1.557+j20.067	5.36	5.76	2.444+j27.162	1.675+j21.500
PARRILLA	PLL-115	115	16.17	14.52	0.689+j4.048	0.923+j5.559	19.68	16.78	0.493+j3.678	0.932+j5.645
PASO DEL TORO	PDT-115	115	14.24	10.39	0.869+j4.580	1.932+j9.675	18.11	12.93	0.640+j3.981	1.753+j8.805
PE INGENIO	EIN-230	230	3.53	4.23	5.464+j37.185	2.379+j19.431	5.35	5.85	2.911+j27.132	2.490+j20.357
PEÑITAS	PEA-115	115	4.16	3.37	3.335+j15.626	9.655+j25.659	4.62	3.71	3.293+j15.451	9.678+j25.934
PEÑITAS	PEA-230	230	10.12	8.82	1.756+j13.004	3.322+j18.892	16.24	17.15	0.701+j8.968	0.509+j7.497
PEÑITAS DOS	PED-115	115	4.15	3.37	3.332+j15.645	9.626+j25.595	4.62	3.71	3.291+j15.472	9.648+j25.872
PEROTE DOS	PEE-115	115	4.88	5.13	2.588+j13.367	2.644+j11.324	6.14	6.15	1.962+j11.741	2.607+j11.485
PETATLÁN	PTT-115	115	1.96	1.77	7.269+j33.071	23.385+j39.880	3.07	2.61	5.665+j23.098	18.009+j32.549
PETROQUÍMICA ESCOLIN	PQS-115	115	15.05	13.60	0.660+j4.363	1.854+j5.570	16.38	14.76	0.643+j4.411	1.859+j5.668
PICHUCALCO	PCO-115	115	2.24	1.54	8.006+j28.522	27.699+j64.569	2.50	1.71	7.783+j28.177	27.710+j64.662
PIE DE LA CUESTA	PIC-115	115	6.21	8.14	3.462+j10.118	0.244+j3.159	9.03	11.25	1.879+j7.869	0.287+j3.303
PIE DE LA CUESTA	PIC-230	230	3.59	4.44	12.329+j34.831	1.642+j16.127	5.38	6.16	6.375+j26.405	1.876+j16.706
PIEDRAS NEGRAS	PNS-115	115	5.38	3.09	2.438+j12.106	8.882+j38.706	7.00	4.06	1.921+j10.248	7.478+j32.350
PIER II QUECHOLAC FELIPE ÁNGELES S.A. DE C.V.	PDQ-115	115	5.96	5.76	2.796+j10.791	1.369+j12.290	6.65	6.25	2.688+j10.649	1.518+j13.068
PINOTEPA NACIONAL	PIN-115	115	1.62	0.94	13.895+j38.482	31.956+j126.352	1.81	1.04	13.385+j38.150	32.033+j126.633
PLAYA DIAMANTE	PDI-115	115	4.98	5.28	4.422+j12.565	2.262+j10.951	6.72	6.62	2.782+j10.510	2.302+j11.103
PLAYA NORTE	PYN-115	115	19.59	15.41	0.684+j3.319	0.915+j6.092	25.53	18.89	0.481+j2.820	0.885+j5.888



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
PLAYA VICENTE	PVC-115	115	1.85	1.06	9.395+j34.619	35.939+j111.439	2.07	1.17	9.189+j34.118	35.935+j111.093
PLAYAS	PYS-115	115	4.70	5.00	4.428+j13.425	2.588+j11.338	6.31	6.28	2.779+j11.228	2.627+j11.425
POCHUTLA	POC-115	115	1.64	1.03	13.276+j38.235	25.201+j109.133	1.82	1.14	12.890+j37.909	25.375+j109.911
POLIDESA	PLS-115	115	11.97	8.69	1.248+j5.403	2.843+j11.547	13.53	9.71	1.148+j5.274	2.812+j11.451
POLIFIL	POF-115	115	18.43	14.76	0.688+j3.536	1.200+j6.189	20.53	16.16	0.630+j3.502	1.220+j6.336
POMOCA	PMC-115	115	15.93	16.71	0.728+j4.104	0.477+j3.711	18.97	19.07	0.563+j3.810	0.495+j3.861
PONIENTE	PON-115	115	23.62	16.59	0.666+j2.731	1.301+j6.268	27.36	18.73	0.579+j2.606	1.296+j6.248
PORCEL	POR-115	115	19.91	13.24	0.654+j3.270	1.835+j8.203	22.86	14.87	0.571+j3.143	1.831+j8.172
POTRERO DOS	PTD-115	115	6.44	4.68	3.071+j9.838	6.325+j21.005	7.37	5.23	2.898+j9.480	6.352+j21.159
POZA RICA	PRI-69	69	23.42	30.71	0.060+j1.700	0.026+j0.489	24.03	31.40	0.060+j1.823	0.028+j0.536
POZA RICA	PRI-115	115	24.20	29.56	0.195+j2.736	0.046+j1.250	26.08	31.46	0.182+j2.794	0.052+j1.351
POZA RICA	PRI-230	230	15.86	16.93	0.692+j8.343	0.621+j6.753	18.44	19.08	0.530+j7.905	0.664+j6.973
POZA RICA DOS	PRD-230	230	17.05	18.70	0.601+j7.763	0.387+j5.702	20.08	21.37	0.420+j7.261	0.397+j5.818
POZA RICA DOS	PRD-400	400	21.35	19.06	1.122+j10.759	2.226+j14.414	30.62	25.46	0.547+j8.278	2.198+j12.990
POZA RICA TRES	PRT-69	69	12.34	9.83	0.346+j3.209	1.099+j5.606	13.09	10.56	0.347+j3.331	1.101+j5.654
POZO RANEY	PZR-115	115	4.17	2.86	5.106+j15.084	26.817+j28.680	5.44	3.40	3.474+j12.962	26.861+j28.774
POZOS HUAZUNTLAN	POZ-115	115	5.38	3.48	4.259+j11.579	8.607+j31.574	6.15	3.89	4.118+j11.144	8.595+j31.455
PROCTER & GAMBLE MANUFACTURAS S DE R.L. DE C.V.	PGC-115	115	9.19	7.94	1.292+j7.108	1.370+j10.966	10.18	8.59	1.240+j7.068	1.489+j11.413
PROENERMEX SANTA GERTRUDIS	PSG-115	115	12.81	10.32	0.951+j5.093	1.873+j8.747	15.77	12.66	0.726+j4.573	1.556+j7.904
PUEBLA DOS	PBD-115	115	40.35	39.88	0.308+j1.617	0.138+j1.719	47.78	45.16	0.228+j1.512	0.149+j1.804
PUEBLA DOS	PBD-115B	115	40.35	39.88	0.308+j1.617	0.138+j1.719	47.78	45.16	0.228+j1.512	0.149+j1.804
PUEBLA DOS	PBD-230	230	17.34	18.81	1.066+j7.585	0.404+j5.902	20.02	21.02	0.754+j7.258	0.449+j6.267
PUEBLA DOS	PBD-400	400	21.07	22.56	2.274+j10.725	1.078+j8.868	28.81	28.55	1.254+j8.727	1.124+j9.097
PUEBLA DOS MIL	PDM-115	115	32.80	28.87	0.412+j1.982	0.545+j2.811	38.36	32.53	0.331+j1.875	0.554+j2.888
PUEBLA UNO SF6	PSF-115	115	19.15	12.70	0.858+j3.360	1.567+j8.630	21.89	14.18	0.772+j3.245	1.569+j8.660
PUNTE DE IXTLA	PTI-85	85	3.09	1.63	2.625+j15.671	10.227+j57.674	3.33	1.77	2.602+j16.010	10.217+j58.094
PUERTO CHIAPAS	PUC-115	115	3.19	2.40	5.852+j19.958	13.483+j39.174	3.72	2.72	5.267+j18.932	13.601+j38.826
PUERTO ESCONDIDO	PUE-115	115	1.28	0.76	18.145+j48.557	37.461+j155.250	1.42	0.83	17.722+j48.290	37.601+j155.839
PUERTO FRANCO	PFR-115	115	11.34	9.33	1.521+j5.655	1.753+j9.630	13.43	10.83	1.417+j5.252	1.768+j9.270
PUERTO MADERO	PTM-115	115	3.43	2.60	5.488+j18.570	12.030+j35.871	4.01	2.96	4.904+j17.544	12.148+j35.523
PUERTO MARQUEZ	PUM-115	115	5.66	6.66	3.960+j11.037	0.947+j6.476	7.92	8.71	2.319+j8.931	0.986+j6.639
PUNTA IXTAPA, GRO.	PUI-115	115	4.28	3.24	2.225+j15.348	6.247+j29.756	6.03	4.26	2.107+j11.931	6.067+j26.451
PUNTA LIMÓN	PLI-115	115	1.98	1.41	8.692+j32.470	14.317+j72.920	2.16	1.53	8.752+j32.642	14.509+j74.239
QUEMADO	QMD-69	69	8.22	11.05	1.301+j4.667	0.018+j1.162	11.34	14.75	0.683+j3.803	0.077+j1.186
QUEMADO	QMD-115	115	6.56	8.91	3.602+j9.464	0.110+j2.200	9.74	12.68	1.951+j7.238	0.158+j2.294
QUEMADO	QMD-230	230	3.44	4.39	13.262+j36.220	0.891+j13.988	5.17	6.17	6.907+j27.370	1.136+j14.580
REAL DEL BOSQUE	RDB-115	115	9.58	7.01	1.419+j6.785	2.685+j14.324	11.58	8.09	1.163+j6.198	2.678+j14.189
REFINERÍA LÁZARO CÁRDENAS RECONFIGURACIÓN	RLC-115	115	10.63	6.95	1.094+j6.149	3.503+j15.905	13.68	11.54	0.805+j5.279	0.920+j8.302
REFINERÍA MINATITLÁN	RMN-115	115	9.10	5.77	1.221+j7.193	4.359+j19.569	11.26	6.66	0.968+j6.415	4.361+j19.519
REFINERÍA PEMEX	RFP-115	115	10.84	7.10	1.058+j6.032	3.404+j15.543	13.94	11.68	0.778+j5.181	0.956+j8.281
REFINERÍA SALINA CRUZ	RSC-115	115	3.14	3.13	4.796+j20.591	5.258+j21.366	4.20	3.87	3.380+j17.055	5.297+j21.509
RENACIMIENTO	REN-115	115	6.02	7.72	3.875+j10.318	0.376+j3.841	8.66	10.52	2.224+j8.134	0.416+j3.966



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
RESURRECCIÓN	RSN-115	115	14.81	9.85	0.965+j4.378	2.349+j11.017	16.79	10.97	0.882+j4.258	2.351+j11.039
REYES MANTECÓN	RMC-115	115	5.24	4.68	2.933+j12.319	3.497+j16.873	5.89	5.16	2.735+j12.092	3.558+j17.274
RÍO BLANCO	RBO-115	115	9.08	6.46	1.589+j7.138	3.557+j15.799	10.72	7.38	1.380+j6.672	3.537+j15.682
RÍO COATAN	RCT-69	69	2.06	2.27	1.888+j19.288	0.871+j13.771	2.99	3.66	0.896+j14.625	0.200+j6.636
RÍO COATAN	RCT-115	115	4.00	3.20	4.422+j15.999	5.384+j28.601	5.05	4.12	3.299+j14.068	3.881+j23.993
RÍO GRANDE (NEJAPA)	RGD-115	115	1.24	0.72	18.284+j50.350	40.425+j165.386	1.37	0.79	17.838+j50.082	40.542+j165.851
RÍO GRANDE (NEJAPA)	RGD-115B	115	0.99	0.57	22.007+j63.375	50.210+j206.713	1.10	0.63	21.559+j63.109	50.327+j207.179
RÍO MEDIO	RME-115	115	16.81	13.11	0.830+j3.862	1.190+j7.214	21.13	15.46	0.637+j3.397	1.199+j7.227
RODRÍGUEZ CLARA	RDC-115	115	2.67	1.63	6.720+j23.952	19.018+j69.910	2.99	1.81	6.544+j23.542	18.927+j69.389
SACRIFICIOS	SCF-115	115	16.45	10.26	0.826+j3.951	1.543+j11.262	21.29	12.61	0.598+j3.377	1.409+j10.516
SALINA CRUZ	SAC-115	115	3.45	3.37	4.235+j18.774	5.321+j20.442	4.61	4.21	2.976+j15.551	5.217+j20.090
SALOYA	SYA-115	115	14.93	13.09	0.873+j4.360	1.246+j6.383	17.65	14.85	0.718+j4.074	1.258+j6.490
SAMARIA	SMI-115	115	9.41	6.59	1.215+j6.947	3.403+j16.006	10.78	7.35	1.085+j6.685	3.409+j16.097
SAMARIA	SMI-115B	115	9.41	6.59	1.215+j6.947	3.403+j16.006	10.78	7.35	1.085+j6.685	3.409+j16.097
SAN CRISTÓBAL ORIENTE	SCO-115	115	4.15	2.80	3.936+j15.488	11.610+j37.403	4.78	3.15	3.627+j14.854	11.622+j37.144
SAN FELIPE OAXACA	SFO-115	115	4.53	4.00	3.627+j14.194	4.787+j19.906	5.08	4.42	3.430+j13.965	4.829+j20.247
SAN JACINTO TLACOTEPEC	JTL-115	115	1.67	1.01	10.241+j38.411	26.065+j114.538	1.85	1.11	9.900+j38.169	26.138+j114.867
SAN JERÓNIMO	JRN-115	115	1.76	1.38	11.239+j36.086	21.482+j65.504	2.81	2.14	6.775+j25.107	16.310+j47.661
SAN JOSÉ CHIAPA	JOC-230	230	5.08	3.55	4.354+j25.781	15.008+j58.274	5.94	4.11	3.703+j24.310	14.349+j55.526
SAN LORENZO	LRZ-115	115	39.37	35.42	0.298+j1.660	0.272+j2.260	47.43	41.62	0.216+j1.525	0.262+j2.195
SAN LUIS	SNL-115	115	2.65	1.50	5.775+j24.399	22.751+j79.732	3.15	1.79	5.224+j22.568	21.322+j73.333
SAN LUIS ACATLÁN	SLU-115	115	1.19	0.69	18.687+j52.484	47.273+j172.647	1.34	0.76	17.700+j51.707	47.329+j172.797
SAN LUIS MORELIA	SSM-115	115	1.15	0.66	18.628+j54.740	43.755+j181.521	1.27	0.73	18.494+j54.637	43.768+j181.606
SAN LUIS SAN PEDRO	SLS-115	115	1.06	0.73	18.341+j60.007	39.596+j143.788	2.29	1.73	8.325+j30.721	23.830+j58.252
SAN MARTIN	MAR-115	115	24.64	21.20	0.445+j2.657	0.629+j3.972	27.67	23.25	0.384+j2.612	0.647+j4.109
SAN MARTIN POTENCIA	MPT-115	115	27.68	25.52	0.381+j2.369	0.369+j3.002	30.98	27.82	0.322+j2.335	0.389+j3.152
SAN MARTIN POTENCIA	MPT-400	400	16.33	14.27	2.425+j13.932	3.143+j20.140	20.39	16.67	1.473+j12.370	3.262+j20.621
SAN MIGUEL	SMG-115	115	12.79	8.78	0.855+j5.120	4.286+j11.666	14.22	9.55	0.798+j5.075	4.504+j11.983
SAN MIGUEL SANTA FLOR	SMF-115	115	1.35	0.84	12.017+j47.539	45.806+j131.664	1.50	0.92	11.838+j47.368	45.832+j131.973
SAN PABLO HUIXTEPEC	HTP-115	115	4.46	4.33	3.395+j14.486	2.370+j16.162	4.99	4.76	3.189+j14.273	2.446+j16.616
SAN RAFAEL DOS	RFD-115	115	2.28	1.61	7.732+j28.017	23.375+j61.249	2.59	1.82	7.354+j27.236	23.035+j60.057
SANTA ANITA	STN-115	115	16.20	14.53	0.905+j3.998	1.505+j5.428	18.33	16.23	0.825+j3.898	1.510+j5.425
SANTA FE	SNF-115	115	10.04	7.63	1.169+j6.511	3.062+j12.517	11.66	8.64	1.018+j6.181	3.068+j12.511
SANTA ROSA	RSO-115	115	1.27	0.74	17.992+j48.939	39.924+j161.680	1.41	0.81	17.531+j48.661	40.030+j162.087
SANTA SOFÍA	SNS-115	115	4.08	2.76	2.917+j15.998	9.093+j38.583	4.59	3.08	2.756+j15.669	9.004+j38.259
SANTO DOMINGO	STD-115	115	3.47	2.49	4.684+j18.539	9.450+j40.740	4.16	2.85	4.157+j17.055	9.459+j40.869
SARABIA	SRB-115	115	5.21	4.72	2.829+j12.418	3.341+j16.483	6.14	5.37	2.550+j11.621	3.369+j16.729
SCHPOINA	SCH-115	115	2.75	1.91	6.439+j23.258	20.624+j52.020	3.21	2.20	5.756+j21.984	20.241+j50.528
SIMOJOVEL	SMJ-115	115	1.15	0.73	15.514+j55.800	49.475+j149.090	1.27	0.81	15.283+j55.457	49.488+j149.185
SÍNTESIS ORGÁNICAS, TLAXCALA	SIA-115	115	10.94	7.94	1.366+j5.912	3.075+j12.635	12.34	8.87	1.266+j5.784	3.043+j12.540
SIVESA	SIV-115	115	10.93	10.21	1.643+j5.848	1.574+j7.214	13.46	12.25	1.352+j5.256	1.539+j6.868
SN. LORENZO POTENCIA	LRP-115	115	47.22	48.33	0.254+j1.383	0.093+j1.336	58.04	58.29	0.172+j1.246	0.082+j1.268



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
SN. LORENZO POTENCIA	LRP-115B	115	47.22	48.33	0.254+j1.383	0.093+j1.336	58.04	58.29	0.172+j1.246	0.082+j1.268
SN. LORENZO POTENCIA	LRP-400	400	20.86	21.87	2.243+j10.843	1.086+j9.632	27.99	27.34	1.243+j8.991	1.091+j9.766
SOLEDAD DE DOBLADO	SOD-115	115	4.10	2.38	3.816+j15.731	12.070+j49.989	4.64	2.65	3.637+j15.323	12.073+j49.937
SOYALÓ	SOY-115	115	5.44	3.73	2.769+j11.887	6.273+j28.250	6.30	4.20	2.518+j11.314	6.284+j28.243
SWITCHEO VILLACOMALTITLAN	SWV-115	115	3.09	2.16	6.111+j20.619	16.544+j46.569	3.63	2.50	5.383+j19.413	16.046+j44.600
TABACHINES	TBH-85	85	6.00	5.01	1.206+j8.094	1.585+j12.922	6.34	5.32	1.176+j8.435	1.574+j13.337
TABASCO POTENCIA	TSP-230	230	13.43	15.44	1.714+j9.739	0.559+j6.285	18.75	19.91	0.815+j7.747	0.616+j6.536
TABASCO POTENCIA	TSP-400	400	8.66	8.94	4.735+j26.245	2.459+j24.603	12.66	11.63	2.003+j19.967	2.721+j25.409
TABASQUILLO	TBQ-115	115	1.96	1.63	8.882+j32.678	21.247+j50.264	2.18	1.80	8.700+j32.395	21.267+j50.422
TACOTALPA	TCT-115	115	2.52	1.75	7.144+j25.396	24.165+j56.337	2.81	1.94	6.921+j25.049	24.177+j56.431
TAJÍN	TAJ-115	115	15.04	15.17	0.583+j4.377	1.234+j4.146	16.65	16.67	0.547+j4.353	1.237+j4.216
TALLERES Y ACEROS S.A. (TYASA)	TYS-115	115	12.31	9.16	0.545+j5.368	0.078+j10.981	13.69	9.66	0.446+j5.315	0.085+j12.035
TALLERES Y ACEROS S.A. (TYASA)	TYS-400	400	11.72	12.41	3.318+j19.421	1.520+j16.525	17.81	16.63	1.946+j14.129	1.659+j17.309
TAMARINDO DOS	TDD-115	115	5.60	4.18	2.339+j11.622	4.572+j23.558	6.23	4.58	2.251+j11.514	4.609+j23.947
TAMAZULAPAN DOS	TAD-115	115	1.70	1.04	11.189+j37.394	29.724+j109.740	1.88	1.14	11.031+j37.261	29.740+j109.894
TAMSA DOS	TSO-230	230	12.33	10.93	2.008+j10.583	3.023+j14.631	15.53	12.99	1.404+j9.302	3.028+j14.702
TAMSA DOS	TSO-230B	230	12.33	10.93	2.008+j10.583	3.023+j14.631	15.53	12.99	1.404+j9.302	3.028+j14.702
TAMULTE	TAT-115	115	14.55	12.44	0.807+j4.492	1.654+j6.968	17.03	14.03	0.684+j4.235	1.661+j7.060
TAMULTE MANIOBRAS	TMM-115	115	13.78	11.59	0.780+j4.753	1.557+j7.717	15.99	12.99	0.672+j4.517	1.566+j7.828
TAPACHULA	TCH-115	115	4.74	3.65	3.283+j13.608	4.944+j26.148	5.89	4.45	2.487+j12.153	4.508+j23.930
TAPACHULA AEROPUERTO	TAE-115	115	7.11	6.33	2.028+j9.120	1.798+j12.720	9.05	7.77	1.396+j7.948	1.809+j11.877
TAPACHULA NORTE	TNE-115	115	4.88	3.92	3.204+j13.209	4.224+j23.289	6.16	4.93	2.339+j11.618	3.526+j20.439
TAPACHULA ORIENTE	TOE-115	115	5.04	3.88	2.948+j12.837	4.499+j24.662	6.23	4.67	2.219+j11.514	4.276+j23.094
TAPACHULA POTENCIA	THP-115	115	8.42	8.54	1.510+j7.735	0.517+j7.603	10.84	10.54	0.952+j6.667	0.635+j7.256
TAPACHULA POTENCIA	THP-400	400	3.54	3.70	13.383+j63.759	5.527+j57.310	5.11	5.00	7.393+j49.118	6.802+j52.018
TAPANATEPEC	TNP-115	115	2.30	1.78	7.767+j27.805	11.336+j53.159	2.65	1.99	7.194+j26.595	11.393+j53.848
TAPIJULAPA	TPJ-115	115	1.86	1.28	9.590+j34.301	33.600+j77.438	2.07	1.42	9.363+j33.955	33.612+j77.532
TAXCO	TXO-115	115	2.31	1.99	7.134+j27.805	7.446+j41.871	2.81	2.31	5.304+j25.404	7.484+j42.172
TEAPA, TABASCO.	TTB-115	115	3.39	2.40	5.211+j18.852	17.129+j40.606	3.81	2.66	4.992+j18.502	17.141+j40.700
TEAPA, VERACRUZ	TEA-115	115	19.39	15.22	0.507+j3.386	1.075+j6.291	23.43	18.68	0.413+j3.089	0.889+j5.518
TECALI	TCL-115	115	26.17	26.41	0.415+j2.503	0.138+j2.485	29.70	28.91	0.340+j2.435	0.157+j2.672
TECALI	TCL-230	230	16.37	18.16	0.985+j8.051	0.388+j5.735	18.71	20.15	0.691+j7.778	0.428+j6.140
TECALI	TCL-400	400	19.60	20.17	2.248+j11.566	1.439+j10.801	27.31	25.50	1.237+j9.218	1.556+j11.260
TECAMACHALCO	TML-115	115	7.51	4.86	2.146+j8.579	4.867+j22.795	8.35	5.35	2.059+j8.497	4.882+j22.940
TECAMACHALCO II	TLD-115	115	7.18	4.66	2.139+j8.998	5.011+j23.760	7.98	5.13	2.055+j8.921	5.027+j23.916
TECNOLÓGICO	TNL-115	115	3.53	3.13	3.785+j18.448	5.999+j25.772	4.61	3.80	2.721+j15.623	5.933+j25.561
TECOMAXTLAHUACA	TCX-115	115	0.81	0.46	23.064+j78.794	61.624+j261.115	0.89	0.51	22.927+j78.691	61.638+j261.200
TECPAN	TCA-115	115	1.28	0.91	15.362+j49.657	31.984+j111.532	2.40	1.76	8.033+j29.354	21.300+j59.854
TEHUACÁN	THN-115	115	5.22	3.27	3.582+j12.192	8.146+j34.657	5.83	3.60	3.449+j12.043	8.174+j34.836
TEHUANTEPEC	THT-115	115	3.53	2.99	4.355+j18.296	8.381+j28.663	4.63	4.00	3.250+j15.451	5.746+j22.956
TEJALPA	TJA-115	115	10.64	9.60	1.023+j6.154	1.207+j8.199	11.77	10.49	0.884+j6.140	1.231+j8.400
TELMAC	TLM-115	115	15.71	14.03	0.863+j4.136	1.091+j5.682	17.88	15.78	0.759+j4.013	1.073+j5.634



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TEMASCAL DOS	TMD-230	230	14.74	17.10	1.196+j8.927	0.282+j5.350	19.90	22.61	0.612+j7.314	0.275+j4.644
TEMASCAL DOS	TMD-400	400	17.71	19.48	2.446+j12.808	1.172+j9.614	28.67	28.01	1.085+j8.793	1.159+j9.461
TEMASCAL UNO	TMU-115	115	14.30	7.42	0.651+j4.597	3.497+j17.236	20.47	18.31	0.352+j3.551	0.314+j4.695
TEMASCAL UNO	TMU-230	230	11.93	11.80	1.570+j11.015	1.830+j11.416	16.27	17.44	0.863+j8.939	0.706+j7.026
TEMAXCALAC	TXB-115	115	19.57	15.51	0.551+j3.348	1.235+j5.946	21.81	16.99	0.494+j3.313	1.253+j6.091
TEMIXCO	TMX-85	85	6.45	4.96	1.159+j7.517	1.813+j14.377	6.80	5.26	1.126+j7.860	1.802+j14.791
TENOSIQUE	TNQ-115	115	1.52	0.70	12.400+j42.027	83.914+j180.590	1.71	0.77	11.596+j41.039	83.945+j180.872
TEPALCINGO	TPL-115	115	4.44	2.79	3.131+j14.608	8.275+j40.634	4.88	3.06	3.056+j14.647	8.285+j40.855
TEPEACA	TPE-115	115	7.49	5.06	1.413+j8.754	4.825+j21.082	8.31	5.57	1.338+j8.687	4.844+j21.270
TEPEJI	TPI-115	115	3.79	2.31	4.647+j16.891	11.159+j50.036	4.20	2.54	4.550+j16.805	11.174+j50.164
TEPEYAC, VERACRUZ	TPY-115	115	10.76	7.56	0.900+j6.102	2.970+j13.717	11.82	8.27	0.877+j6.118	2.974+j13.804
TEREFTALATOS	TRT-115	115	6.71	4.24	2.968+j9.444	6.519+j26.495	7.73	4.77	2.824+j9.013	6.508+j26.376
TERNIUM MÉXICO - LARGOS PUEBLA	TRP-230	230	6.80	5.10	2.956+j19.289	8.336+j38.341	7.63	5.63	2.641+j18.971	8.381+j38.706
TEZIUTLAN	TZT-69	69	3.58	3.84	0.559+j11.122	0.123+j8.898	4.30	4.56	0.413+j10.173	0.303+j8.459
TEZIUTLAN	TZT-115	115	7.80	8.59	1.542+j8.369	0.585+j6.157	9.91	10.74	1.153+j7.280	0.625+j5.603
TEZIUTLAN DOS	TZD-115	115	6.18	4.43	1.967+j10.556	4.384+j23.047	7.54	5.17	1.606+j9.554	4.417+j22.585
TEZOYUCA	TEZ-115	115	10.57	9.21	1.165+j6.173	1.474+j8.942	11.74	10.10	1.027+j6.136	1.502+j9.129
TIERRA BLANCA	TBL-115	115	4.29	2.47	3.891+j14.963	11.389+j48.492	4.99	2.93	3.598+j14.176	10.270+j44.301
TIERRA COLORADA	TIE-115	115	2.99	2.22	6.506+j21.262	9.535+j44.118	3.75	2.61	4.778+j18.879	9.563+j44.069
TIHUATLAN DOS	THD-115	115	8.63	5.87	1.370+j7.567	6.072+j17.662	9.43	6.40	1.362+j7.622	6.092+j17.844
TILAPA	TIL-69	69	1.01	0.81	14.881+j36.520	24.576+j63.491	1.08	0.87	14.945+j37.695	24.580+j64.817
TIXTLA	TIT-115	115	4.30	4.39	4.104+j14.888	2.828+j14.284	5.80	5.52	2.355+j12.380	2.868+j14.200
TLACOACHISTLAHUACA	THU-115	115	1.18	0.68	18.784+j53.131	46.457+j174.375	1.32	0.75	17.922+j52.491	46.515+j174.542
TLACOLULA	TLL-115	115	2.40	1.64	7.258+j26.728	14.965+j64.399	2.66	1.81	7.059+j26.518	15.001+j64.721
TLACOTALPAN	TTA-115	115	2.43	1.42	8.344+j26.053	25.224+j82.247	2.79	1.71	7.692+j25.038	21.748+j72.750
TLACOTEPEC	TTP-115	115	2.64	1.59	8.874+j23.526	16.724+j73.088	2.92	1.75	8.785+j23.445	16.739+j73.234
TLACOTEPEC	TCE-115	115	1.33	0.85	15.201+j47.363	35.191+j129.166	1.55	0.97	13.320+j45.134	34.521+j126.718
TLALTIZAPAN	TLZ-85	85	3.85	2.47	1.950+j12.598	5.560+j33.686	4.13	2.67	1.923+j12.939	5.549+j34.104
TLAPA NUEVA	TAN-115	115	1.43	0.93	13.653+j44.530	27.351+j117.046	1.67	1.06	11.726+j42.162	27.391+j116.956
TLAPACOYAN	TLY-115	115	4.83	6.19	3.194+j13.373	0.510+j4.698	5.77	7.34	2.731+j12.369	0.480+j4.492
TLATLAUQUITEPEC	TUQ-115	115	1.83	1.27	10.316+j34.794	19.150+j81.885	2.18	1.45	8.432+j32.384	19.191+j81.796
TLAXIACO	TXI-115	115	1.03	0.63	18.747+j61.448	48.125+j182.231	1.14	0.69	18.574+j61.310	48.143+j182.426
TONALÁ	TNA-115	115	1.67	1.47	10.850+j38.369	16.809+j53.003	1.90	1.64	10.142+j37.064	16.907+j54.197
TONANTZINTLA	TNZ-115	115	15.26	9.70	0.863+j4.264	2.736+j11.541	17.39	10.84	0.770+j4.129	2.733+j11.525
TRANSISTMICA (MANIOBRAS SEDENA)	TST-115	115	4.35	4.26	3.308+j14.911	4.733+j16.413	5.69	5.34	2.478+j12.593	4.277+j15.323
TRES ESTRELLAS	TTE-400	400	19.56	19.77	0.884+j11.777	0.721+j10.979	30.18	31.43	0.363+j8.411	0.330+j6.884
TRES VALLES	TVS-115	115	8.23	7.02	1.656+j7.900	1.662+j12.167	10.34	8.43	1.301+j6.940	1.824+j11.877
TROY	TOY-115	115	7.44	4.58	1.569+j8.786	4.969+j25.256	8.92	7.79	1.326+j8.081	1.051+j11.810
TULIPÁN	TLN-115	115	7.00	6.05	2.241+j9.213	4.093+j13.489	7.92	6.68	2.140+j8.974	4.245+j13.787
TUXPAN DOS	TUD-115	115	3.60	2.89	4.522+j17.899	10.421+j30.418	3.94	3.16	4.515+j17.957	10.457+j30.679
TUXPAN VAPOR	TUV-400	400	11.25	7.65	2.204+j20.418	11.113+j48.316	23.48	26.45	0.504+j10.809	0.221+j6.971
TUXPANGO	TPG-115	115	9.99	8.02	1.289+j6.521	2.112+j11.345	12.40	10.03	0.983+j5.806	1.663+j9.931



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TUXTEPEC DOS	TXD-115	115	6.08	4.28	2.022+j10.729	4.374+j24.477	6.94	4.75	1.891+j10.355	4.488+j24.834
TUXTEPEC TRES	TPS-115	115	8.36	6.05	1.434+j7.809	3.551+j16.789	9.84	6.86	1.263+j7.311	3.636+j16.803
TUXTLA GUTIÉRREZ	TGU-115	115	10.82	8.20	1.287+j6.003	2.214+j11.813	13.22	9.53	1.029+j5.428	2.211+j11.702
TUXTLA GUTIÉRREZ DOS	TGD-115	115	9.51	6.78	1.583+j6.799	3.047+j15.147	11.55	7.85	1.305+j6.187	3.024+j14.938
TUXTLA NORTE	TXN-115	115	10.90	8.22	1.252+j5.959	2.189+j11.873	13.36	9.57	0.989+j5.376	2.182+j11.736
TUXTLA SUR	TXS-115	115	12.77	10.48	0.890+j5.124	1.341+j8.512	15.90	12.35	0.646+j4.549	1.341+j8.415
UNILIVER	UNL-115	115	3.97	4.68	3.580+j16.357	1.379+j8.980	4.37	5.13	3.442+j16.344	1.403+j9.181
UNIÓN CARBIDE TEAPA	UCT-115	115	13.75	9.48	0.900+j4.744	2.201+j11.290	16.16	11.14	0.804+j4.448	2.015+j10.517
UXPANAPA DOS	UXD-115	115	6.05	3.88	2.581+j10.668	6.283+j28.845	6.86	4.32	2.482+j10.357	6.290+j28.811
UXPANAPA III	UXT-115	115	1.61	0.94	11.355+j39.589	30.261+j125.756	1.80	1.04	11.137+j39.044	30.219+j125.577
UXPANAPA UNO	UXU-115	115	3.15	1.85	5.295+j20.393	14.511+j64.011	3.52	2.05	5.195+j20.082	14.518+j63.976
VALLE NACIONAL	VAN-115	115	3.14	2.02	4.636+j20.660	11.697+j55.012	3.50	2.23	4.493+j20.348	11.787+j55.332
VALSEQUILLO	VSE-115	115	7.95	4.85	1.500+j8.217	5.269+j23.822	8.87	5.35	1.416+j8.112	5.281+j23.904
VEGA DE ALATORRE	VDA-115	115	1.38	0.98	15.821+j45.323	31.180+j102.722	1.55	1.09	15.439+j44.546	30.839+j101.527
VENTA	VEN-69	69	2.45	2.89	6.043+j15.077	10.103+j4.695	3.97	4.76	2.781+j10.694	2.597+j5.041
VERACRUZ DOS	VRD-115	115	24.03	36.02	0.488+j2.720	0.098-j0.007	31.40	48.15	0.316+j2.304	0.102-j0.059
VERACRUZ DOS	VRD-230	230	14.73	15.36	1.649+j8.860	1.246+j7.841	19.48	19.22	1.022+j7.429	1.277+j7.832
VERACRUZ UNO	VRU-115	115	18.60	14.40	0.719+j3.496	1.103+j6.618	24.49	18.35	0.496+j2.941	0.997+j5.987
VETROTEX	VET-115	115	14.69	12.89	0.906+j4.429	1.063+j6.366	16.65	14.43	0.803+j4.313	1.048+j6.336
VIDRIERA DE TIERRA BLANCA	VTB-115	115	5.57	3.21	2.154+j11.715	9.114+j37.195	6.60	3.85	1.860+j10.905	8.262+j33.837
VILLA FLORES DOS	VFD-115	115	1.55	0.91	12.029+j41.000	36.088+j127.303	1.73	1.01	11.737+j40.485	36.090+j127.264
VILLAHERMOSA CENTRO	VHC-115	115	13.06	9.50	1.081+j4.966	2.407+j10.779	15.24	10.68	0.947+j4.699	2.413+j10.858
VILLAHERMOSA DOS	VID-115	115	14.10	12.05	0.871+j4.627	1.302+j7.138	16.81	13.74	0.685+j4.290	1.314+j7.236
VILLAHERMOSA NORTE	VHN-115	115	16.77	18.86	0.688+j3.900	0.255+j2.791	20.05	21.61	0.522+j3.605	0.274+j2.947
VILLAHERMOSA NORTE	VHN-230	230	10.30	10.32	2.146+j12.710	1.733+j13.147	13.02	12.21	1.433+j11.126	1.841+j13.587
VILLAHERMOSA PONIENTE	VIP-115	115	13.66	11.31	0.925+j4.772	1.907+j7.876	16.03	12.78	0.779+j4.489	1.913+j7.962
VILLAHERMOSA UNO	VIU-115	115	10.08	7.70	1.217+j6.472	2.480+j12.617	11.69	8.63	1.038+j6.161	2.495+j12.738
VISTAMAR	VIS-115	115	10.65	8.05	1.491+j6.052	2.494+j12.199	12.50	9.21	1.391+j5.674	2.514+j11.949
VOLKSWAGEN	VWG-115	115	41.68	38.73	0.286+j1.567	0.244+j1.968	50.54	45.86	0.204+j1.431	0.232+j1.900
XALAPA DE DÍAZ	JDD-230	230	5.48	4.25	3.450+j24.000	12.187+j43.857	6.46	4.87	2.805+j22.422	12.207+j43.344
XICOTENCATL	XIT-115	115	17.71	17.15	0.701+j3.682	0.555+j4.118	20.21	19.33	0.598+j3.565	0.540+j4.084
XOCHICALCO	XCH-85	85	3.00	1.44	2.763+j16.099	13.210+j68.509	3.24	1.56	2.741+j16.438	13.200+j68.930
XOXTLA-CORONANGO	XCR-115	115	16.81	10.96	0.717+j3.884	2.340+j10.023	19.21	12.30	0.631+j3.749	2.332+j9.973
YAUTEPEC POTENCIA	YTP-115	115	20.14	20.93	0.351+j3.277	0.152+j2.928	21.96	22.38	0.274+j3.314	0.160+j3.139
YAUTEPEC POTENCIA	YTP-230	230	19.10	21.63	1.134+j6.860	0.351+j4.534	22.49	24.99	0.714+j6.454	0.355+j4.540
YAUTEPEC POTENCIA	YTP-400	400	22.88	23.21	2.027+j9.889	1.321+j9.623	29.77	28.21	1.100+j8.462	1.347+j9.878
YECAPIXTLA	YCP-230	230	10.62	8.04	1.836+j12.371	5.128+j24.037	12.11	10.53	1.437+j11.980	2.573+j17.306
YOLOMECATL	YOL-115	115	1.42	0.88	13.568+j44.579	35.766+j128.442	1.57	0.97	13.401+j44.439	35.784+j128.635
YUCUDAA	YUC-115	115	1.75	1.10	11.069+j36.364	29.568+j101.588	1.93	1.21	10.904+j36.223	29.585+j101.779
ZACAPOAXTLA	ZXP-115	115	2.68	2.01	5.409+j24.210	16.875+j46.656	3.05	2.26	5.152+j23.417	16.931+j46.223
ZACATEPEC	ZTP-115	115	2.02	1.24	7.460+j31.954	21.892+j92.257	2.25	1.37	7.280+j31.629	21.932+j92.247
ZANATEPEC	ZNT-115	115	2.47	1.70	7.143+j25.969	14.197+j61.951	2.85	1.91	6.634+j24.721	14.222+j62.265



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ZAPATA	ZAP-85	85	8.42	8.33	0.651+j5.793	0.200+j6.021	8.75	8.63	0.614+j6.137	0.189+j6.436
ZAPATA	ZAP-115	115	15.84	18.07	0.603+j4.149	0.171+j2.646	17.56	19.76	0.464+j4.133	0.165+j2.767
ZAPATA	ZAP-230	230	14.56	14.30	1.881+j8.925	1.463+j9.532	17.89	17.15	1.210+j8.074	1.381+j9.109
ZAPATA DOS	ZPD-115	115	5.40	1.47	2.256+j12.096	45.794+j101.457	6.58	1.65	1.534+j10.999	45.818+j101.728
ZAPATA ORIENTE	ZPO-115	115	3.95	1.95	3.783+j16.386	27.442+j63.297	4.61	2.18	3.237+j15.493	27.462+j63.558
ZAPATA PONIENTE	EZA-115	115	2.32	0.93	7.329+j27.671	65.384+j142.265	2.66	1.04	6.560+j26.638	65.412+j142.541
ZIHUATANEJO	ZIH-115	115	3.88	2.84	2.723+j16.897	7.573+j34.973	5.39	3.72	2.542+j13.308	7.322+j30.975
ZIHUATANEJO DOS	ZHD-115	115	3.93	2.88	2.718+j16.667	7.144+j34.627	5.70	3.98	2.430+j12.576	6.717+j28.626
ZINACATEPEC	ZIP-69	69	1.87	2.15	2.950+j21.102	0.000+j13.164	1.95	2.21	2.971+j22.331	0.000+j14.482
ZINACATEPEC	ZIP-115	115	2.80	1.65	6.737+j22.705	18.206+j71.351	3.11	1.81	6.587+j22.547	18.228+j71.503
ZOCAC	ZOC-115	115	18.41	18.50	0.672+j3.543	0.428+j3.571	21.03	20.88	0.569+j3.426	0.413+j3.540
ZOCAC	ZOC-230	230	13.45	13.34	1.954+j9.676	1.780+j10.064	16.45	16.12	1.472+j8.756	1.685+j9.263
ZONGOLICA	ZGL-115	115	4.27	2.44	2.639+j15.333	12.560+j49.147	5.57	4.97	1.878+j12.970	2.560+j17.726

Gerencia de Control Regional Occidental



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

Subestación eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
3M	P3M-115	115	17.50	16.38	0.750+j3.719	0.859+j4.494	19.78	18.19	0.671+j3.630	0.871+j4.587
ABASOLO	ABS-115	115	8.98	8.93	1.633+j7.213	1.544+j7.347	11.66	10.96	1.397+j6.107	1.637+j7.296
ABASOLO DOS	ABA-115	115	9.86	10.70	1.383+j6.592	0.526+j5.136	13.19	13.55	1.145+j5.419	0.623+j5.082
ABASOLO DOS	ABA-230	230	6.19	5.66	4.206+j21.040	3.538+j27.328	7.56	6.59	3.369+j19.021	3.901+j27.701
ABASTOS	ABT-115	115	8.40	6.85	1.895+j7.673	3.060+j12.907	9.29	7.51	1.831+j7.649	3.082+j13.082
ACÁMBARO	AQM-110	115	5.61	3.40	3.100+j11.421	9.932+j33.546	6.32	3.77	2.888+j11.181	9.949+j33.642
ACAPONETA	ACP-115	115	1.22	0.82	20.837+j50.219	52.850+j122.071	1.37	0.92	20.194+j49.299	52.825+j121.810
ACATLÁN	ATN-69	69	24.72	27.99	0.252+j1.592	0.050+j1.050	28.15	30.90	0.179+j1.546	0.055+j1.142
ACATLÁN	ATN-115	115	12.88	15.65	0.670+j5.112	0.092+j2.425	14.52	17.24	0.446+j5.012	0.102+j2.650
ACATLÁN	ATN-230	230	17.76	21.19	1.774+j7.263	0.375+j3.854	24.66	27.51	0.898+j5.854	0.411+j4.071
ACATLÁN	ATN-400	400	14.15	15.53	3.963+j15.830	1.575+j11.899	22.40	21.78	1.559+j11.233	1.701+j12.199
ACERLAN SA	ACR-69	69	12.78	10.93	0.753+j3.026	1.037+j4.579	15.06	12.46	0.686+j2.827	1.045+j4.614
ACERLAN SA	ACR-115	115	13.21	13.37	1.107+j4.902	0.825+j4.777	14.72	14.69	1.050+j4.850	0.852+j4.917
ACERO SAN LUIS	ACE-115	115	15.82	14.56	0.917+j4.094	1.158+j5.166	17.81	16.10	0.839+j4.014	1.172+j5.282
ACUEDUCTO	ACU-69	69	13.84	7.93	0.717+j2.787	2.134+j9.066	15.79	8.81	0.634+j2.702	2.144+j9.123
ACUEDUCTO II	AUD-115	115	3.50	2.85	3.368+j18.663	5.448+j31.456	4.33	3.42	2.524+j16.684	5.069+j29.959
AEROSPACIAL	ARL-115	115	7.89	5.10	2.261+j8.104	4.921+j21.704	8.76	5.63	2.200+j8.042	4.922+j21.736
AEROPUERTO	AER-115	115	5.41	3.98	3.096+j11.874	7.893+j24.338	5.95	4.36	3.063+j11.895	7.907+j24.477
AEROPUERTO ZACATECAS	AEZ-115	115	6.59	5.64	2.417+j9.779	3.148+j14.862	7.67	6.37	2.166+j9.275	3.163+j15.001
AEROTECH	AET-115	115	7.98	5.16	2.231+j8.017	4.809+j21.408	8.86	5.70	2.171+j7.956	4.811+j21.441
AGAVE	AVE-115	115	3.70	3.42	5.281+j17.150	5.579+j21.605	4.19	3.82	5.020+j16.679	5.621+j21.810
AGOSTADERITO	AGO-115	115	13.85	10.64	0.938+j4.700	0.775+j9.130	15.80	11.83	0.811+j4.550	0.787+j9.269
AGROGEN, S.A. DE C.V.	AGR-115	115	11.51	8.70	1.308+j5.618	1.795+j11.231	12.69	9.44	1.277+j5.614	1.870+j11.552
AGROINDUSTRIAL	AIL-115	115	6.29	3.97	2.824+j10.176	9.197+j27.545	7.24	4.45	2.672+j9.730	9.243+j27.545
AGUA AZUL	AGZ-230	230	9.85	8.51	2.860+j13.170	4.645+j19.296	12.13	9.89	1.993+j11.880	4.758+j19.692
AGUAMILPA	AGM-115	115	2.32	1.71	7.343+j27.618	23.207+j55.176	2.97	2.86	5.504+j23.992	7.518+j26.256
AGUAMILPA	AGM-400	400	5.84	5.32	7.685+j38.790	8.849+j50.307	14.51	16.62	1.244+j17.469	0.651+j10.795
AGUAPRIETA	APR-230	230	9.89	8.90	2.887+j13.119	3.291+j17.600	14.15	13.34	1.488+j10.214	1.720+j12.088
AGUAPRIETA	APR-230B	230	9.89	8.90	2.887+j13.119	3.291+j17.600	14.15	13.35	1.488+j10.213	1.714+j12.071
AGUASCALIENTES NORTE	AGN-115	115	18.26	13.13	0.810+j3.545	0.649+j7.916	21.03	14.63	0.689+j3.405	0.660+j8.030
AGUASCALIENTES ORIENTE	AGS-115	115	23.54	25.55	0.564+j2.764	0.197+j2.156	27.39	28.71	0.445+j2.629	0.210+j2.299
AGUASCALIENTES ORIENTE	AGS-230	230	17.95	18.74	1.571+j7.231	1.149+j6.362	22.41	22.23	1.071+j6.428	1.192+j6.586
AGUASCALIENTES PONIENTE	AGP-115	115	13.52	10.48	0.953+j4.817	0.611+j9.209	15.36	11.62	0.829+j4.682	0.625+j9.360
AGUASCALIENTES POTENCIA	APT-115	115	22.57	22.77	0.531+j2.893	0.218+j2.869	26.44	25.51	0.403+j2.732	0.235+j3.065
AGUASCALIENTES POTENCIA	APT-230	230	20.39	23.28	1.378+j6.365	0.495+j4.075	25.67	27.90	0.899+j5.619	0.531+j4.311
AGUASCALIENTES POTENCIA	APT-400	400	16.56	17.63	3.062+j13.605	1.615+j11.339	22.25	21.96	1.677+j11.292	1.707+j11.808
AGUASCALIENTES SUR	ASS-115	115	13.69	9.93	0.983+j4.750	1.619+j10.229	15.64	11.06	0.854+j4.591	1.628+j10.351
AGUASCALIENTES UNO	AGT-115	115	17.13	16.22	0.700+j3.812	0.500+j4.507	19.43	17.86	0.585+j3.712	0.516+j4.733
AGUASCALIENTES UNO	AGT-230	230	13.25	11.86	1.996+j9.819	2.639+j13.309	15.92	13.60	1.494+j9.051	2.716+j13.624
AGYDSA	AGY-69	69	22.13	18.96	0.444+j1.744	0.440+j2.671	25.70	21.15	0.363+j1.666	0.458+j2.771
AHRESTY	ART-115	115	7.08	6.46	2.504+j9.041	3.084+j11.660	8.50	7.45	2.246+j8.296	3.111+j11.825
AHUACATLÁN	AHN-110	115	1.28	1.13	13.129+j50.151	21.423+j69.317	1.39	1.22	13.429+j50.870	21.747+j71.473



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Subestación eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ALAMEDA	ALA-69	69	9.34	7.52	1.083+j4.124	1.959+j7.089	10.70	8.47	0.972+j3.979	1.947+j7.065
ALAMOS	ALS-69	69	11.07	12.82	0.636+j3.541	0.141+j2.131	12.60	14.22	0.571+j3.429	0.153+j2.295
ALAMOS	ALS-230	230	9.99	8.65	2.837+j12.991	4.027+j19.062	12.32	10.05	1.965+j11.688	4.160+j19.465
ALFA NISSAN	ALF-115	115	13.80	11.91	0.928+j4.722	0.978+j7.044	15.77	13.23	0.799+j4.563	0.994+j7.229
ALFA NISSAN MANIOBRAS	AIS-115	115	15.81	14.84	0.814+j4.119	0.536+j5.010	18.17	16.53	0.685+j3.960	0.553+j5.195
ALKANOVA	ALK-69	69	6.29	4.77	1.240+j6.208	2.503+j12.122	7.06	5.27	1.174+j6.092	2.516+j12.283
ALMERIA	ALM-69	69	3.31	2.09	4.918+j11.000	11.988+j30.913	3.71	2.31	4.701+j10.821	11.994+j31.005
ALUPRINT	ALU-115	115	15.27	15.10	0.931+j4.246	0.559+j4.475	17.04	16.51	0.867+j4.198	0.588+j4.673
ALZA	ALZ-115	115	6.16	5.68	3.451+j10.205	3.922+j12.955	7.34	6.52	3.191+j9.431	3.949+j13.123
ALZADA	AZA-115	115	3.30	2.35	5.530+j19.317	12.206+j42.806	3.83	2.82	5.059+j18.375	10.494+j38.306
AMATITÁN	AMT-69	69	2.63	1.76	5.710+j14.005	9.391+j36.605	4.02	3.22	3.538+j10.322	5.654+j18.207
AMECA	AMK-115	115	2.22	1.42	6.711+j29.132	20.685+j77.614	2.49	1.58	6.205+j28.630	20.696+j77.843
AMERI AXLE& MANUF DE MEX S.A. DE C.V.	AXL-115	115	7.16	6.47	2.412+j8.959	4.585+j11.411	7.99	7.16	2.308+j8.849	4.595+j11.507
AMISTAD BAJÍO	AMB-115	115	18.58	9.87	0.625+j3.518	3.068+j12.667	20.53	10.84	0.568+j3.511	3.079+j12.762
ANDARES	ADS-69	69	14.36	9.35	0.678+j2.690	1.494+j7.080	16.40	10.39	0.595+j2.605	1.508+j7.152
ANGAMACUTIRO DOS	ARD-115	115	3.16	2.11	7.123+j19.765	16.624+j49.468	3.71	2.73	6.609+j18.542	11.752+j39.326
ANTEA	NTA-115	115	16.36	14.15	1.196+j3.878	0.398+j6.045	18.24	15.62	1.152+j3.834	0.405+j6.102
ANTÚNEZ	ANN-69	69	3.69	4.89	1.773+j10.635	0.152+j2.864	5.14	6.65	1.574+j8.381	0.169+j2.711
ANTÚNEZ	ANN-115	115	4.69	4.50	3.266+j13.783	2.023+j15.860	5.81	5.30	2.668+j12.275	2.166+j16.075
APA	APA-115	115	17.07	17.21	0.656+j3.833	0.536+j3.763	18.93	18.75	0.596+j3.811	0.556+j3.944
APASCO	APP-115	115	5.53	4.09	3.264+j11.564	8.830+j23.092	6.47	4.64	2.984+j10.888	8.837+j23.114
APASEO	APS-110	115	18.67	15.21	0.661+j3.495	1.245+j5.847	20.60	16.65	0.606+j3.494	1.262+j5.951
APASEO ORIENTE	APO-115	115	10.24	7.00	2.212+j6.098	4.637+j14.796	11.24	7.67	2.180+j6.121	4.641+j14.870
APATZINGÁN	APZ-115	115	8.36	8.12	1.440+j7.807	1.476+j8.500	10.58	9.97	1.063+j6.822	1.400+j8.046
APATZINGÁN	APZ-161	161	4.20	3.84	3.338+j21.873	3.816+j27.995	5.17	4.62	2.651+j19.596	3.662+j26.537
ARANCIA	ARN-115	115	14.57	14.95	0.851+j4.476	0.588+j4.168	16.24	16.41	0.794+j4.426	0.618+j4.319
ARANDAS	ARS-115	115	3.22	2.73	6.134+j19.675	9.010+j30.546	3.64	3.04	5.868+j19.191	9.048+j30.722
ARBOLEDAS	ABL-115	115	6.92	5.72	2.190+j9.338	4.227+j15.033	8.51	6.70	2.009+j8.346	4.300+j14.921
ARELLANO	ARE-115	115	12.71	9.43	1.042+j5.118	1.664+j10.549	14.48	10.49	0.913+j4.959	1.674+j10.682
ARIO DE ROSALES	ADR-69	69	2.07	1.02	5.647+j18.432	22.473+j75.019	3.20	2.00	3.877+j13.129	9.623+j37.304
ARMERÍA	AIA-115	115	5.15	3.58	2.952+j12.546	9.686+j28.345	6.01	4.04	2.678+j11.857	9.690+j28.359
ARRAYANAL	AYL-115	115	6.02	4.40	2.682+j10.699	7.279+j22.099	7.09	4.99	2.410+j10.011	7.284+j22.144
ARTEVA SPECIAL TES S.R.L. C.V.	ATV-115	115	16.08	14.52	0.947+j4.020	1.048+j5.357	17.86	15.99	0.907+j3.988	1.055+j5.428
ASMOLES	ASM-115	115	5.68	4.49	3.240+j11.226	7.920+j19.496	6.65	5.09	2.960+j10.579	7.930+j19.572
ASUNCIÓN	ASU-115	115	17.94	14.65	0.740+j3.626	0.941+j6.131	20.65	16.36	0.622+j3.481	0.951+j6.251
ATEQUIZA	ATQ-69	69	19.32	25.21	0.439+j2.015	0.026+j0.624	23.65	30.15	0.373+j1.815	0.035+j0.660
ATEQUIZA	ATQ-230	230	17.39	20.58	1.792+j7.423	0.424+j4.093	22.79	25.50	1.044+j6.325	0.458+j4.350
ATEQUIZA	ATQ-400	400	15.35	16.65	3.375+j14.663	1.604+j11.425	22.44	22.00	1.470+j11.227	1.697+j11.888
ATOTONILCO	ATO-115	115	4.98	6.37	3.721+j12.809	0.523+j4.637	5.70	7.19	3.469+j12.346	0.570+j4.866
AUTLÁN	AUT-115	115	1.22	0.82	16.957+j51.758	34.418+j128.137	1.36	0.91	16.611+j51.141	34.439+j128.247
ALUMINICASTE	AUT-115	115	10.98	8.59	1.252+j5.915	2.183+j10.868	12.26	9.48	1.201+j5.836	2.196+j10.987
AVENTEC	AVN-115	115	17.28	16.09	0.762+j3.766	0.878+j4.613	19.53	17.86	0.683+j3.677	0.891+j4.706



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
AYALA	AYA-115	115	12.20	8.71	1.189+j5.312	2.704+j11.660	13.64	9.63	1.085+j5.242	2.717+j11.759
AYOTLAN	AYN-115	115	3.71	3.21	5.053+j17.171	7.836+j25.024	4.22	3.60	4.782+j16.637	7.849+j25.135
AYUNTAMIENTO	AYU-115	115	12.93	9.15	1.029+j5.031	1.810+j11.368	14.74	10.17	0.899+j4.872	1.819+j11.493
AZUFRES SWITCHEO	AZS-115	115	11.14	12.94	0.986+j5.879	0.443+j3.445	12.00	13.80	1.004+j6.005	0.464+j3.677
AZUFRES SWITCHEO SUR	ASR-115	115	9.84	11.73	1.097+j6.657	0.357+j3.477	10.56	12.46	1.133+j6.824	0.385+j3.743
BANDERAS	BAN-115	115	4.23	4.10	5.044+j14.847	5.251+j16.345	5.03	4.72	4.283+j13.875	5.271+j16.544
BAÑÓN	BON-110	115	2.63	1.80	9.916+j23.233	20.289+j56.735	3.04	2.02	9.193+j22.219	20.306+j56.859
BARRACUDA	BCD-115	115	12.87	9.58	1.083+j5.045	1.944+j10.300	14.47	10.60	1.006+j4.947	1.961+j10.396
BELTICOS S.A. DE C.V.	BEL-69	69	18.37	13.90	0.516+j2.107	0.960+j4.150	22.38	16.90	0.405+j1.916	0.849+j3.770
BICENTENARIO	BCT-115	115	7.89	7.87	1.787+j8.225	1.656+j8.314	9.36	9.03	1.520+j7.653	1.686+j8.500
BMW	BMW-230	230	10.80	8.66	2.333+j12.073	5.092+j20.841	12.95	10.08	1.945+j11.108	5.064+j20.332
BOCAS	BOC-115	115	4.53	3.66	3.232+j14.310	8.182+j23.774	4.98	4.03	3.185+j14.301	8.197+j23.917
BOLAÑOS	BLA-110	115	0.91	0.57	34.071+j64.499	61.407+j192.464	1.00	0.63	33.942+j64.420	61.428+j192.709
BONLAN	BNL-115	115	16.82	14.74	0.790+j3.868	1.078+j5.513	18.98	16.34	0.711+j3.781	1.090+j5.610
BOQUILLA	BOQ-115	115	5.13	3.26	3.169+j12.558	11.358+j33.346	6.22	3.79	2.642+j11.439	11.200+j32.530
BOTELLO	BOT-115	115	4.05	2.78	4.639+j15.713	11.057+j37.394	4.94	4.29	3.989+j14.238	3.571+j21.226
BUENA VISTA NORTE	BVN-115	115	13.16	10.11	1.370+j4.858	2.509+j9.284	14.66	11.15	1.325+j4.804	2.512+j9.358
BUENAVISTA	BNA-115	115	14.30	10.63	1.299+j4.458	2.153+j9.203	15.94	11.74	1.255+j4.407	2.157+j9.265
BUGAMBILIAS	BUG-69	69	10.91	7.02	0.931+j3.532	2.093+j9.488	12.28	7.78	0.855+j3.466	2.096+j9.532
BURNER S	BRN-115	115	7.12	5.87	3.279+j8.732	4.855+j14.491	7.85	6.45	3.222+j8.724	4.877+j14.621
C. H. SANTA ROSA	SRO-69	69	2.79	1.72	5.341+j13.256	10.869+j39.521	5.13	5.84	1.967+j8.311	0.317+j5.494
C.H. LA YESCA	LYE-400	400	5.11	3.49	6.140+j44.784	24.052+j105.439	10.43	11.47	1.436+j24.303	0.955+j17.760
CABLESA	CAB-115	115	14.56	14.59	1.165+j4.409	0.709+j4.486	16.21	16.12	1.113+j4.366	0.715+j4.541
CALERA	CAL-115	115	10.34	13.30	1.600+j6.220	0.180+j2.153	12.36	15.52	1.359+j5.751	0.196+j2.314
CALERA	CAL-230	230	6.41	7.50	5.190+j20.046	1.379+j11.745	7.76	8.74	4.278+j18.341	1.488+j12.456
CALERA INDUSTRIAL	CAI-115	115	6.96	7.51	2.243+j9.269	1.078+j7.384	8.36	8.67	1.894+j8.532	1.143+j7.719
CALVILLO	CVO-115	115	4.16	2.55	3.496+j15.571	7.475+j45.711	4.61	2.80	3.376+j15.480	7.493+j45.945
CAMPESTRE	CPE-115	115	8.50	7.46	1.852+j7.585	2.374+j10.837	9.42	8.17	1.775+j7.548	2.403+j11.055
CAMPOS	CMP-115	115	11.94	9.73	0.880+j5.488	1.744+j9.194	15.15	11.52	0.639+j4.778	1.747+j9.215
CAÑADA	KDA-115	115	19.50	19.78	0.555+j3.359	0.262+j3.258	22.75	22.13	0.463+j3.177	0.287+j3.476
CAÑADA	KDA-230	230	18.90	22.57	1.338+j6.896	0.373+j3.602	23.50	26.92	0.866+j6.155	0.403+j3.839
CAÑADA	KDA-400	400	15.03	16.10	3.178+j15.036	1.611+j12.229	19.68	19.68	1.851+j12.778	1.725+j12.839
CAPILLA DE GUADALUPE	CIA-115	115	2.20	1.34	9.334+j28.657	24.176+j84.994	2.61	1.53	8.419+j26.703	23.758+j83.812
CARAPAN DISTRIBUCIÓN	CRD-115	115	9.15	5.88	1.601+j7.080	4.152+j18.893	10.27	6.52	1.491+j6.953	4.159+j18.949
CARAPAN POTENCIA	CRP-115	115	14.35	17.17	0.766+j4.563	0.136+j2.344	18.84	21.74	0.626+j3.825	0.187+j2.326
CARAPAN POTENCIA	CRP-230	230	14.03	16.76	1.719+j9.306	0.415+j4.804	17.52	20.15	1.126+j8.260	0.457+j5.066
CARAPAN POTENCIA	CRP-400	400	10.28	10.22	3.972+j22.120	2.491+j22.626	13.25	12.26	2.305+j19.035	2.742+j23.676
CARTONES PODEROSA S.A. DE	PON-115	115	14.46	14.53	0.949+j4.493	0.730+j4.465	16.12	15.97	0.892+j4.441	0.757+j4.604
CASTILLO	CST-69	69	19.42	17.73	0.498+j1.990	0.631+j2.561	22.26	19.90	0.440+j1.919	0.633+j2.594
CASTRO DEL RIO	CDR-115	115	11.00	7.29	1.357+j5.883	3.247+j14.880	12.40	8.10	1.247+j5.755	3.254+j14.936
CATARINA	CTA-69	69	4.43	2.86	3.554+j8.253	8.238+j22.327	5.02	3.18	3.336+j8.073	8.244+j22.420
CD. HIDALGO	CDH-115	115	5.60	4.12	3.034+j11.460	8.714+j23.105	6.20	4.53	2.989+j11.403	8.720+j23.219



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CELANESE (CARAPAN)	CME-115	115	5.00	3.64	4.071+j12.635	9.025+j26.746	5.97	4.63	3.721+j11.658	6.824+j21.847
CELAYA AEROPUERTO	CAE-110	115	14.12	11.94	1.095+j4.575	1.679+j7.072	15.55	13.04	1.036+j4.581	1.700+j7.227
CELAYA DOS	CYA-115	115	22.45	24.37	0.575+j2.901	0.268+j2.243	24.85	26.55	0.517+j2.893	0.290+j2.373
CELAYA DOS	CYA-230	230	15.33	13.99	1.797+j8.475	1.618+j11.035	17.67	15.63	1.517+j8.125	1.731+j11.438
CELAYA I	CLY-115	115	16.51	13.38	0.948+j3.907	1.703+j6.623	18.28	14.70	0.887+j3.895	1.714+j6.719
CELAYA III	CEY-115	115	18.06	19.13	0.745+j3.600	0.330+j3.047	19.84	20.69	0.688+j3.616	0.357+j3.230
CELAYA III	CEY-230	230	15.98	14.30	1.871+j8.095	1.876+j11.083	18.79	16.26	1.535+j7.619	1.976+j11.326
CELAYA INDUSTRIAL	CYI-110	115	17.48	17.29	0.802+j3.714	0.959+j3.804	19.34	18.96	0.743+j3.702	0.970+j3.901
CELAYA PONIENTE	CLP-115	115	12.25	9.99	1.333+j5.253	2.246+j8.820	13.56	10.94	1.269+j5.233	2.294+j8.984
CELAYA SUR	CYS-115	115	11.95	8.40	1.365+j5.387	3.520+j12.089	13.21	9.24	1.303+j5.371	3.530+j12.173
CEMENTOS MOCTEZUMA (MATEHUALA)	CMZ-115	115	1.27	0.90	22.776+j47.206	35.597+j110.537	1.39	1.00	22.731+j47.211	35.651+j111.121
CEMEX MÉXICO S.A. DE C.V. (C.D GUZMÁN)	CMX-115	115	3.85	3.12	4.438+j16.681	6.665+j28.664	4.27	3.42	4.219+j16.568	6.716+j29.082
CEMEX MÉXICO S.A. DE C.V. (GUADALAJARA)	CMX-69	69	5.89	4.27	1.663+j6.556	3.274+j14.070	6.60	4.71	1.597+j6.446	3.287+j14.234
CEMEX MÉXICO S.A. DE C.V. (HUICHAPAN)	CMX-230	230	5.49	4.57	4.749+j23.697	8.206+j37.885	6.78	5.35	3.730+j21.226	8.342+j37.892
CENTRO	CTR-115	115	4.31	4.17	4.815+j14.649	3.988+j16.509	5.14	4.81	3.973+j13.642	4.006+j16.714
CENTRO LOGÍSTICO JALISCO	CLJ-115	115	6.00	4.95	2.498+j10.787	6.546+j17.001	6.70	5.47	2.268+j10.660	6.553+j17.199
CEPAMISA	CMS-115	115	7.75	7.09	1.988+j8.335	2.198+j10.727	8.59	7.76	1.900+j8.287	2.235+j10.999
CERRO BLANCO	CBL-400	400	7.94	7.41	6.133+j28.451	7.159+j34.468	17.87	17.32	1.211+j14.167	2.752+j15.353
CERRO GORDO	GOC-115	115	15.80	12.99	0.993+j4.083	1.511+j6.766	17.73	14.34	0.891+j4.022	1.525+j6.883
CERRO HUECO	CHC-69	69	1.08	0.60	14.965+j33.796	41.174+j118.913	1.38	0.85	13.130+j28.859	30.183+j86.172
CERVECERÍA MODELO DE GUADALAJARA	MOD-69	69	11.62	7.80	0.919+j3.302	2.092+j8.211	13.15	8.64	0.839+j3.226	2.100+j8.279
CH ZIMAPAN	ZMN-115	115	5.59	6.44	2.064+j11.696	0.636+j7.150	7.46	8.68	1.223+j9.715	0.257+j5.654
CH ZIMAPAN	ZMN-230	230	4.12	3.88	6.289+j31.633	5.427+j37.726	6.94	7.56	2.684+j20.868	1.114+j15.851
CHAMELA	CML-115	115	1.45	1.14	12.395+j44.006	32.101+j77.415	1.62	1.26	12.092+j43.346	32.123+j77.523
CHAPALA	CHA-69	69	4.61	2.82	2.588+j8.253	6.303+j24.346	5.19	3.12	2.514+j8.062	6.316+j24.400
CHAPALILLA	CPI-115	115	1.74	1.76	8.302+j37.149	6.823+j36.563	1.88	1.87	8.591+j37.884	7.132+j38.696
CHARAPAN	CHN-115	115	4.35	3.04	4.277+j14.665	12.498+j32.734	4.93	3.39	4.077+j14.240	12.511+j32.768
CHARAPAN	CHN-230	230	6.48	6.78	3.054+j20.276	2.338+j17.607	7.54	7.62	2.640+j19.196	2.504+j18.567
CHARCAS	CAK-110	115	6.74	7.40	2.043+j9.640	1.724+j7.008	7.33	7.99	2.041+j9.758	1.755+j7.319
CHARCAS POTENCIA	CHK-115	115	7.80	9.43	1.530+j8.371	0.282+j4.128	8.47	10.13	1.528+j8.489	0.313+j4.439
CHARCAS POTENCIA	CHK-230	230	4.10	4.39	5.597+j31.918	2.128+j26.023	4.49	4.72	5.493+j32.047	2.384+j27.905
CHILATÁN	CHL-115	115	2.34	1.55	7.256+j27.428	20.512+j68.530	3.16	2.75	4.936+j22.573	5.415+j33.108
CHIPILO	CHI-115	115	10.48	9.03	1.383+j6.182	2.731+j9.005	11.77	9.98	1.317+j6.066	2.765+j9.157
CÍCLO COMBINADO TIERRA MOJADA S. DE R.L. DE C.V.	TIM-400	400	15.58	17.63	3.106+j14.498	0.972+j9.625	22.15	22.98	1.373+j11.385	1.077+j10.193
CIENEGUILLAS	CGS-115	115	5.29	4.34	3.272+j12.109	5.597+j20.025	6.13	4.90	3.003+j11.532	5.612+j20.148
CIENEGUILLAS	CGS-115.0	115	4.09	4.85	5.560+j15.261	1.045+j8.741	6.11	6.71	3.807+j11.340	1.131+j8.771
CÍFUNSA DEL BAIÍO S.A. DE C.V.	CIF-115	115	23.24	23.39	0.628+j2.787	0.440+j2.771	26.89	26.40	0.527+j2.664	0.452+j2.861
CIHUATLAN	CHT-115	115	3.25	2.80	5.142+j19.745	11.012+j28.313	3.71	3.14	4.862+j19.070	11.028+j28.413
CIMATARIO	CIM-115	115	12.49	10.50	1.329+j5.147	0.496+j8.407	13.86	11.57	1.284+j5.109	0.502+j8.466
CIUDAD GUZMÁN	CGM-115	115	6.64	7.78	2.201+j9.755	0.488+j5.621	7.42	8.52	1.981+j9.636	0.539+j6.039
CIUDAD GUZMÁN	CGM-230	230	4.83	4.76	6.269+j26.774	3.647+j28.506	5.72	5.38	5.216+j24.994	4.017+j30.101
CNH DE MÉXICO S.A. DE C.V.	HOL-115	115	16.95	15.26	0.870+j3.820	0.977+j5.123	18.83	16.80	0.830+j3.789	0.984+j5.194



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
COAHUAYANA	CHY-115	115	1.96	1.29	10.184+j32.295	30.005+j80.973	2.20	1.44	9.872+j31.657	30.011+j81.004
COALCOMÁN	CMN-115	115	1.26	0.83	19.652+j48.711	48.870+j127.027	1.47	1.08	17.858+j46.311	31.273+j98.769
COBANO	CBN-69	69	2.75	1.55	3.777+j13.975	13.289+j46.475	6.91	6.12	0.963+j6.269	0.805+j8.771
COBANO	CBN-161	161	4.23	3.63	3.724+j21.667	6.177+j32.205	6.23	6.10	2.194+j16.274	2.201+j17.270
COBRECEL	COB-115	115	8.54	7.22	1.678+j7.587	2.945+j11.674	9.41	7.91	1.620+j7.594	2.962+j11.807
COCULA	CLA-115	115	4.95	3.95	3.311+j12.985	8.586+j22.166	5.71	4.43	2.813+j12.470	8.597+j22.395
COENEO	CNE-115	115	10.53	7.54	1.259+j6.177	2.505+j13.567	11.78	8.33	1.181+j6.086	2.524+j13.668
COLIMA DOS	CMD-115	115	9.68	11.54	1.318+j6.730	0.335+j3.542	11.70	13.50	1.054+j6.155	0.364+j3.728
COLIMA DOS	CMD-230	230	6.85	6.96	3.732+j19.023	2.647+j18.316	8.86	8.40	2.677+j16.263	2.858+j19.006
COLIMA NORTE	CNO-115	115	6.62	6.04	2.299+j9.764	3.039+j12.525	7.76	6.87	2.030+j9.196	3.069+j12.711
COLIMILLA	CLL-69	69	10.83	7.32	0.942+j3.556	2.264+j8.685	14.58	13.73	0.617+j2.942	0.465+j3.541
COLINAS	COI-115	115	11.35	8.33	1.180+j5.731	2.212+j12.017	12.71	9.20	1.101+j5.639	2.231+j12.118
COLINAS DE LEÓN DOS MANIOBRAS	CCL-115	115	16.61	14.38	0.891+j3.896	1.138+j5.748	18.69	15.90	0.789+j3.827	1.153+j5.870
COLINAS DEL RINCÓN PARQUE INDUSTRIAL	RPI-115	115	13.71	10.41	0.967+j4.744	1.882+j9.260	15.30	11.45	0.868+j4.693	1.905+j9.413
COLOMO	COL-115	115	16.16	19.40	0.606+j4.064	0.155+j2.045	21.60	24.61	0.365+j3.362	0.166+j2.134
COLOMO	COL-230	230	11.01	12.80	1.626+j11.956	0.971+j6.931	16.65	17.97	0.724+j8.744	0.995+j6.777
COLOMO DISTRIBUCIÓN	CDI-115	115	15.95	19.03	0.627+j4.115	0.184+j2.134	21.27	24.08	0.385+j3.413	0.195+j2.222
COLON	CLN-230	230	12.83	11.70	2.597+j10.018	2.756+j13.062	16.32	13.89	1.735+j8.779	2.810+j13.353
COMALA	COM-115	115	5.82	5.04	2.616+j11.098	4.477+j16.135	6.80	5.75	2.328+j10.486	4.419+j16.071
COMPOSTELA	CMP-110	115	3.31	2.36	7.474+j18.636	15.243+j41.552	3.86	2.67	6.851+j17.662	15.232+j41.454
CONTICÓN	CON-115	115	8.82	7.33	1.600+j7.360	2.884+j11.761	9.70	8.03	1.542+j7.368	2.903+j11.904
CONDEMBARO	CON-115	115	3.35	2.51	4.903+j19.180	14.255+j37.209	3.90	2.88	4.493+j18.193	13.943+j36.265
CONDUCTORES MONTERREY	CDM-115	115	17.15	15.91	0.771+j3.795	0.746+j4.723	19.33	17.60	0.693+j3.714	0.762+j4.839
CONIN	CNI-115	115	21.06	24.11	0.613+j3.093	0.129+j1.963	23.36	26.31	0.570+j3.074	0.138+j2.082
CONIN	CNI-230	230	16.06	15.84	1.592+j8.116	0.996+j8.560	18.93	18.16	1.335+j7.600	1.038+j8.646
CORONEO	COO-110	115	2.59	2.06	9.973+j23.582	13.220+j43.442	2.84	2.25	10.020+j23.661	13.447+j44.337
CORPORACIÓN DE OCCIDENTE	COC-69	69	13.76	12.43	0.701+j2.808	0.842+j3.733	16.32	14.24	0.634+j2.609	0.850+j3.768
CORTÁZAR	CZR-115	115	7.34	6.80	2.019+j8.823	2.769+j10.836	8.08	7.47	1.958+j8.824	2.781+j10.943
COTIJA	CTJ-115	115	5.09	3.33	3.377+j12.600	8.787+j32.506	5.77	3.71	3.214+j12.241	8.806+j32.570
CRUCERO	CCR-115	115	3.10	2.05	5.279+j20.736	13.472+j52.581	4.03	3.20	3.893+j17.716	6.419+j31.533
CRUZ AZUL	CZA-230	230	5.89	4.24	4.406+j22.120	12.754+j47.307	6.77	4.75	3.813+j21.227	12.794+j47.537
CRYOINFRA	CRI-115	115	9.28	9.60	1.816+j6.919	1.412+j6.289	10.69	11.01	1.674+j6.621	1.420+j6.112
CRYOINFRA	CRY-115	115	22.08	24.30	0.744+j2.913	0.411+j2.147	24.62	26.77	0.704+j2.881	0.418+j2.219
CUAUHTÉMOC	SCC-115	115	3.51	2.54	4.981+j18.270	11.037+j39.039	4.04	2.93	4.603+j17.505	10.307+j37.159
CUERÁMARO	CUE-110	115	7.27	5.12	1.978+j8.911	6.898+j19.560	8.55	5.80	1.843+j8.344	6.920+j19.588
CUITZEO MORELIA	CTZ-115	115	5.08	3.42	3.591+j12.564	10.775+j30.260	5.63	3.77	3.511+j12.493	10.784+j30.358
CUITZEO OCOTLAN	CZO-115	115	8.15	6.65	2.300+j7.813	3.482+j13.189	9.39	7.45	2.096+j7.492	3.526+j13.386
CUITZILLOS	CZS-115	115	6.28	4.77	2.641+j10.233	6.237+j19.692	6.92	5.23	2.597+j10.235	6.252+j19.837
CUMBRES	CUB-115	115	17.95	18.18	0.738+j3.624	0.439+j3.539	20.64	20.34	0.617+j3.484	0.450+j3.676
CUMMINS FILTRACIÓN	CSF-115	115	13.67	8.70	1.015+j4.751	2.466+j12.943	15.40	9.63	0.936+j4.649	2.483+j13.029
CUPATITZIO	CPT-161	161	4.70	4.53	2.897+j19.548	3.067+j21.747	6.89	7.26	1.619+j14.759	1.221+j12.475
CUPRO	CPO-115	115	18.24	18.82	0.778+j3.556	0.592+j3.254	20.59	20.83	0.700+j3.477	0.608+j3.376



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CUQUIO	CUQ-115	115	1.96	1.30	9.696+j32.538	30.695+j79.215	2.29	1.49	8.865+j30.596	30.275+j78.034
DAIDO METAL	DAI-69	69	6.21	3.82	1.576+j6.216	4.055+j18.014	6.92	4.22	1.497+j6.151	4.057+j18.060
DAL-TILE MÉXICO S. DE R.L. DE C.V	DLT-115	115	17.85	16.91	0.710+j3.651	0.820+j4.259	20.75	19.40	0.599+j3.469	0.825+j4.197
DANISCO MEXICANA	DAM-115	115	5.53	4.10	3.337+j11.534	8.941+j22.893	6.47	4.65	3.051+j10.868	8.947+j22.923
DANONE DE MÉXICO S.A. DE C.V.	DNN-115	115	10.64	7.54	1.445+j6.073	4.272+j13.265	11.98	8.38	1.342+j5.945	4.277+j13.325
DAÑU	DAN-230	230	8.74	9.40	2.995+j14.896	1.619+j11.902	11.63	11.79	1.999+j12.399	1.755+j11.910
DE ACERO MORELIA	DEO-115	115	8.63	6.99	1.834+j7.474	3.187+j12.694	9.53	7.67	1.778+j7.458	3.205+j12.850
DE ACERO CELAYA	DEA-230	230	13.20	10.75	2.199+j9.815	3.310+j16.617	15.33	12.11	1.859+j9.346	3.410+j16.860
DELCO REMY	DLC-115	115	18.76	17.88	0.708+j3.469	0.689+j4.004	21.27	19.88	0.629+j3.376	0.703+j4.095
DENSO	DEN-115	115	7.11	5.48	2.343+j9.037	4.001+j17.241	7.88	6.03	2.247+j8.991	4.018+j17.381
DESCANSADERO	DSC-69	69	0.69	0.63	23.433+j52.779	24.883+j69.780	1.75	1.39	10.697+j22.615	14.316+j42.157
DESTILADERAS	DST-115	115	3.82	3.41	5.250+j16.592	5.168+j23.076	4.49	3.89	4.469+j15.628	5.186+j23.266
DICUMSA	DIC-115	115	17.12	15.85	0.773+j3.800	0.752+j4.755	19.30	17.54	0.695+j3.720	0.767+j4.871
DISTEX	DTX-115	115	17.45	16.01	1.032+j3.662	0.925+j4.749	19.40	17.63	0.992+j3.631	0.932+j4.820
DOLORES HIDALGO	DHD-115	115	7.07	4.81	2.740+j8.980	5.628+j21.972	7.79	5.28	2.714+j8.970	5.628+j22.055
DOMINICA	DMN-115	115	5.73	7.13	1.025+j11.542	0.122+j4.765	6.06	7.48	1.065+j12.010	0.134+j5.197
DOMO SAN PEDRO	DSP-115	115	1.70	1.84	7.851+j38.370	2.970+j30.089	1.82	1.94	8.240+j39.359	3.350+j32.546
DON VASCO	VCO-115	115	2.77	1.88	7.591+j22.712	20.255+j54.215	3.09	2.08	7.404+j22.434	20.278+j54.356
EATON	EAT-115	115	16.08	13.86	0.879+j4.035	1.141+j6.006	18.14	15.37	0.799+j3.946	1.154+j6.096
EDOSA	EDO-69	69	7.37	4.88	1.551+j5.176	3.364+j13.276	8.43	5.45	1.478+j4.985	3.372+j13.312
EFFEM (LA CIÉNEGA)	EFF-115	115	3.82	2.51	4.268+j16.830	10.585+j43.196	4.30	2.78	4.061+j16.512	10.629+j43.394
EFFEM (SAN JUAN DEL RÍO)	EFF-115	115	8.86	5.94	2.056+j7.207	4.303+j18.045	9.85	6.56	1.997+j7.141	4.304+j18.074
EL ARBOLITO	ABO-115	115	4.15	2.82	5.925+j14.864	13.478+j36.154	4.59	3.11	5.847+j14.789	13.475+j36.210
EL CAJÓN	CJN-400	400	6.93	6.01	6.468+j32.674	10.636+j47.517	15.52	16.24	1.233+j16.326	1.330+j14.107
EL CAMPANARIO	CAM-115	115	15.90	12.17	0.888+j4.081	1.646+j7.844	17.74	13.45	0.840+j4.030	1.651+j7.892
EL GRANJENO	EGJ-115	115	18.05	15.93	0.969+j3.548	1.324+j4.974	20.44	17.71	0.863+j3.467	1.335+j5.069
EL GRULLO	GRU-110	115	0.83	0.52	27.711+j75.353	60.070+j215.241	0.92	0.57	27.356+j74.750	60.092+j215.351
EL MARQUÉS	MRQ-115	115	15.11	13.04	1.046+j4.267	1.241+j6.369	16.73	14.29	1.003+j4.249	1.250+j6.488
EL MARQUÉS ORIENTE	MQO-115	115	14.15	11.93	0.977+j4.589	1.297+j7.204	15.66	13.07	0.934+j4.571	1.306+j7.323
EL MIRADOR	MRR-115	115	6.54	5.27	2.375+j9.870	3.590+j17.096	7.75	6.02	2.045+j9.196	3.609+j17.197
EL MONTEON	MTN-115	115	2.81	2.24	8.805+j21.883	17.004+j38.124	3.26	2.53	8.078+j20.912	17.011+j38.235
EL PALMAR	EPM-115	115	5.39	3.04	3.560+j11.798	12.153+j39.081	6.20	3.42	3.291+j11.304	12.083+j38.746
EL PARDILLO	PRL-110	115	3.55	2.55	4.988+j18.033	11.449+j38.895	4.01	2.84	4.744+j17.567	11.465+j39.056
EL POTOSÍ	EPS-115	115	21.06	21.76	0.487+j3.115	0.244+j2.847	23.20	23.48	0.438+j3.118	0.268+j3.043
EL POTOSÍ	EPS-230	230	17.27	19.73	1.325+j7.576	0.518+j4.810	20.25	22.45	1.059+j7.134	0.568+j5.099
EL POTOSÍ	EPS-400	400	12.24	12.34	3.051+j18.624	2.245+j18.339	14.55	14.04	2.250+j17.318	2.446+j19.299
EL REALITO	ELR-115	115	2.52	1.46	4.944+j25.896	16.081+j82.123	2.77	1.60	4.930+j25.938	16.093+j82.274
EL REFUJIO	RFJ-115	115	3.19	2.00	6.377+j19.820	16.257+j55.539	3.91	2.33	5.490+j17.830	15.840+j54.358
EL SALTO	ESJ-69	69	24.81	29.84	0.308+j1.576	0.071+j0.794	29.41	34.63	0.247+j1.470	0.081+j0.814
EL SALTO JALISCO	ESJ-230	230	14.54	15.78	2.124+j8.883	1.127+j6.903	18.57	19.07	1.354+j7.750	1.174+j7.154
EL SAUCITO	MSU-115	115	7.08	6.68	2.591+j9.015	1.622+j11.015	8.15	7.51	2.360+j8.645	1.640+j11.168
EL SAUZ	SAU-115	115	21.16	24.52	0.476+j3.102	0.109+j1.851	23.36	26.77	0.440+j3.095	0.108+j1.935



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EL SAUZ	SAU-230	230	14.76	14.49	1.528+j8.865	0.958+j9.464	18.52	18.44	1.131+j7.805	0.690+j7.973
EL SOL	SOL-69	69	17.38	12.73	0.574+j2.219	1.089+j4.679	22.16	16.51	0.430+j1.930	0.875+j3.910
EL SOL	SOL-69B	69	17.78	13.16	0.554+j2.171	1.037+j4.482	22.50	16.88	0.419+j1.902	0.846+j3.802
EL SOL (CARAPAN)	ESO-115	115	4.73	3.37	3.876+j13.496	10.389+j29.274	6.47	4.45	3.134+j10.841	8.854+j25.134
EL TARAY	TAY-115	115	4.48	2.83	3.673+j14.375	2.244+j41.057	4.96	3.11	3.555+j14.281	2.261+j41.289
EL TORO	TOO-115	115	11.27	5.79	1.259+j5.753	5.835+j21.850	12.53	6.36	1.162+j5.714	5.863+j22.043
EL ZAPOTILLO	EZP-115	115	2.97	1.99	5.454+j21.697	16.330+j53.021	3.57	2.32	4.827+j19.866	14.977+j51.361
EMMAN TABLEROS S.A. DE C.V.	EMM-115	115	5.96	4.31	2.896+j10.764	5.699+j23.186	6.77	4.80	2.690+j10.444	5.743+j23.383
EMPAQUES MODERNOS	EMP-69	69	9.53	6.76	1.514+j3.898	3.350+j8.696	10.87	7.59	1.447+j3.761	3.356+j8.637
ENCARNACIÓN DE DÍAZ	ENC-110	115	5.08	3.38	3.106+j12.689	9.784+j31.424	5.67	3.73	2.968+j12.538	9.793+j31.497
ENVASES INNOVATIVOS	ENV-69	69	14.33	10.25	0.722+j2.684	1.475+j5.920	16.21	11.39	0.655+j2.623	1.479+j5.953
ENVASES UNIVERSALES	EVS-69	69	13.47	11.95	0.720+j2.869	0.907+j3.981	15.94	13.67	0.653+j2.670	0.915+j4.016
ENVASES Y TAPAS	EYT-115	115	6.75	7.09	2.328+j9.564	1.360+j8.305	8.07	8.16	1.979+j8.827	1.425+j8.641
EÓLICA CERRITOS (MESA MORENOS) MANIOBRAS	ECM-230	230	6.13	5.96	3.773+j21.322	3.673+j23.229	7.21	6.73	3.233+j20.013	3.900+j24.258
HUMEDADES	HUM-115	115	1.85	1.16	12.940+j33.544	32.870+j94.794	2.13	1.31	12.173+j32.030	32.615+j93.702
EÓLICA HUIMILPAN (SAN PEDRO) MANIOBRAS HUIMILPAN	HUM-115	115	4.23	4.19	5.483+j14.697	2.692+j16.098	4.63	4.51	5.531+j14.778	2.918+j16.992
ESTADIO CORREGIDORA	ECO-115	115	13.31	9.49	0.936+j4.898	1.147+j10.975	14.72	10.43	0.896+j4.880	1.154+j11.034
ESTANCIA DE ANIMAS	EDA-115	115	3.41	2.70	6.739+j18.262	12.680+j32.550	4.22	3.18	5.833+j16.298	12.521+j31.936
ESTANCITA	ETA-115	115	0.80	0.48	28.161+j78.617	60.498+j240.006	1.04	0.76	18.242+j67.796	30.568+j145.796
EXPERIENCIA	EXP-69	69	8.18	5.37	1.039+j4.761	3.196+j12.096	9.30	6.00	0.931+j4.618	3.188+j12.081
EZEQUIEL MONTES	EZM-110	115	7.24	4.36	2.574+j8.805	8.120+j26.161	8.22	4.86	2.424+j8.553	8.102+j26.098
FERTIMEX	FER-69	69	4.99	3.45	2.072+j7.705	4.459+j18.109	5.58	3.81	2.006+j7.595	4.472+j18.273
FIBERWEB DE MÉXICO S.A. DE C.V.	VTC-115	115	9.77	8.26	1.600+j6.602	3.237+j10.039	10.91	9.11	1.547+j6.514	3.251+j10.168
FLAMINGOS	FLA-115	115	5.22	5.95	3.781+j12.147	1.596+j7.922	6.30	6.96	3.024+j11.190	1.624+j8.159
FLEXTRONICS PLANTA SUR	SLT-69	69	9.90	6.23	1.046+j3.885	2.454+j10.865	11.12	6.90	0.970+j3.819	2.457+j10.909
FLUVIAL	FLU-115	115	4.78	5.00	4.211+j13.252	2.505+j11.813	5.73	5.81	3.408+j12.274	2.524+j12.018
FORJAS	FRJ-115	115	17.75	16.95	0.833+j3.646	0.813+j4.194	19.77	18.71	0.790+j3.609	0.816+j4.244
FRESNILLO INDUSTRIAL	FRI-110	115	7.02	6.89	2.742+j9.055	2.482+j9.693	8.07	7.75	2.518+j8.690	2.500+j9.859
FRESNILLO NORTE	FRN-115	115	8.02	9.71	2.132+j8.001	0.557+j3.935	9.24	10.97	1.919+j7.668	0.579+j4.144
FRESNILLO POTENCIA	FSO-115	115	8.30	10.67	2.032+j7.734	0.194+j2.707	9.58	12.08	1.821+j7.404	0.216+j2.923
FRESNILLO POTENCIA	FSO-230	230	4.58	5.43	7.223+j28.087	1.343+j15.424	5.35	6.17	6.327+j26.546	1.497+j16.548
FRESNILLO SUR	FNO-115	115	7.61	7.35	2.483+j8.367	1.971+j9.453	8.81	8.31	2.250+j7.979	1.985+j9.593
FRESNO	FRE-69	69	13.28	9.26	0.783+j2.896	1.694+j6.693	15.08	10.28	0.704+j2.820	1.702+j6.760
GENERADORA ELÉCTRICA SAN RAFAEL, S.A.P.I. DE C.V.	SRA-115	115	2.78	2.09	6.037+j23.069	18.437+j44.359	3.68	4.01	4.172+j19.388	2.378+j14.775
GENERAL MOTORS DE MÉXICO	GMC-115	115					8.48	6.16	2.117+j8.353	5.053+j17.646
GUARAPO	GRP-115	115	6.38	4.13	2.516+j10.100	7.945+j26.216	7.11	4.57	2.419+j9.978	7.956+j26.264
GKN	GKN-115	115	9.10	7.72	1.556+j7.128	2.703+j10.880	10.02	8.45	1.498+j7.136	2.722+j11.023
GÓMEZ PORTUGAL	GOP-115	115	9.27	6.28	1.424+j7.016	3.813+j16.991	10.47	6.96	1.309+j6.853	3.824+j17.103
GRAHAM PACKAGING PLASTIC	GRH-115	115	10.53	7.50	1.480+j6.132	4.284+j13.297	11.86	8.33	1.377+j6.004	4.289+j13.357
GRÁN JARDÍN	GJA-115	115	11.06	8.45	1.339+j5.850	2.281+j11.358	12.32	9.30	1.239+j5.797	2.302+j11.497
GUADALAJARA DOS	GUD-69	69	26.94	31.51	0.276+j1.453	0.080+j0.834	31.29	35.66	0.212+j1.384	0.088+j0.883
GUADALAJARA DOS	GUD-161	161	6.16	8.42	1.547+j15.004	0.106+j2.954	6.56	8.92	1.219+j15.532	0.115+j3.234



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
GUADALAJARA DOS	GUD-230	230	15.03	17.02	2.103+j8.582	0.763+j5.699	19.34	20.75	1.324+j7.435	0.813+j5.965
GUADALAJARA INDUSTRIAL	GUI-69	69	21.70	25.00	0.426+j1.785	0.077+j1.118	24.64	27.63	0.361+j1.742	0.084+j1.206
GUADALAJARA INDUSTRIAL	GUI-230	230	12.04	11.96	2.623+j10.714	1.724+j11.149	15.07	14.09	1.768+j9.527	1.820+j11.586
GUADALAJARA NORTE	GUN-69	69	20.68	23.93	0.363+j1.892	0.090+j1.142	25.05	28.51	0.250+j1.731	0.074+j1.113
GUADALAJARA NORTE	GUN-230	230	11.08	10.62	2.670+j11.680	2.106+j13.389	16.11	15.87	1.328+j8.968	1.150+j9.420
GUADALAJARA ORIENTE	GDO-69	69	23.45	25.91	0.286+j1.674	0.089+j1.216	28.10	30.05	0.195+j1.547	0.095+j1.254
GUADALAJARA ORIENTE	GDO-230	230	14.08	14.87	2.117+j9.192	1.186+j7.852	19.08	18.81	1.170+j7.566	1.229+j7.894
GUADALAJARA UNO	GDU-69	69	29.07	31.56	0.316+j1.334	0.097+j1.048	34.11	35.62	0.241+j1.262	0.105+j1.121
GUADALAJARA UNO	GDU-230	230	13.82	14.46	2.388+j9.304	1.282+j8.271	17.82	17.45	1.516+j8.054	1.359+j8.620
GUADALCAZAR	GDL-115	115	1.44	1.08	20.134+j41.431	28.867+j87.241	1.59	1.20	20.086+j41.435	28.921+j87.824
GUADALUPE	GPE-110	115	6.78	6.52	3.215+j9.252	3.097+j10.501	8.14	7.54	2.959+j8.473	3.125+j10.676
GUANAJUATO	GTO-115	115	8.10	5.16	1.772+j7.998	5.523+j21.541	9.07	5.69	1.663+j7.878	5.552+j21.720
GUANAJUATO SUR	GSU-115	115	9.29	6.07	1.570+j6.973	4.400+j17.978	10.42	6.72	1.461+j6.854	4.417+j18.101
GUARDIÁN INDUSTRIE VP	GDI-115	115	7.21	5.09	2.562+j8.839	5.543+j19.940	8.01	5.63	2.504+j8.766	5.544+j19.963
GUASCARO	GSO-115	115	5.58	3.76	3.094+j11.490	7.898+j28.103	6.38	4.20	2.923+j11.067	7.918+j28.139
GUAYABITOS	GYS-115	115	2.74	2.12	9.179+j22.451	18.451+j41.726	3.16	2.39	8.459+j21.482	18.454+j41.815
GUEVARA	GVA-115	115	0.89	0.54	25.827+j70.381	53.854+j209.711	1.19	0.91	15.981+j59.394	23.978+j115.596
HACIENDA	HDA-115	115	12.71	10.48	1.347+j5.045	2.071+j8.305	14.09	11.47	1.282+j5.023	2.127+j8.485
HACIENDA NUEVA	HNV-115	115	4.57	4.25	4.054+j13.967	5.527+j16.936	5.31	4.82	3.771+j13.220	5.554+j17.141
HENKEL CAPITAL S.A. DE C.V.	RSS-115	115	14.89	14.14	0.970+j4.353	1.028+j5.059	17.65	16.55	0.828+j4.055	1.036+j4.882
HERDEZ	HER-115	115	16.59	13.79	0.804+j3.921	1.048+j6.358	18.68	15.24	0.726+j3.841	1.063+j6.474
HIGUERILLAS	HIG-69	69	15.53	9.47	0.921+j2.394	1.430+j7.404	17.60	10.39	0.850+j2.340	1.474+j7.571
HILASAL MEXICANA S.A.B. DE C.V.	HYL-69	69	6.49	4.75	2.242+j5.717	4.789+j11.966	22.61	20.30	0.410+j1.894	0.622+j2.526
HIROTEC MÉXICO S.A. DE C.V.	AVT-115	115	7.39	7.15	2.335+j8.676	3.819+j9.193	8.25	7.92	2.231+j8.566	3.829+j9.289
HITCHINER	HIT-115	115	15.18	12.88	0.947+j4.272	1.388+j6.568	17.10	14.28	0.867+j4.182	1.401+j6.658
HITACHI	HIT-115	115	11.09	8.06	1.546+j5.784	3.173+j12.342	12.33	8.88	1.501+j5.730	3.176+j12.416
HONDA DE MÉXICO S.A. DE C.V. EL SALTO	HON-69	69	21.20	21.48	0.394+j1.837	0.329+j1.777	25.35	25.24	0.329+j1.697	0.335+j1.718
HORUS	HRS-230	230	8.64	8.10	2.873+j15.096	4.017+j18.005	10.25	9.20	2.293+j14.068	4.263+j18.679
HUACANA	HUC-69	69	1.47	0.86	11.037+j24.790	27.932+j80.375	2.00	1.29	9.489+j19.699	20.197+j54.972
HUANACAXTLE	HUA-115	115	4.05	3.78	5.029+j15.598	4.404+j19.434	4.79	4.33	4.256+j14.635	4.425+j19.637
HUANIMARO	HNM-115	115	3.76	2.90	4.637+j17.052	12.002+j31.108	4.41	3.30	4.383+j15.961	12.095+j31.057
HUENTITÁN	HUN-69	69	10.38	7.06	1.000+j3.705	2.439+j8.932	13.03	10.53	0.797+j3.266	1.555+j5.549
HUICHAPAN	HCH-115	115	1.81	1.02	11.033+j34.881	36.570+j116.333	2.03	1.13	10.746+j34.409	36.498+j115.996
HUNTSMAN INTERNATIONAL DE MÉXICO	HMA-115	115	3.49	2.27	4.724+j18.413	12.058+j48.110	3.92	2.52	4.517+j18.096	12.102+j48.308
IBÍDEM	IBD-115	115	11.27	8.64	1.530+j5.687	3.355+j10.763	12.64	9.58	1.451+j5.594	3.361+j10.815
IBM DE MÉXICO S.A. DE C.V.	IBM-69	69	23.74	24.43	0.317+j1.648	0.267+j1.513	27.39	27.47	0.253+j1.580	0.275+j1.562
IBM-ALKA	IBA-69	69	25.13	27.25	0.298+j1.557	0.181+j1.202	29.08	30.73	0.234+j1.489	0.190+j1.251
IMMSA	IMM-115	115	5.31	5.18	3.035+j12.140	4.552+j12.660	5.78	5.63	3.034+j12.258	4.583+j12.971
IND MINERA MÉXICO	MNR-230	230	10.87	9.05	2.268+j12.000	4.648+j19.087	12.62	10.21	1.948+j11.408	4.698+j19.268
INDEPENDENCIA	INE-115	115	8.15	7.25	1.909+j7.921	2.333+j10.913	9.03	7.95	1.827+j7.879	2.366+j11.153
INDUSTRIAL SAN FRANCISCO	ISF-115	115	11.09	8.06	1.175+j5.869	2.170+j12.559	12.60	8.95	1.070+j5.695	2.190+j12.719
INGUANAN	ING-69	69	0.93	0.57	20.547+j37.382	44.498+j115.131	1.17	0.77	18.982+j32.323	36.732+j89.694



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
INNOPACK	INN-115	115	10.43	7.44	1.535+j6.179	3.644+j13.542	11.64	8.20	1.432+j6.110	3.672+j13.688
INVISTA	INV-115	115	18.51	20.44	0.961+j3.457	0.491+j2.528	20.59	22.51	0.921+j3.425	0.498+j2.600
IRAPUATO II	IRA-115	115	26.04	29.02	0.522+j2.495	0.173+j1.762	30.31	32.95	0.421+j2.372	0.184+j1.852
IRAPUATO II	IRA-230	230	19.61	19.78	1.475+j6.608	1.077+j6.511	24.46	23.77	1.035+j5.881	1.127+j6.518
IRAPUATO INDUSTRIAL	IRI-115	115	12.88	9.83	1.214+j5.012	2.877+j9.537	14.58	10.96	1.111+j4.883	2.881+j9.597
IRAPUATO PONIENTE	IPP-115	115	13.95	9.83	1.015+j4.651	2.186+j10.512	15.83	10.96	0.910+j4.523	2.194+j10.568
IRAPUATO UNO	IRP-110	115	21.02	17.52	0.707+j3.079	1.043+j4.942	24.27	19.75	0.601+j2.948	1.050+j4.993
IRAPUATO VILLAS	IRV-115	115	16.08	11.88	0.895+j4.031	1.746+j8.324	18.35	13.28	0.789+j3.901	1.752+j8.376
ITALAISE	ITA-115	115	11.76	9.64	1.296+j5.493	1.704+j9.215	13.19	10.61	1.236+j5.398	1.748+j9.424
IXTLAHUACAN	ITC-400	400	9.52	7.44	4.553+j23.822	8.694+j43.778	15.97	12.41	1.528+j15.833	5.921+j29.078
IXTLAN	ITL-115	115	6.21	4.71	2.772+j10.320	7.091+j19.703	7.26	5.34	2.587+j9.722	7.121+j19.677
JABIL CIRCUIT DE MÉXICO	JBL-69	69	11.99	7.00	0.782+j3.229	2.500+j10.127	13.64	7.78	0.698+j3.136	2.508+j10.174
JACONA	JCN-115	115	8.99	7.48	1.551+j7.223	2.682+j11.545	11.10	8.78	1.390+j6.433	2.743+j11.485
JAGUAR	CBO-69	69	15.73	10.92	0.592+j2.462	1.254+j5.744	18.06	12.17	0.512+j2.371	1.272+j5.816
JALOSTOTITLAN	JLT-115	115	7.02	5.46	2.183+j9.198	4.557+j16.989	7.92	6.18	2.013+j8.994	4.477+j16.419
JALPA	JAP-115	115	2.28	1.36	9.225+j27.593	9.639+j88.487	2.52	1.50	9.099+j27.509	9.658+j88.727
JARAL DEL PROGRESO	JDP-115	115	4.84	3.00	3.613+j13.236	11.375+j37.181	5.38	3.32	3.516+j13.116	11.386+j37.230
JARRETADERAS	JDA-115	115	4.90	5.44	4.080+j12.909	2.557+j9.223	5.89	6.34	3.312+j11.946	2.579+j9.428
JATCO	JAT-115	115	11.42	8.20	1.211+j5.687	2.038+j12.512	12.96	9.10	1.082+j5.528	2.048+j12.644
JATCO II	JTC-115	115	13.88	12.02	0.905+j4.698	1.012+j6.931	15.86	13.36	0.776+j4.540	1.028+j7.116
JEREZ	JRZ-115	115	2.11	1.48	10.859+j29.563	22.894+j67.958	2.37	1.64	10.574+j29.004	22.910+j68.083
JESÚS DEL MONTE	JEM-110	115	11.31	8.50	1.321+j5.721	2.823+j11.336	12.62	9.36	1.220+j5.659	2.860+j11.509
JESUS MARÍA	JSM-115	115	14.89	10.72	0.927+j4.360	1.404+j9.578	17.00	11.92	0.805+j4.220	1.411+j9.701
JESÚS MARÍA	JMA-115	115	3.18	2.68	6.112+j19.983	10.249+j30.960	3.59	2.98	5.843+j19.472	10.274+j31.101
JIQUILPAN	JIQ-115	115	7.73	5.41	1.975+j8.356	4.830+j19.066	8.81	6.02	1.825+j8.090	4.852+j19.187
JOCOTEPEC	JCT-69	69	3.81	2.24	3.038+j9.996	9.052+j31.215	4.22	2.46	2.965+j9.953	9.058+j31.307
JOYUELAS	JYU-110	115	5.46	3.72	3.333+j11.695	8.732+j27.916	6.07	4.11	3.242+j11.592	8.740+j27.959
JUAN JOSÉ ARREOLA	JUJ-115	115	5.52	5.72	2.842+j11.688	2.683+j10.443	6.16	6.28	2.620+j11.562	2.730+j10.842
JUAN RULFO	JRU-115	115	1.89	1.24	10.608+j33.555	28.249+j85.071	2.09	1.37	10.368+j33.406	28.283+j85.385
JULIÁN CARRILLO	JCR-115	115	4.97	3.30	4.039+j12.724	10.097+j32.081	5.48	3.62	3.990+j12.724	10.120+j32.260
JURICA	JUR-110	115	12.27	9.03	1.720+j5.131	0.734+j11.387	13.65	9.96	1.675+j5.083	0.741+j11.440
KELLOGG'S DE MÉXICO S.R.L. DE C.V.	KEL-115	115	13.51	12.66	1.308+j4.736	1.098+j5.808	15.05	13.99	1.253+j4.688	1.107+j5.870
KIMBERLY CLARK DE MÉXICO	KIM-115	115	15.45	14.35	0.821+j4.218	0.841+j5.217	17.13	15.65	0.779+j4.193	0.884+j5.400
KODAK DE MÉXICO S.A. DE C.V.	KDK-69	69	12.27	8.00	0.856+j3.131	2.015+j8.210	14.85	9.63	0.721+j2.862	1.824+j7.529
KRUPP	KRP-115	115	18.07	18.19	0.719+j3.604	0.558+j3.564	20.41	20.16	0.640+j3.521	0.572+j3.674
LA BARCA	BRC-115	115	7.88	6.59	2.483+j8.055	4.041+j12.758	9.01	7.35	2.298+j7.769	4.088+j12.989
LA BUFA MANIOBRAS	BFM-230	230	5.62	5.61	4.776+j23.150	3.984+j23.471	6.50	6.28	4.153+j22.071	4.173+j24.468
LA CALIFORNIA	CLF-115	115	12.00	8.68	1.273+j5.386	2.677+j11.576	13.15	9.48	1.256+j5.409	2.684+j11.696
LA CUEVA	CUV-115	115	5.71	4.23	3.027+j11.229	7.880+j22.509	6.36	4.68	2.892+j11.107	7.882+j22.572
LA ESPERANZA	LAE-115	115	7.21	6.03	2.311+j8.915	3.222+j14.247	8.66	6.92	1.954+j8.203	3.271+j14.408
LA ESPIGA	ESP-115	115	16.47	12.62	0.839+j3.943	1.559+j7.559	18.38	13.95	0.793+j3.894	1.564+j7.606
LA ESTRELLA	ELA-115	115	3.51	2.52	4.956+j18.229	10.753+j39.773	4.12	3.13	4.402+j17.171	8.117+j33.585



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
LA FRAGUA	FRA-115	115	13.54	13.10	1.090+j4.782	0.916+j5.328	15.19	14.40	1.034+j4.697	0.953+j5.517
LA GRIEGA	GRI-115	115	7.27	5.13	2.557+j8.773	5.894+j19.682	8.07	5.67	2.500+j8.700	5.894+j19.706
LA HUERTA	LHT-115	115	2.12	1.70	8.735+j30.058	14.024+j52.943	2.39	1.89	8.422+j29.411	14.045+j53.052
LA JOYA	LJY-115	115	16.93	15.73	0.907+j3.816	0.968+j4.720	19.04	17.39	0.804+j3.751	0.985+j4.841
LA LOMA	LLM-115	115	12.69	9.99	1.201+j5.092	1.393+j9.399	14.05	10.91	1.162+j5.068	1.443+j9.596
LA MANGA	MAN-230	230	7.77	5.52	2.789+j16.864	8.461+j37.015	9.01	6.33	2.460+j16.026	8.297+j35.892
LA MANSIÓN	MNS-115	115	12.98	10.17	0.906+j5.032	1.861+j9.178	14.44	11.23	0.854+j4.985	1.862+j9.221
LA PIEDAD	LPI-115	115	5.67	4.21	3.194+j11.269	8.200+j22.522	7.78	5.57	2.569+j9.029	7.004+j19.381
LA PIEDAD PONIENTE	LPP-115	115	4.53	3.24	4.044+j14.076	11.053+j30.281	6.25	4.31	3.251+j11.228	9.346+j25.810
LA PILA	SPI-115	115	21.44	22.72	0.622+j3.033	0.335+j2.561	24.42	25.30	0.544+j2.940	0.353+j2.662
LA PILA	SPI-230	230	14.22	14.74	1.660+j9.191	1.353+j8.249	17.16	17.22	1.310+j8.409	1.420+j8.323
LA PRIMAVERA (BAJÍO)	PRI-230	230	9.69	8.37	2.867+j13.400	4.561+j19.657	12.37	9.99	1.812+j11.670	4.605+j19.736
LA RESOLANA	LRE-115	115	8.81	8.52	1.384+j7.406	2.527+j7.968	9.93	9.43	1.136+j7.266	2.537+j8.195
LA SOLEDAD	SDD-115	115	10.70	8.61	1.395+j6.043	3.814+j10.085	11.83	9.45	1.362+j6.019	3.824+j10.195
LA VEGA	LVG-69	69	1.87	1.36	6.957+j20.087	10.191+j44.296	2.43	1.61	5.138+j17.319	10.313+j44.320
LA VENTA	LVT-69	69	4.87	2.93	2.411+j7.814	6.091+j23.682	6.24	3.90	1.765+j6.799	4.716+j19.043
LA VENTILLA	VLT-115	115	5.31	4.26	3.229+j12.082	5.753+j20.966	5.79	4.64	3.212+j12.199	5.777+j21.230
LA VIRGEN	LVR-115	115	4.94	3.08	3.305+j13.026	8.027+j36.950	5.46	3.39	3.201+j12.980	8.049+j37.090
LABORATORIOS PISA	LBP-69	69	6.79	4.25	1.461+j5.679	3.613+j15.979	7.58	4.70	1.382+j5.615	3.615+j16.025
LAGOS DE MORENO	LGS-110	115	5.19	3.26	3.160+j12.388	7.472+j34.830	5.74	3.58	3.056+j12.341	7.493+j34.970
LAGOS GALERA	LGG-115	115	5.13	3.22	3.159+j12.542	7.577+j35.293	5.68	3.54	3.055+j12.496	7.598+j35.433
LAGUNA LARGA	LGL-115	115	2.01	1.17	10.423+j31.411	31.159+j99.673	4.15	2.66	5.384+j16.740	16.124+j44.344
LAGUNA SAN VICENTE	LSV-230	230	10.82	8.96	2.283+j12.054	4.521+j19.445	12.85	10.31	1.903+j11.206	4.550+j19.258
LAGUNA SECA	LAS-110	115	4.72	3.65	4.568+j13.291	8.372+j25.064	5.52	4.13	4.186+j12.556	8.388+j25.186
LAGUNILLAS	LAG-115	115	3.88	2.85	4.726+j16.434	13.066+j33.256	4.34	3.15	4.563+j16.210	13.086+j33.420
LALA DERIVADOS LÁCTEOS S.A. DE C.V.	LAL-115	115	10.81	7.78	1.407+j5.979	4.062+j12.703	12.18	8.65	1.304+j5.851	4.066+j12.763
LAMOSAS	LAM-115	115	15.67	13.42	0.909+j4.139	1.249+j6.252	17.67	14.88	0.829+j4.049	1.262+j6.342
LAMPOTAL	LPL-115	115	5.18	4.01	3.350+j12.369	6.142+j23.230	6.09	4.55	3.039+j11.610	6.167+j23.367
LAPAM	LPM-115	115	10.57	7.94	1.663+j6.060	3.711+j11.956	11.91	8.83	1.560+j5.931	3.716+j12.016
LAS BRISAS	BRI-115	115	7.76	6.75	1.897+j8.344	2.613+j12.115	9.80	8.09	1.337+j7.334	2.594+j11.883
LAS COLINAS	LCN-115	115	10.76	8.73	1.532+j5.975	2.261+j10.229	11.99	9.62	1.437+j5.920	2.281+j10.370
LAS DELICIAS	LDE-230	230	23.15	26.58	0.793+j5.682	0.302+j3.501	26.12	29.35	0.709+j5.546	0.327+j3.740
LAS FAJAS	FAJ-110	115	0.98	0.61	27.852+j61.762	69.395+j177.913	1.08	0.67	27.595+j61.482	69.424+j178.136
LAS FRESAS	LFR-115	115	24.03	22.92	0.505+j2.717	0.368+j3.146	27.73	25.68	0.410+j2.602	0.385+j3.266
LAS FRESAS	LFR-400	400	15.22	14.75	3.151+j14.839	2.785+j16.387	20.03	18.50	1.839+j12.549	2.790+j15.828
LAS PINTAS	LPS-69	69	15.63	10.77	0.706+j2.448	1.118+j5.909	17.60	11.87	0.640+j2.405	1.124+j5.997
LAS TORRES	LTL-115	115	14.42	12.22	1.031+j4.486	2.554+j6.659	16.17	13.43	0.929+j4.420	2.660+j6.848
LAS VARAS	VRS-115	115	2.66	1.93	9.659+j23.000	19.978+j49.148	3.07	2.18	8.973+j22.025	19.975+j49.158
LEAR CORP (SELVA)	LCO-115	115	15.57	13.31	0.915+j4.164	1.275+j6.309	17.56	14.76	0.836+j4.074	1.287+j6.398
LECHERA GUADALAJARA S.A. DE C.V.	LEC-69	69	7.33	5.96	1.032+j5.339	1.660+j9.031	8.25	6.58	0.966+j5.223	1.673+j9.191
LECHERA MANIOBRAS	LEM-69	69	11.20	9.62	0.908+j3.440	1.109+j5.188	13.09	10.86	0.841+j3.242	1.139+j5.289
LEÓN ALFARO	LNA-115	115	11.59	8.96	1.383+j5.558	2.360+j10.526	12.96	9.89	1.279+j5.490	2.371+j10.627



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LEÓN CUATRO	LNC-115	115	19.76	21.45	0.762+j3.272	0.349+j2.551	22.27	23.65	0.662+j3.212	0.374+j2.698
LEÓN CUATRO	LNC-230	230	13.08	12.71	2.323+j9.886	1.891+j10.878	15.28	14.35	1.871+j9.373	1.991+j11.305
LEÓN MALECÓN	LNM-115	115	11.95	9.71	1.488+j5.351	2.041+j9.197	13.37	10.72	1.384+j5.285	2.052+j9.302
LEÓN NORTE	LNN-115	115	15.07	12.70	0.998+j4.291	2.759+j6.359	16.91	14.05	0.896+j4.226	2.765+j6.481
LEÓN ORIENTE	LNO-110	115	17.90	16.01	0.950+j3.585	1.183+j4.883	20.28	17.80	0.844+j3.501	1.198+j4.978
LEÓN PONIENTE	LNP-110	115	13.93	10.54	1.072+j4.644	2.115+j9.128	15.61	11.64	0.969+j4.578	2.130+j9.236
LEÓN TRES	LNT-115	115	20.13	22.84	0.771+j3.207	0.269+j2.116	22.68	25.20	0.671+j3.149	0.291+j2.255
LEÓN TRES	LNT-230	230	12.32	12.25	2.384+j10.511	1.704+j10.846	14.27	13.73	1.938+j10.053	1.811+j11.358
LEÓN UNO	LNU-115	115	22.65	25.11	0.667+j2.854	0.221+j2.068	25.68	27.81	0.565+j2.787	0.238+j2.201
LEÓN UNO	LNU-230	230	15.24	15.82	1.997+j8.483	1.202+j7.676	17.98	18.05	1.553+j7.973	1.263+j8.001
LINDAVISTA	LIV-115	115	7.37	6.57	1.917+j8.803	2.923+j11.965	9.32	7.87	1.732+j7.639	3.020+j11.808
LOGISTIK	LOG-115	115	11.53	8.92	1.505+j5.559	3.261+j10.329	12.93	9.88	1.426+j5.465	3.267+j10.381
LOMBARDÍA	LMB-69	69	2.64	1.52	4.120+j14.500	13.263+j46.615	6.08	5.10	1.486+j7.056	1.725+j11.209
LORETO	LOR-115	115	4.62	3.06	4.544+j13.635	10.012+j34.965	5.18	3.39	4.340+j13.424	10.012+j35.079
LOS FRESNOS	FRS-115	115	10.16	7.41	1.394+j6.387	3.199+j13.426	11.36	8.19	1.292+j6.301	3.211+j13.532
LOS HERNÁNDEZ	HDZ-110	115	1.40	0.96	18.439+j43.581	44.263+j104.368	1.58	1.07	17.704+j42.591	44.280+j104.492
LOS OLIVOS (IRAPUATO)	OLV-115	115	13.05	9.06	1.047+j4.980	2.368+j11.572	14.77	10.08	0.944+j4.854	2.377+j11.637
LOS REYES	RYS-115	115	4.11	2.70	4.426+j15.529	12.465+j39.454	4.64	3.01	4.242+j15.157	12.475+j39.497
LOS SAUCES	LSA-115	115	10.19	6.83	1.921+j6.225	4.375+j15.552	11.42	7.55	1.811+j6.131	4.386+j15.631
LUIS MOYA	LMY-110	115	2.55	2.17	11.836+j23.243	3.078+j41.156	6.03	4.79	4.359+j11.292	3.763+j21.457
MABE LEISER (SLP)	MBL-115	115	17.61	16.75	0.742+j3.697	0.801+j4.279	19.90	18.59	0.664+j3.609	0.813+j4.375
MABE MÉXICO S. DE R.L. DE C.V. (MABE SANYO SLP)	MAB-115	115	15.49	13.04	0.873+j4.197	1.077+j6.624	17.42	14.41	0.795+j4.117	1.092+j6.740
MABE MÉXICO S. DE R.L. DE C.V. (CELAYA)	MAB-115	115	10.44	7.15	1.477+j6.184	4.340+j14.503	11.56	7.87	1.414+j6.158	4.350+j14.579
MABE MÉXICO S. DE R.L. DE C.V. (QUERETARO)	MBE-115	115	15.22	14.53	1.105+j4.219	0.918+j4.909	16.94	16.04	1.059+j4.179	0.922+j4.960
MAHLE	MAH-115	115	11.47	9.47	1.378+j5.621	3.183+j8.941	12.98	10.51	1.260+j5.486	3.195+j9.084
MALPASO	MPO-115	115	3.18	2.31	7.565+j19.433	11.794+j42.940	3.61	2.58	7.289+j18.866	11.809+j43.064
MANIOBRAS AISIN TAKAOKA	MTK-115	115	9.46	6.10	1.550+j6.848	3.961+j18.167	10.63	6.77	1.440+j6.721	3.968+j18.223
MANIOBRAS BMW	MBM-230	230	10.83	8.69	2.328+j12.040	5.066+j20.741	12.99	10.12	1.940+j11.076	5.038+j20.232
MANIOBRAS GENERAL MOTORS	MGM-230	230	10.50	8.47	2.669+j12.365	4.784+j21.221	12.23	9.56	2.211+j11.741	4.869+j21.500
MANIOBRAS GETRAG	MGT-115	115	7.65	4.98	1.797+j8.497	4.591+j22.149	8.55	5.47	1.690+j8.374	4.714+j22.515
MANIOBRAS GKN	MGK-115	115	9.22	7.84	1.539+j7.035	2.646+j10.666	10.15	8.59	1.481+j7.043	2.665+j10.809
MANIOBRAS HONDA	MHN-115	115	14.21	10.47	0.893+j4.587	2.276+j9.400	15.69	11.50	0.834+j4.578	2.287+j9.490
MANIOBRAS IBERDROLA	MIB-115	115	15.19	14.15	0.841+j4.288	0.828+j5.271	16.82	15.41	0.801+j4.267	0.879+j5.469
MANIOBRAS KASAI	MKI-115	115	20.50	20.78	0.748+j3.150	0.602+j3.052	23.23	23.05	0.645+j3.078	0.617+j3.172
MANIOBRAS MEXSOLAR	MMX-115	115	10.45	10.20	1.226+j6.232	1.316+j6.703	11.86	11.27	1.138+j6.052	1.401+j6.984
MANIOBRAS PLANTA FLOTACIÓN DE MINERAL	MPM-115	115	4.75	4.06	4.095+j13.353	5.933+j20.308	5.37	4.51	3.880+j13.028	5.955+j20.525
MANIOBRAS SOLEM	MSL-230	230	8.65	9.44	2.896+j15.075	1.552+j11.402	10.61	11.05	2.223+j13.590	1.647+j12.014
MANIOBRAS TOYOTA	TOM-230	230	12.27	9.11	1.866+j10.658	3.707+j21.755	13.85	10.12	1.659+j10.415	3.736+j21.931
MANIOBRAS WORLD TRADE CENTER DOS	MWD-230	230	10.15	8.11	2.296+j12.877	5.449+j22.344	12.12	9.43	1.902+j11.900	5.407+j21.758
MANUFACTURAS KALTEX S.A. DE C.V.	KAL-115	115	11.75	7.49	1.319+j5.494	3.948+j14.794	13.00	8.23	1.277+j5.471	3.959+j14.879
MANUFACTURAS VITROMEX I	VTM-115	115	9.41	7.49	1.846+j6.812	3.752+j11.911	10.50	8.26	1.791+j6.723	3.766+j12.039
MANUFACTURAS VITROMEX II	VT2-115	115	9.70	9.02	1.709+j6.631	2.895+j7.892	10.82	9.96	1.654+j6.541	2.909+j8.020



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MANZANILLO	MNZ-230	230	10.48	12.58	1.600+j12.568	0.476+j6.314	15.55	17.55	0.721+j9.364	0.479+j6.161
MANZANILLO	MNZ-400	400	10.59	12.95	3.035+j21.590	0.559+j9.882	24.96	30.73	0.581+j10.159	0.159+j4.451
MARABIS COMMONFORT	MRC-115	115	8.43	6.05	2.077+j7.601	6.017+j16.087	9.32	6.66	2.028+j7.571	6.025+j16.160
MARAVATIO	MAV-115	115	2.26	1.44	8.316+j28.162	27.910+j74.273	2.51	1.59	8.099+j27.929	27.928+j74.368
MARGARITAS	MRS-115	115	14.95	11.04	0.880+j4.352	1.539+j9.030	17.13	12.31	0.765+j4.194	1.548+j9.140
MATEHUALA SUBESTACIÓN	MHS-110	115	2.51	2.02	8.636+j25.036	10.021+j44.476	2.73	2.18	8.741+j25.271	10.497+j45.941
MATEHUALA SUR	MHR-115	115	2.48	1.92	8.402+j25.454	11.921+j48.686	2.70	2.08	8.490+j25.668	12.299+j49.900
MATEHUALA SUR	MHR-230	230	8.74	8.24	2.836+j14.927	3.384+j17.647	10.37	9.36	2.259+j13.906	3.541+j18.313
MAZAMITLA	MTA-400	400	10.39	8.51	3.907+j21.886	7.744+j36.100	14.14	10.43	2.003+j17.855	7.898+j36.339
MAZDA MANIOBRAS	MMZ-115	115	13.67	9.72	0.919+j4.771	2.394+j10.510	15.75	10.96	0.805+j4.568	2.403+j10.467
MEADWEST VACO (SAINT GO BAIN)	MEA-115	115	14.42	12.06	1.013+j4.493	1.633+j7.122	16.23	13.36	0.934+j4.404	1.646+j7.212
MELIQUE	MLQ-115	115	3.66	4.21	4.295+j17.608	2.602+j10.742	4.20	4.77	4.005+j16.940	2.623+j10.849
METAL FOARMING	SMF-115	115	9.50	6.87	1.740+j6.766	4.154+j14.436	10.62	7.60	1.661+j6.673	4.160+j14.487
METALSA	MTL-115	115	15.72	13.90	0.864+j4.135	1.128+j5.774	17.71	15.40	0.786+j4.048	1.140+j5.871
MINA LAS TORRES	MTL-115	115	6.58	4.15	2.597+j9.756	7.526+j26.747	7.34	4.58	2.487+j9.635	7.555+j26.926
MEXICHEM DERIVADOS	MCH-69	69	11.76	10.60	1.025+j3.229	1.427+j4.266	18.01	16.10	0.681+j2.336	1.057+j3.125
MEXICHEM DERIVADOS	MCH-115	115	10.99	9.03	1.694+j5.800	3.193+j9.459	12.25	9.95	1.645+j5.732	3.206+j9.575
MÉXICO	MXJ-69	69	13.43	8.78	0.831+j2.847	1.592+j7.519	15.27	9.72	0.750+j2.771	1.611+j7.618
MEXTICACAN	MXT-115	115	3.05	2.02	5.530+j21.072	15.948+j52.466	3.48	2.27	5.227+j20.329	15.660+j52.228
MEZQUITÁN	MZI-110	115	1.14	0.78	17.532+j55.621	55.366+j127.083	1.39	0.90	13.898+j50.764	55.379+j127.316
MICHELIN	MIC-115	115	19.00	16.54	0.715+j3.421	0.929+j4.967	21.13	18.21	0.675+j3.389	0.936+j5.038
MICHELÍN MANIOBRAS	MMH-115	115	10.34	6.97	1.805+j6.165	4.045+j15.223	11.59	7.71	1.695+j6.069	4.056+j15.299
MICROPARQUE	MPQ-115	115	20.63	20.41	0.821+j3.112	0.743+j3.240	22.98	22.48	0.781+j3.081	0.749+j3.311
MIGUEL AUZA	MGU-115	115	0.82	0.51	34.172+j73.440	84.021+j215.452	0.91	0.56	33.910+j73.164	84.050+j215.675
MINA FRESNILLO	CMF-115	115	6.39	5.73	3.006+j9.950	2.679+j13.768	7.32	6.43	2.774+j9.581	2.697+j13.921
MINA LA PAZ	MLP-115	115	2.25	1.86	9.811+j27.772	9.775+j47.344	2.45	2.00	9.950+j28.043	10.423+j49.207
MINA PEÑÓLES	PNO-115	115	3.69	2.78	4.872+j17.307	11.016+j33.877	4.20	3.11	4.600+j16.755	11.031+j33.999
MINA SAN JAVIER	MSJ-115	115	7.14	5.08	2.149+j9.050	5.509+j19.885	7.88	5.57	2.089+j9.028	5.530+j20.066
MINA SAUCITO	SUM-115	115	5.03	3.99	3.836+j12.630	5.266+j22.904	5.71	4.45	3.601+j12.269	5.284+j23.057
MINATITLÁN	MTC-115	115	6.53	4.67	2.439+j9.868	6.077+j21.509	7.74	5.31	2.161+j9.188	6.081+j21.542
MINERA PEÑASQUITO	PNQ-400	400	4.70	3.28	7.291+j48.553	26.372+j110.402	5.42	3.67	6.317+j46.404	26.423+j110.907
MINERA REAL DE ÁNGELES SA DE CV	MRA-115	115	2.95	2.09	7.712+j21.146	16.269+j47.470	3.47	2.39	6.998+j19.826	16.169+j47.099
LA MORA	MRA-115	115	10.29	7.37	1.431+j6.293	3.613+j13.646	11.46	8.13	1.329+j6.231	3.629+j13.761
MINERALES Y MINAS MEXICANAS BOLAÑOS	BOL-115	115	0.91	0.57	34.257+j64.567	61.596+j192.536	1.00	0.63	34.128+j64.488	61.617+j192.780
MINSÁ, S.A. DE C.V.	MIN-69	69	9.90	6.00	1.563+j3.707	3.207+j11.472	11.10	6.59	1.492+j3.653	3.251+j11.639
MIRAMAR	MRM-115	115	8.97	7.50	1.603+j7.229	3.980+j11.113	10.94	8.70	1.350+j6.535	3.992+j11.203
MIRAVALLE	MIL-69	69	16.31	8.97	0.856+j2.288	1.815+j8.277	18.50	9.93	0.784+j2.236	1.820+j8.331
MISIÓN HILLS	MHI-115	115	11.24	11.28	1.245+j5.773	0.707+j5.814	12.56	12.32	1.191+j5.691	0.776+j6.117
MOCTEZUMA	MZM-115	115	5.99	5.03	2.612+j10.766	4.676+j16.807	6.60	5.55	2.568+j10.764	4.683+j16.959
MOJONERA	MOJ-69	69	16.48	11.66	0.558+j2.352	1.136+j5.295	18.96	13.00	0.477+j2.261	1.154+j5.367
MONARCA	MNC-115	115	6.01	4.02	3.271+j10.556	8.037+j26.204	6.83	4.49	3.114+j10.229	8.051+j26.232
MORALETE	MTE-115	115	6.65	6.12	2.347+j9.711	3.300+j12.101	7.79	6.96	2.078+j9.142	3.330+j12.287



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
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MORELIA	MEL-115	115	9.74	9.98	1.605+j6.627	1.302+j6.193	10.81	10.91	1.521+j6.581	1.334+j6.443
MORELIA DOS	MRD-115	115	8.55	7.91	1.813+j7.552	1.917+j9.464	9.48	8.66	1.729+j7.508	1.951+j9.714
MORELIA INDUSTRIAL	MOI-115	115	9.05	7.42	1.732+j7.128	2.796+j11.846	10.00	8.13	1.674+j7.111	2.815+j12.003
MORELIA NORTE	MOR-115	115	9.00	7.53	1.762+j7.160	2.577+j11.406	9.97	8.26	1.693+j7.128	2.601+j11.582
MORELIA POTENCIA	MRP-115	115	10.59	12.19	1.340+j6.128	0.343+j3.804	11.77	13.29	1.252+j6.079	0.381+j4.076
MORELIA POTENCIA	MRP-230	230	6.04	5.97	4.174+j21.574	2.559+j22.627	6.88	6.58	3.657+j20.923	2.828+j23.994
MORELOS	MRE-115	115	14.15	10.70	0.951+j4.595	1.451+j9.120	16.16	11.92	0.826+j4.444	1.459+j9.233
MORELOS (LEÓN)	MRL-115	115	14.63	12.49	1.029+j4.419	1.338+j6.743	16.41	13.79	0.927+j4.354	1.357+j6.867
MOROLEÓN	MLO-110	115	5.06	3.10	3.666+j12.612	11.834+j36.130	5.61	3.42	3.577+j12.517	11.843+j36.190
MUELLE	MLE-115	115	4.39	4.53	4.735+j14.372	4.387+j13.009	5.24	5.24	3.915+j13.383	4.406+j13.213
NAL DE CONDOC ELEC S.A DE C.V	CDT-115	115	15.63	16.49	0.782+j4.174	0.504+j3.552	17.46	18.14	0.723+j4.120	0.525+j3.674
NESTLÉ (LA CIÉNEGA)	NES-115	115	3.55	2.52	5.341+j17.904	14.755+j38.911	4.08	2.84	4.982+j17.205	14.712+j38.792
NESTLÉ (LEÓN)	NES-115	115	5.00	3.12	3.293+j12.875	7.887+j36.396	5.53	3.43	3.189+j12.828	7.909+j36.536
NESTLÉ MÉXICO S.A. DE C.V.	NST-115	115	15.22	10.81	1.106+j4.219	2.129+j9.476	16.94	11.92	1.059+j4.179	2.133+j9.527
NIÑOS HÉROES	NHE-230	230	9.27	7.91	3.021+j14.008	4.692+j21.166	11.69	9.36	1.966+j12.336	4.770+j21.343
NISSAN	NIS-115	115	11.53	8.51	1.169+j5.638	1.900+j11.744	13.09	9.46	1.041+j5.483	1.908+j11.860
NISSAN MANIOBRAS	NSS-115	115	11.82	8.65	1.141+j5.501	1.884+j11.655	13.42	9.61	1.013+j5.345	1.893+j11.772
NITROPISO	NTP-115	115	13.67	9.62	1.015+j4.751	2.059+j10.803	15.40	10.65	0.936+j4.649	2.076+j10.889
NOGALES	NGA-115	115	12.28	10.27	1.073+j5.298	1.633+j8.430	13.73	11.33	1.023+j5.218	1.646+j8.548
NOGALITO	NGT-115	115	4.04	3.79	5.156+j15.589	5.011+j19.140	4.82	4.36	4.275+j14.537	5.029+j19.345
NUCOR MANIOBRAS	NUM-115	115	7.68	7.47	2.248+j8.344	3.654+j8.713	8.58	8.28	2.144+j8.234	3.664+j8.809
NUEVA ITALIA	NVI-69	69	3.00	2.08	3.153+j12.910	7.370+j29.908	5.59	4.53	1.977+j7.592	3.150+j12.931
NUEVA JAUJA	JAU-115	115	6.73	5.65	2.392+j9.570	4.231+j14.930	8.30	6.66	1.840+j8.605	4.211+j14.731
NUEVA PEDREGAL	NPD-115	115	8.02	5.39	2.002+j8.033	3.458+j20.133	8.88	5.94	1.957+j7.989	3.465+j20.189
NUEVO VALLARTA POTENCIA	NVT-115	115	5.83	7.56	3.345+j10.876	0.361+j3.642	7.12	8.99	2.594+j9.917	0.392+j3.889
NUEVO VALLARTA POTENCIA	NVT-230	230	3.28	3.99	11.509+j38.827	2.279+j18.841	4.11	4.81	8.497+j34.509	2.457+j19.930
NYPRO KANAAK SA CV	NKA-69	69	13.15	9.74	0.696+j2.947	1.608+j6.004	15.28	11.02	0.590+j2.806	1.601+j5.992
OBLATOS	OBL-69	69	11.63	7.87	0.797+j3.330	1.930+j8.106	15.06	12.65	0.572+j2.852	0.893+j4.490
OCOTLÁN	OCN-115	115	12.62	13.62	1.305+j5.095	0.492+j4.095	14.80	15.42	1.122+j4.806	0.539+j4.326
OCOTLÁN	OCN-230	230	7.28	6.64	3.801+j17.833	3.385+j23.322	8.55	7.45	3.050+j16.811	3.680+j24.404
OJO CALIENTE	OCL-110	115	4.95	5.27	4.602+j12.594	2.518+j10.716	7.70	7.59	3.080+j8.973	2.172+j9.688
OJO SECO	OJO-110	115	10.54	7.24	1.457+j6.126	4.273+j14.287	11.67	7.97	1.394+j6.101	4.282+j14.363
OJUELOS	OJU-115	115	1.75	1.05	13.842+j35.385	25.722+j110.551	1.93	1.16	13.704+j35.240	25.730+j110.674
OJUELOS DOS	OJD-115	115	5.13	3.30	3.993+j12.311	8.411+j33.492	5.73	3.64	3.861+j12.158	8.420+j33.614
OMEGA	OMG-115	115	8.21	5.42	1.670+j7.915	4.484+j20.058	9.24	6.00	1.538+j7.753	4.500+j20.198
OMYA MÉXICO S.A. DE C.V.	OMY-115	115	13.78	6.83	0.975+j4.719	8.587+j17.734	15.43	7.56	0.907+j4.645	8.583+j17.774
P. H. TROJES	TJS-115	115	1.82	1.21	12.652+j34.273	30.812+j85.584	2.17	1.74	10.866+j31.857	13.297+j57.382
PABELLÓN	PAB-115	115	6.71	5.24	2.100+j9.667	3.055+j17.951	8.31	6.16	1.963+j8.563	3.060+j17.778
PACHAMAMA MANIOBRAS	MPM-400	400	13.10	12.13	3.217+j17.336	3.895+j21.506	16.87	14.56	1.857+j14.943	3.978+j21.939
PALO ALTO	PAO-115	115	5.34	3.42	4.047+j11.745	7.663+j32.659	5.97	3.77	3.918+j11.596	7.672+j32.772
PÁNFILO NATERA	PFN-115	115	2.64	2.05	6.175+j24.399	22.187+j42.029	3.43	2.48	4.608+j20.808	21.836+j40.997
PAPEL POTOSÍ	PAP-115	115	18.32	18.30	0.709+j3.554	0.549+j3.599	20.69	20.26	0.631+j3.474	0.564+j3.715



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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
PARQUE PIEL	PAP-115	115	11.81	9.00	1.317+j5.464	2.781+j10.536	13.21	9.94	1.213+j5.395	2.793+j10.646
PARACHO II	POD-115	115	6.85	5.15	2.756+j9.295	6.718+j18.074	8.01	5.84	2.549+j8.756	6.738+j18.092
PARÁCUARO	PAR-115	115	13.80	14.46	0.648+j4.768	0.507+j4.102	17.09	17.13	0.430+j4.252	0.553+j4.194
PARÁCUARO	PAR-400	400	6.56	6.05	5.397+j34.809	7.690+j43.126	8.79	7.49	3.153+j28.743	8.335+j43.015
PARQUE DE TECNOLOGÍA	PTE-69	69	11.18	7.53	0.894+j3.450	1.810+j8.556	12.66	8.31	0.816+j3.364	1.860+j8.706
PARQUE INDUSTRIAL	PQI-69	69	19.51	16.19	0.505+j1.978	0.763+j3.209	22.29	18.10	0.438+j1.917	0.767+j3.242
PARQUE INDUSTRIAL COLINAS DE APASEO	API-115	115	6.32	4.20	3.268+j9.991	8.453+j25.054	6.94	4.61	3.237+j10.014	8.458+j25.128
PARQUE INDUSTRIAL COLINAS DE LEÓN	ICL-115	115	14.67	11.15	1.022+j4.407	1.791+j8.632	16.48	12.34	0.918+j4.335	1.803+j8.727
PARQUE INDUSTRIAL FINSA QUERETARO	PFQ-115	115	12.02	6.52	1.730+j5.244	4.454+j19.020	13.37	7.19	1.685+j5.195	4.457+j19.074
PARQUE INDUSTRIAL GUANAJUATO CENTRAL	IGC-115	115	13.17	10.20	1.193+j4.898	2.796+j9.031	14.93	11.38	1.090+j4.770	2.800+j9.092
PARQUE INNOVACIÓN	PQN-115	115	13.61	11.20	1.054+j4.764	1.482+j7.886	15.05	12.28	1.011+j4.746	1.491+j8.005
PARQUE SOLAR SANTIAGO MANIOBRAS	MSG-230	230	6.39	6.43	3.732+j20.457	3.287+j20.153	7.64	7.37	3.098+j18.864	3.423+j20.998
PARQUE VIDANTA VALLARTA MANIOBRAS	MPV-115	115	5.08	5.72	3.950+j12.458	2.289+j8.360	6.13	6.70	3.178+j11.480	2.313+j8.569
PÁTZCUARO NORTE	PTN-115	115	3.48	2.43	5.371+j18.324	15.228+j41.184	3.91	2.70	5.139+j17.940	15.254+j41.303
PÁTZCUARO SUR	PCS-115	115	3.48	2.42	5.385+j18.330	15.043+j41.335	3.90	2.69	5.173+j17.994	15.067+j41.460
PEDREGAL	PDG-115	115	7.12	6.42	2.279+j9.040	3.924+j11.750	7.92	7.06	2.176+j8.957	3.956+j11.994
PELETIZADORA ALZADA	PAL-115	115	3.29	2.34	5.538+j19.397	12.269+j43.015	3.81	2.79	5.079+j18.481	10.717+j38.811
PEMSA	PEM-115	115	10.64	7.94	1.992+j5.911	3.740+j12.054	11.76	8.71	1.931+j5.903	3.758+j12.185
PENAL	PNL-69	69	9.35	6.21	0.923+j4.159	2.588+j10.403	10.64	6.92	0.831+j4.035	2.592+j10.436
PEÑAMO	PNJ-115	115	3.87	2.72	5.063+j16.383	10.623+j37.375	6.52	4.53	3.196+j10.737	7.651+j24.816
PEÑA COLORADA	PEC-115	115	6.25	4.42	2.592+j10.297	6.464+j22.955	7.38	5.02	2.313+j9.619	6.469+j22.988
PEÑASCO	PNS-115	115	10.45	7.38	1.295+j6.223	2.792+j13.989	11.54	8.10	1.240+j6.209	2.809+j14.142
PEÑITAS	PEN-115	115	3.21	2.19	6.451+j19.635	14.819+j47.393	3.74	2.48	5.846+j18.652	14.797+j47.136
PEÑUELAS	PEN-115	115	6.87	4.44	2.053+j9.447	5.909+j24.818	7.70	4.91	1.919+j9.286	5.924+j24.940
PERFORMANCE FIBERS MÉXICO	PER-115	115	14.61	17.39	1.165+j4.393	0.449+j2.327	16.21	19.15	1.125+j4.362	0.456+j2.399
PERIBAN	PBN-115	115	3.89	2.59	4.729+j16.412	13.943+j40.429	4.38	2.88	4.539+j16.044	13.952+j40.471
PETROQUÍMICA	INP-69	69	9.49	7.78	1.385+j3.964	2.420+j6.539	17.36	14.53	0.727+j2.418	1.347+j3.767
PINAR	PNR-69	69	16.40	11.27	0.528+j2.371	1.400+j5.571	18.93	12.62	0.444+j2.272	1.405+j5.616
PINZÁNDARO	PIZ-115	115	3.06	2.06	5.568+j20.962	13.823+j51.714	3.74	2.70	4.718+j18.963	11.024+j40.726
PIRELLI NEUMÁTICOS S.A. DE C.V.	PIR-115	115	6.74	5.11	2.537+j9.517	4.621+j18.751	7.47	5.62	2.441+j9.471	4.639+j18.891
PITILLAL	PTL-115	115	5.04	5.54	3.868+j12.589	1.763+j9.504	6.08	6.47	3.080+j11.613	1.782+j9.708
PM CIGATAM PS S. DE R.L. DE C.V.	CIG-69	69	12.23	7.96	0.867+j3.141	2.029+j8.262	14.78	9.58	0.732+j2.872	1.838+j7.581
PONCITLAN	PNC-115	115	4.38	2.95	4.309+j14.525	9.800+j35.798	4.94	3.28	4.102+j14.208	9.844+j35.996
PORCELANITE SJI	POR-115	115	14.62	14.35	1.167+j4.390	0.858+j4.733	16.27	15.85	1.117+j4.347	0.862+j4.785
POTOSÍ SOLAR MANIOBRAS	MFP-400	400	6.38	6.11	4.338+j35.927	6.969+j40.540	7.91	7.14	2.974+j31.992	7.203+j41.992
POTRERILLOS	POS-115	115	21.85	21.44	0.567+j2.985	0.334+j3.203	24.50	23.41	0.471+j2.944	0.362+j3.395
POTRERILLOS	POS-230	230	15.08	16.82	1.821+j8.614	0.638+j6.062	17.64	19.08	1.393+j8.163	0.687+j6.436
POTRERILLOS	POS-400	400	13.81	14.03	3.510+j16.347	2.312+j15.777	17.63	16.89	2.156+j14.250	2.466+j16.277
POTRERO SOLAR MANIOBRAS	PTM-400	400	9.88	9.92	3.876+j23.052	2.963+j22.881	12.34	11.66	2.432+j20.448	3.228+j24.056
PPG	PPG-115	115	14.55	13.52	0.895+j4.474	1.185+j5.483	16.24	14.91	0.835+j4.418	1.198+j5.577
PRADERA	PAD-115	115	7.51	6.57	1.834+j8.652	3.239+j12.192	9.37	8.05	1.428+j7.660	2.928+j11.250
PRAXAIR MÉXICO S.A. DE C.V. (GUADALAJARA)	PRA-69	69	10.83	7.41	1.138+j3.498	2.280+j8.467	12.23	8.22	1.059+j3.422	2.288+j8.534



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
PRIMERO DE MAYO	PMY-400	400	8.40	9.60	3.445+j27.288	1.689+j17.126	10.78	11.65	2.245+j23.454	1.816+j18.232
PROCTER & GAMBLE MANIOBRAS (IRAPUATO)	PGM-115	115	11.74	4.97	1.395+j5.481	7.629+j27.734	13.36	5.52	1.290+j5.312	7.661+j27.775
PROCTER & GAMBLE QUERETARO	P&G-115	115	5.79	3.82	3.454+j10.943	9.044+j27.777	6.36	4.19	3.423+j10.966	9.049+j27.851
PROD FARMACÉUTICOS COLLINS	CNS-69	69	16.26	11.86	0.641+j2.365	1.148+j5.051	18.55	13.18	0.565+j2.294	1.156+j5.124
PROD MET MEX DE POSTES SA CV	AMX-69	69	12.89	8.07	1.074+j2.898	1.586+j8.531	14.51	8.82	1.006+j2.847	1.653+j8.761
PRODUCTORA NACIONAL DE PAPEL	PRO-115	115	5.87	5.24	2.977+j10.910	3.284+j15.068	6.38	5.65	2.979+j11.046	3.413+j15.524
PROTEINOL	PRO-115	115	8.13	5.58	2.794+j7.672	6.287+j18.313	8.98	6.13	2.736+j7.664	6.308+j18.442
PRODUCTOS GATORADE	GAT-69	69	4.78	2.93	2.502+j7.945	6.005+j23.380	5.39	3.25	2.428+j7.755	6.022+j23.444
PROTEINOL	POT-115	115	7.38	4.97	3.138+j8.434	7.235+j20.846	8.14	5.46	3.081+j8.426	7.257+j20.976
PUEBLO NUEVO	PNV-115	115	6.14	4.27	2.880+j10.417	8.410+j23.647	7.16	4.82	2.705+j9.832	8.469+j23.630
PUENTE GRANDE	PGN-69	69	6.66	6.41	1.383+j5.815	0.877+j6.645	8.94	8.25	1.109+j4.772	0.767+j6.102
PUENTE GRANDE DOS	PTD-69	69	6.71	6.46	1.373+j5.778	0.862+j6.595	9.01	8.31	1.099+j4.736	0.757+j6.066
PUENTE GRANDE DOS	PTD-115	115	1.36	0.00	4.628+j48.661	0.000+j0.13E+09	2.71	1.06	6.962+j26.040	50.786+j143.734
PUERTA GRANDE	PGE-115	115	7.33	5.82	2.112+j8.810	4.314+j15.528	8.88	6.74	1.937+j7.998	4.373+j15.458
PUERTO INTERIOR	PTI-115	115	7.48	5.72	2.238+j8.588	3.834+j16.615	8.29	6.30	2.142+j8.540	3.851+j16.755
PUERTO INTERIOR (FONDEPORT)	FDP-115	115	9.81	8.11	1.435+j6.616	3.735+j10.421	12.09	9.45	1.184+j5.921	3.746+j10.510
PUNTA DE MITA	PMI-115	115	3.55	2.88	5.518+j17.897	6.245+j31.252	4.15	3.26	4.735+j16.934	6.263+j31.442
PURÉPECHA POTENCIA	PRH-115	115	16.97	17.09	0.596+j3.866	0.403+j3.805	19.72	19.12	0.461+j3.675	0.434+j4.031
PURÉPECHA POTENCIA	PRH-400	400	9.02	8.08	4.366+j25.237	5.315+j34.036	11.63	9.61	2.537+j21.688	5.650+j35.167
PURUANDIRO	PUR-115	115	2.96	1.94	7.091+j21.275	17.324+j54.908	3.48	2.57	6.489+j19.941	10.957+j41.971
PURUARÁN	PUU-69	69	1.59	0.85	9.303+j23.346	28.217+j85.385	2.22	1.39	7.545+j18.269	17.263+j52.689
QUERÉTARO I	QRO-115	115	28.65	35.04	0.494+j2.264	0.079+j1.055	32.05	38.59	0.454+j2.233	0.086+j1.126
QUERÉTARO I	QRO-230	230	18.69	19.78	1.422+j6.960	0.674+j5.909	21.61	22.23	1.227+j6.647	0.725+j6.172
QUERÉTARO INDUSTRIAL	QRI-110	115	14.80	14.80	1.104+j4.347	0.692+j4.449	16.43	16.31	1.059+j4.316	0.697+j4.504
QUERÉTARO MANIOBRAS	QMR-110	115	15.44	16.52	0.971+j4.188	0.445+j3.442	17.10	18.17	0.933+j4.169	0.449+j3.500
QUERÉTARO NORTE	QRN-115	115	14.83	14.12	1.306+j4.282	0.822+j5.114	16.50	15.58	1.261+j4.242	0.826+j5.173
QUERÉTARO ORIENTE	QRE-115	115	12.05	10.38	1.553+j5.285	0.553+j8.270	13.39	11.44	1.506+j5.244	0.559+j8.326
QUERÉTARO PONIENTE	QPE-115	115	12.15	9.94	1.197+j5.334	1.206+j9.042	13.39	10.80	1.165+j5.328	1.265+j9.319
QUERÉTARO POTENCIA	QRP-115	115	29.35	36.72	0.348+j2.236	0.047+j0.901	32.02	39.61	0.316+j2.259	0.052+j0.975
QUERÉTARO POTENCIA	QRP-230	230	24.34	27.53	0.918+j5.378	0.311+j3.546	27.85	30.77	0.739+j5.193	0.340+j3.760
QUERÉTARO POTENCIA	QRP-400	400	18.80	16.98	1.873+j12.139	1.950+j16.071	22.75	19.56	1.204+j11.099	2.118+j16.570
QUERÉTARO POTENCIA MANIOBRAS	QPM-400	400	19.99	16.19	1.670+j11.429	3.532+j19.286	24.20	18.78	1.052+j10.444	3.602+j19.313
QUERÉTARO SUR	QRS-115	115	18.90	15.92	0.641+j3.453	0.986+j5.399	20.75	17.39	0.609+j3.467	0.993+j5.474
QUINCEO	QNC-115	115	9.09	8.24	1.701+j7.100	2.009+j9.360	10.08	9.03	1.624+j7.060	2.037+j9.576
RANCHO GRANDE	RAG-115	115	2.61	1.81	7.966+j24.141	17.338+j56.470	2.92	2.00	7.738+j23.826	17.363+j56.685
REXAM BEVERAGE CAN AM S.A.	RXM-115	115	16.12	15.17	1.006+j3.995	0.927+j4.807	17.94	16.75	0.961+j3.956	0.931+j4.857
REXEL	RES-115	115	6.54	4.39	2.832+j9.754	7.313+j23.940	7.44	4.90	2.686+j9.445	7.326+j23.971
REYMA	RYM-115	115	15.29	12.15	1.020+j4.220	1.839+j7.484	17.18	13.42	0.917+j4.151	1.859+j7.615
RÍO GRANDE	RGR-110	115	1.43	0.91	17.246+j43.284	44.920+j116.406	1.58	1.01	17.001+j42.990	44.948+j116.626
RÍO GRANDE II	RIG-115	115	1.50	0.97	15.492+j41.348	41.631+j109.929	1.67	1.07	15.248+j41.052	41.658+j110.149
ROMITA	RTA-115	115	8.59	6.39	1.613+j7.555	3.104+j15.398	9.54	7.04	1.520+j7.505	3.121+j15.539
S.I.A.P.A. (TOLUQUILLA)	SPB-69	69	16.76	11.72	0.655+j2.284	1.235+j5.306	19.18	13.05	0.579+j2.210	1.241+j5.364



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

Subestación eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
S.I.A.P.A. PLANTA 2	STO-69	69	4.77	3.44	2.117+j8.078	4.733+j17.411	5.33	3.79	2.051+j7.968	4.746+j17.575
S.I.A.P.A. PTA BOMBEO STA CRUZ	SCH-69	69	2.66	1.49	4.709+j14.189	12.602+j48.487	2.97	1.65	4.632+j14.003	12.620+j48.551
SAHUAYO	SHY-115	115	7.46	5.20	1.946+j8.687	4.521+j20.002	8.47	5.78	1.787+j8.439	4.542+j20.146
SALAHUA	SLH-115	115	9.48	7.37	1.511+j6.840	4.354+j12.332	11.64	8.54	1.259+j6.147	4.366+j12.421
SALAMANCA	SLM-115	115	23.40	26.60	0.469+j2.798	0.113+j1.815	28.96	32.91	0.327+j2.500	0.121+j1.638
SALAMANCA	SLM-230	230	25.10	28.96	1.027+j5.191	0.272+j3.171	33.09	38.83	0.600+j4.373	0.168+j2.611
SALAMANCA	SLM-400	400	18.06	18.24	2.532+j12.532	1.553+j12.313	25.48	27.09	1.250+j9.891	0.754+j8.508
SALAMANCA COGENERACIÓN	SCG-230	230	25.19	28.89	1.032+j5.169	0.301+j3.241	33.06	38.17	0.612+j4.376	0.231+j2.786
SALAMANCA DOS	SMD-115	115	20.86	20.75	0.506+j3.143	0.338+j3.217	24.00	23.44	0.411+j3.015	0.350+j3.270
SALAMANCA DOS	SMD-230	230	11.89	9.28	2.102+j10.968	4.943+j20.016	14.27	10.80	1.652+j10.105	4.911+j19.678
SALAMANCA DOS	SMD-400	400	17.87	17.97	2.641+j12.652	1.783+j12.571	24.78	24.79	1.348+j10.163	1.429+j10.441
SALAMANCA NORTE	SLN-115	115	15.54	10.49	0.952+j4.166	2.734+j10.086	18.30	11.98	0.824+j3.904	2.742+j9.977
SALAMANCA PONIENTE	SPO-115	115	17.28	14.73	0.643+j3.789	1.062+j5.738	19.84	16.59	0.543+j3.641	1.073+j5.767
SALAMANCA SUR	SSU-110	115	17.98	20.58	0.726+j3.620	0.160+j2.300	21.23	24.38	0.601+j3.387	0.165+j2.133
SALERO	SLR-400	400	7.04	5.22	4.568+j32.491	14.607+j65.665	8.33	5.93	3.660+j30.282	14.658+j66.169
SALINAS	SNA-115	115	1.50	0.95	11.607+j42.792	61.999+j105.311	1.80	1.09	10.020+j39.216	61.644+j104.276
SALITRE	STE-115	115	3.68	2.22	4.222+j17.517	7.087+j53.192	4.08	2.45	4.100+j17.428	7.105+j53.429
SALVATIERRA	SVT-110	115	5.60	3.65	3.191+j11.414	10.335+j29.146	6.23	4.03	3.085+j11.317	10.344+j29.215
SAMSUNG	SAM-115	115	9.35	8.25	1.993+j6.819	2.668+j9.578	10.37	9.10	1.949+j6.769	2.672+j9.641
SAN AGUSTÍN	SAG-69	69	11.96	7.74	0.914+j3.203	2.021+j8.545	13.50	8.59	0.836+j3.135	2.024+j8.587
SAN ANDRÉS	ADE-115	115	8.84	7.38	1.969+j7.245	2.629+j11.690	10.25	8.29	1.761+j6.906	2.673+j11.871
SAN ANTONIO	SAN-115	115	6.19	6.34	2.611+j10.407	1.259+j9.951	8.86	8.51	2.147+j7.963	1.218+j9.232
SAN CARLOS	SCA-115	115	12.56	9.17	1.356+j5.108	2.610+j10.841	14.13	10.17	1.248+j5.016	2.623+j10.921
SAN CLEMENTE	SCM-69	69	1.10	0.56	6.781+j35.717	40.242+j136.669	1.31	0.62	5.015+j33.012	40.327+j139.736
SAN CLEMENTE	SCM-115	115	1.58	1.10	12.916+j40.078	38.800+j89.763	2.01	1.29	9.300+j35.202	38.813+j89.996
SAN DIEGO PEÑUELAS	SDP-115	115	4.73	2.94	3.573+j13.567	10.127+j38.394	5.19	3.22	3.558+j13.608	10.139+j38.543
SAN FELIPE	SFL-115	115	1.89	1.26	10.414+j33.560	32.106+j81.815	2.08	1.39	10.384+j33.550	32.106+j81.898
SAN FRANCISCO	SFR-115	115	10.55	7.51	1.253+j6.170	2.448+j13.705	11.96	8.34	1.146+j5.996	2.467+j13.857
SAN FRANCISCO DEL RINCÓN	SFQ-110	115	10.06	7.01	1.407+j6.446	3.224+j14.885	11.17	7.69	1.310+j6.408	3.251+j15.078
SAN GASPAR	GPR-69	69	22.24	23.16	0.315+j1.763	0.182+j1.570	26.53	26.71	0.224+j1.636	0.188+j1.607
SAN ILDEFONSO	SFS-115	115	12.23	8.72	1.568+j5.196	2.490+j11.748	13.64	9.64	1.509+j5.137	2.492+j11.787
SAN JERÓNIMO	SJE-115	115	2.50	1.76	8.568+j25.090	18.139+j57.123	2.79	1.95	8.349+j24.771	18.162+j57.341
SAN JORGE	SAJ-69	69	7.91	5.32	1.474+j4.814	3.015+j12.011	9.07	5.96	1.401+j4.622	3.023+j12.047
SAN JORGE	SAJ-115	115	3.23	2.11	5.446+j19.808	13.738+j51.370	3.62	2.34	5.239+j19.491	13.782+j51.568
SAN JOSÉ DE GRACIA	JOG-115	115	3.09	1.98	7.624+j20.124	18.420+j54.338	3.44	2.19	7.472+j19.861	18.442+j54.460
SAN JOSÉ ITURBIDE	SJI-115	115	17.77	20.94	0.643+j3.680	0.198+j2.037	20.01	23.11	0.594+j3.602	0.214+j2.176
SAN JOSÉ ITURBIDE	SJI-230	230	11.83	11.33	1.678+j11.099	1.696+j12.609	13.29	12.40	1.533+j10.887	1.821+j13.243
SAN JUAN ZITÁCUARO	SJZ-115	115	5.92	3.93	3.365+j10.703	8.146+j26.988	6.73	4.39	3.200+j10.364	8.161+j27.016
SAN JUAN DE LOS LAGOS	JDL-115	115	6.95	5.54	2.387+j9.252	5.257+j16.027	7.76	6.13	2.255+j9.142	5.258+j16.092
SAN JUAN DE LOS LAGOS II	SJD-115	115	10.68	11.85	1.078+j6.123	0.413+j4.367	12.03	13.04	0.970+j5.995	0.455+j4.649
SAN JUAN DE LOS LAGOS II	SJD-230	230	7.57	7.11	3.258+j17.248	2.691+j20.739	8.79	7.94	2.730+j16.388	2.931+j21.755
SAN JUAN DEL RÍO	SJR-110	115	15.82	14.90	0.788+j4.122	0.785+j4.919	17.56	16.30	0.742+j4.092	0.808+j5.060



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
SAN JUAN DEL RÍO MANIOBRAS	SJM-110	115	15.49	14.33	0.791+j4.213	1.085+j5.215	17.34	15.87	0.728+j4.148	1.096+j5.277
SAN JUAN DEL RIO ORIENTE	SJO-115	115	12.68	10.37	1.153+j5.108	2.268+j8.444	14.03	11.34	1.111+j5.085	2.307+j8.616
SAN JUAN POTENCIA	SJP-115	115	18.53	23.63	0.629+j3.527	0.102+j1.263	20.82	26.23	0.564+j3.463	0.110+j1.336
SAN JUAN POTENCIA	SJP-230	230	10.93	10.61	2.130+j11.962	1.542+j13.183	13.06	12.17	1.733+j11.049	1.677+j13.534
SAN LUIS DE LA PAZ	SAP-110	115	19.07	17.96	0.567+j3.436	0.663+j4.070	20.79	19.37	0.551+j3.470	0.677+j4.233
SAN LUIS DE LA PAZ II	SPA-115	115	24.28	26.17	0.351+j2.712	0.193+j2.132	26.32	27.95	0.338+j2.755	0.205+j2.281
SAN LUIS DE LA PAZ II	SPA-230	230	21.27	23.21	0.904+j6.176	0.579+j4.643	24.20	25.81	0.804+j5.983	0.605+j4.872
SAN LUIS DOS	SLD-115	115	18.55	20.01	0.599+j3.528	0.271+j2.795	20.59	21.75	0.539+j3.506	0.292+j2.975
SAN LUIS DOS	SLD-230	230	14.60	14.75	1.632+j8.945	1.505+j8.710	17.19	16.79	1.332+j8.394	1.584+j8.993
SAN LUIS I	SLP-115B	115	16.22	17.30	0.845+j4.006	0.311+j3.332	18.07	18.85	0.782+j3.965	0.341+j3.543
SAN LUIS I	SLP-115	115	20.24	22.92	0.624+j3.220	0.198+j2.132	22.90	25.36	0.547+j3.142	0.215+j2.258
SAN LUIS I	SLP-230	230	14.84	15.18	1.887+j8.745	1.201+j8.295	17.87	17.57	1.525+j8.030	1.296+j8.520
SAN LUIS INDUSTRIAL	SLI-110	115	16.43	14.79	0.855+j3.949	0.952+j5.308	18.55	16.40	0.775+j3.861	0.965+j5.406
SAN LUIS NORTE	SNE-115	115	8.50	5.79	1.592+j7.645	4.343+j18.277	9.39	6.36	1.536+j7.624	4.360+j18.421
SAN LUIS ORIENTE	SLO-110	115	13.22	10.87	1.060+j4.911	1.931+j8.060	14.72	11.96	0.993+j4.860	1.944+j8.185
SAN LUIS PONIENTE	SLW-110	115	10.45	7.52	1.450+j6.188	3.057+j13.451	11.59	8.26	1.388+j6.148	3.070+j13.574
SAN LUIS PROGRESO	SPR-110	115	11.03	8.63	1.353+j5.868	2.728+j10.687	12.25	9.50	1.287+j5.820	2.739+j10.813
SAN MARTIN	SMR-230	230	10.34	8.95	2.703+j12.553	3.995+j18.403	12.85	10.47	1.829+j11.219	4.088+j18.715
SAN MIGUEL	MIG-115	115	3.43	2.28	4.943+j18.696	12.637+j47.105	3.82	2.54	4.771+j18.495	12.557+j46.535
SAN MIGUEL ALLENDE SUR	SMS-115	115	9.24	6.30	1.923+j6.927	4.875+j16.523	10.22	6.94	1.882+j6.893	4.884+j16.590
SAN MIGUEL DE ALLENDE	MAL-115	115	11.29	8.17	1.388+j5.715	2.753+j12.304	12.50	8.99	1.350+j5.684	2.765+j12.383
SAN NICOLÁS	SNS-69	69	4.78	2.97	2.382+j7.988	5.905+j22.891	5.39	3.29	2.310+j7.796	5.916+j22.939
SAN PEDRO	PDR-115	115	12.64	10.15	1.000+j5.155	2.059+j8.902	14.04	11.14	0.936+j5.115	2.072+j9.040
SAN RAFAEL MANIOBRAS	SRM-115	115	2.81	2.11	5.976+j22.853	18.213+j43.848	3.71	4.02	4.139+j19.226	2.538+j14.939
SAN ROQUE	SRQ-115	115	12.13	8.83	1.132+j5.354	2.250+j11.401	13.49	9.68	1.035+j5.315	2.278+j11.593
SAN VICENTE	VTE-115	115	5.36	6.43	3.640+j11.842	1.344+j6.085	6.49	7.56	2.883+j10.881	1.371+j6.314
SANMINA-SCI SYSTEMS DE MEXICO	SCI-69	69	10.75	7.10	0.965+j3.578	2.259+j9.136	12.09	7.87	0.900+j3.511	2.267+j9.185
SANMINA-SCISYSTEMS MÉXICO	SCR-69	69	16.48	12.46	0.618+j2.337	1.134+j4.619	18.71	13.88	0.551+j2.276	1.138+j4.653
SANMINA-SCISYSTEMS MÉXICO	SCR-115	115	11.07	8.63	1.403+j5.833	2.570+j10.775	12.36	9.48	1.299+j5.765	2.634+j10.992
SANTA CRUZ	SCU-69	69	14.71	10.81	0.711+j2.613	1.331+j5.484	16.71	12.02	0.633+j2.545	1.333+j5.530
SANTA CRUZ	SCZ-115	115	6.04	4.05	3.605+j10.390	8.424+j25.855	6.66	4.45	3.547+j10.383	8.445+j25.985
SANTA FE	STF-115	115	17.94	20.85	0.715+j3.631	0.195+j2.152	19.87	22.70	0.679+j3.612	0.212+j2.302
SANTA FE	STF-230	230	11.22	10.61	2.096+j11.644	1.857+j13.756	12.58	11.59	1.931+j11.448	2.017+j14.461
SANTA FE II	SFD-115	115	7.49	5.89	2.255+j8.574	3.661+j15.676	8.30	6.48	2.159+j8.528	3.678+j15.816
SANTA FÉ IV	STC-115	115	7.10	5.55	2.367+j9.053	3.911+j16.749	7.86	6.10	2.271+j9.006	3.929+j16.889
SANTA FE TRES	SFT-115	115	7.59	5.72	2.170+j8.474	3.824+j16.882	8.42	6.30	2.075+j8.426	3.841+j17.022
SANTA MARÍA	STM-115	115	25.50	24.76	0.421+j2.569	0.402+j2.805	28.10	26.93	0.367+j2.573	0.420+j2.919
SANTA MARÍA	SNM-115	115	8.16	7.10	1.936+j7.907	2.524+j11.499	9.03	7.78	1.856+j7.868	2.555+j11.727
SANTA MARÍA	STM-400	400	18.12	16.33	2.105+j12.568	2.776+j16.652	22.69	19.61	1.269+j11.122	2.822+j16.385
SANTIAGO	SNG-115	115	8.43	5.73	1.705+j7.688	4.344+j18.496	9.33	6.30	1.645+j7.653	4.359+j18.622
SANTIAGO IXCUINTLA	SNI-115	115	3.99	2.86	5.160+j15.811	11.305+j34.566	4.71	3.26	4.563+j14.818	11.284+j34.311
SANTIAGO UNDAMEO	SUN-115	115	5.55	4.53	3.093+j11.559	7.025+j18.766	6.18	5.00	2.976+j11.441	7.053+j18.985



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
SANTIAGUITO	STG-115	115	9.32	7.68	1.696+j6.921	2.641+j11.369	10.31	8.43	1.632+j6.892	2.661+j11.529
SAPAL PROC AGUAS RESID	SPL-115	115	10.27	7.58	1.521+j6.285	3.707+j12.831	11.45	8.37	1.417+j6.217	3.718+j12.939
SATÉLITE	SEI-115	115	11.38	8.35	1.172+j5.713	2.165+j12.003	12.75	9.23	1.094+j5.622	2.184+j12.104
SATÉLITE	SAT-115	115	15.42	12.12	1.017+j4.184	1.369+j7.705	17.12	13.31	0.976+j4.152	1.388+j7.812
SAYULA	SYL-115	115	3.41	2.73	5.289+j18.746	12.251+j31.890	3.79	3.01	5.055+j18.589	12.284+j32.203
SENDERO	SEN-115	115	11.64	10.01	1.171+j5.582	2.239+j8.199	12.91	10.99	1.108+j5.547	2.254+j8.351
SERVICIOS AGUAMILPA	SEA-110	115	2.18	1.60	7.901+j29.460	25.064+j58.886	2.75	2.60	6.062+j25.836	9.374+j29.965
SERVICIOS EL CAJÓN	SCJ-115	115	2.48	1.90	6.551+j25.913	14.104+j49.312	2.77	2.10	6.317+j25.557	14.101+j49.945
SERVICIOS LA YESCA	SLY-115	115	0.79	0.62	22.910+j81.015	54.908+j144.338	0.86	0.67	23.218+j81.729	55.246+j146.515
SHULMANN	SHU-115	115	17.98	16.81	0.732+j3.620	0.822+j4.390	20.35	18.68	0.653+j3.529	0.835+j4.480
SIBASA	SIB-230	230	13.13	11.53	2.102+j9.891	2.765+j14.061	15.25	13.02	1.766+j9.416	2.865+j14.304
SIDERÚRGICA GUADALAJARA	SGG-161	161	3.22	2.63	6.650+j28.084	12.077+j46.978	3.49	2.86	6.345+j28.611	12.086+j47.258
SIEMENS	SIE-69	69	9.82	6.16	1.057+j3.918	2.493+j11.013	11.02	6.82	0.981+j3.852	2.496+j11.057
SILAO	SIL-115	115	14.86	14.75	1.096+j4.333	0.955+j4.464	16.65	16.27	1.000+j4.270	0.981+j4.613
SILAO POTENCIA	SIP-115	115	17.97	21.29	0.840+j3.597	0.187+j1.974	20.15	23.45	0.748+j3.546	0.204+j2.114
SILAO POTENCIA	SIP-230	230	13.69	13.52	2.294+j9.422	1.541+j9.972	16.20	15.39	1.834+j8.828	1.657+j10.393
SIPOSA (GASA)	GAS-115	115	12.54	10.44	1.153+j5.166	1.312+j8.408	14.00	11.47	1.085+j5.103	1.338+j8.578
SISTEMAS JUÁREZ	SIS-69	69	20.10	15.70	0.526+j1.911	0.778+j3.564	23.16	17.54	0.450+j1.838	0.785+j3.629
SOLEDAD DE GRACIANO SÁNCHEZ	SGS-110	115	11.64	8.84	1.037+j5.607	1.759+j10.985	12.90	9.71	0.977+j5.578	1.772+j11.116
URUAPAN	STI-115	115	4.13	2.97	4.383+j15.468	11.900+j32.807	4.72	3.32	4.087+j14.922	11.932+j32.932
SUBESTACIÓN PIQ	SPQ-115	115	13.75	10.12	1.319+j4.643	2.262+j9.778	15.32	11.16	1.275+j4.593	2.266+j9.841
TABACALERA	TBK-110	115	7.12	5.98	2.226+j9.053	3.548+j14.228	8.86	7.08	1.670+j8.073	3.527+j14.013
TACUBAYA	TYA-115	115	2.27	1.47	9.124+j27.746	22.189+j74.305	6.23	4.35	3.275+j11.254	9.330+j25.324
TALA	TLA-69	69	3.45	3.75	3.933+j10.862	0.902+j8.939	5.26	5.13	2.137+j8.045	1.024+j8.962
TALPA	TPA-69	69	0.51	0.65	28.186+j72.564	0.762+j30.407	0.71	0.84	17.883+j59.170	0.839+j33.454
TAMARINDOS	TMI-115	115	5.93	7.91	3.352+j10.683	0.303+j2.805	7.27	9.49	2.582+j9.703	0.322+j3.008
TAMAZULA	TAZ-115	115	2.81	2.06	6.154+j22.796	11.926+j48.244	3.12	2.26	5.934+j22.681	11.977+j48.663
TANGAMANGA	TMG-115	115	10.44	7.63	1.481+j6.188	3.123+j13.027	11.58	8.39	1.418+j6.143	3.136+j13.155
TANGANCÍCUARO	TGR-115	115	3.82	2.89	4.328+j16.814	13.052+j31.656	9.70	8.95	1.784+j7.313	2.892+j9.001
TANQUE TENORIO (DEGREMONT)	TQT-115	115	16.20	14.14	0.826+j4.015	0.938+j5.818	18.24	15.63	0.748+j3.935	0.953+j5.934
TAPALPA	TLP-115	115	2.85	2.15	6.293+j22.393	16.830+j42.865	3.17	2.38	6.054+j22.215	16.854+j43.127
TAPEIXTLTLES	TAP-69	69	4.33	5.77	0.760+j9.173	0.082+j2.288	4.52	6.01	0.724+j9.666	0.088+j2.504
TAPEIXTLTLES	TAP-115	115	13.53	14.15	0.866+j4.831	0.712+j4.201	17.48	17.21	0.620+j4.132	0.734+j4.312
TAPEIXTLTLES POTENCIA	TPX-115	115	17.79	20.31	0.503+j3.698	0.182+j2.340	24.38	26.23	0.268+j2.984	0.188+j2.354
TAPEIXTLTLES POTENCIA	TPX-230	230	11.98	15.12	1.476+j10.989	0.279+j4.167	18.66	22.29	0.584+j7.804	0.291+j4.001
TAPEIXTLTLES POTENCIA	TPX-400	400	10.11	12.09	3.254+j22.610	0.954+j11.604	21.92	24.31	0.766+j11.563	0.945+j8.124
TARANDACUAO	TDC-115	115	2.88	1.82	6.437+j22.100	21.422+j59.550	3.21	2.01	6.221+j21.865	21.439+j59.645
TARETAN	TAR-69	69	2.24	0.97	4.782+j17.104	25.195+j84.413	3.24	2.07	3.701+j13.030	8.681+j35.333
TARIMBARO	TRB-115	115	6.88	5.20	2.512+j9.324	5.728+j18.139	7.61	5.71	2.442+j9.281	5.744+j18.279
TECHNICOLOR MEXICANA S. DE R.L. DE C.V.	TNI-69	69	12.54	8.21	0.842+j3.064	1.953+j7.972	15.20	9.91	0.707+j2.796	1.762+j7.291
TECNOLÓGICO	TAG-115	115	15.28	12.02	0.879+j4.256	1.216+j7.793	17.48	13.40	0.755+j4.109	1.225+j7.910
TECOLAPA	TOA-115	115	5.94	4.46	3.110+j10.729	8.080+j20.845	6.99	5.07	2.825+j10.063	8.086+j20.876



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TECOLOTLAN	TCT-115	115	2.46	1.77	7.735+j25.857	22.815+j54.052	2.96	2.03	6.179+j23.852	22.828+j54.283
TECOMÁN	TEC-115	115	5.10	3.66	3.552+j12.533	10.209+j26.538	5.94	4.13	3.268+j11.859	10.214+j26.560
TECOMATES	TCS-115	115	1.71	1.26	11.412+j37.155	20.718+j77.571	1.91	1.40	11.087+j36.519	20.740+j77.680
TECOZAUTLA	TCZ-115	115	2.56	1.56	7.792+j24.687	26.300+j70.976	2.88	1.74	7.510+j24.209	26.228+j70.641
TECUALA	TEL-115	115	1.07	0.72	24.188+j56.870	61.320+j141.549	1.20	0.80	23.542+j55.955	61.296+j141.288
TECUAN	TCN-115	115	6.65	4.28	2.728+j9.600	5.264+j26.126	7.46	4.73	2.598+j9.442	5.278+j26.270
TEJEDA	TJD-115	115	14.67	18.71	0.971+j4.421	0.342+j1.557	16.21	20.53	0.934+j4.408	0.345+j1.626
TEOCALTICHE	TEO-115	115	4.51	3.08	3.728+j14.249	9.245+j33.957	5.01	3.39	3.619+j14.122	9.286+j34.240
TEOCUITATLAN	TTL-115	115	2.59	1.82	6.458+j24.841	19.954+j54.528	2.87	2.01	6.217+j24.643	19.967+j54.692
TEPALCATEPEC DOS	TPD-115	115	1.99	1.32	8.673+j32.201	25.515+j79.887	2.60	2.15	6.342+j27.362	10.410+j44.457
TEPATITLÁN	TPT-115	115	4.91	3.26	4.066+j12.911	10.045+j32.501	6.39	3.94	3.242+j10.969	9.629+j31.323
TEPETONGO	TGO-115	115	1.32	0.94	15.351+j48.017	38.832+j103.982	1.47	1.04	15.063+j47.460	38.848+j104.107
TEPEYAC	TPY-115	115	9.16	6.19	1.988+j6.970	4.124+j17.208	10.19	6.84	1.929+j6.904	4.125+j17.237
TEPIC DOS	TED-115	115	11.51	13.69	1.064+j5.670	0.188+j3.025	15.71	18.14	0.505+j4.622	0.169+j2.775
TEPIC DOS	TED-230	230	8.22	10.10	3.346+j15.813	0.673+j7.109	13.21	15.87	1.181+j10.998	0.442+j5.471
TEPIC DOS	TED-400	400	7.00	7.30	7.162+j32.197	3.839+j28.678	16.37	16.88	1.406+j15.457	2.105+j13.945
TEPIC INDUSTRIAL	TID-110	115	7.82	6.80	2.008+j8.253	2.827+j11.965	9.82	8.12	1.458+j7.292	2.808+j11.773
TECOMÁN SUR	TES-115	115	4.15	2.94	4.380+j15.374	13.196+j33.325	4.79	3.31	4.096+j14.701	13.201+j33.347
TEPIC UNO	TES-115	115	8.91	8.34	1.653+j7.267	1.820+j8.787	11.47	10.20	1.101+j6.274	1.801+j8.564
TEQUILA	TQA-69	69	1.98	1.13	7.831+j18.549	17.326+j63.617	3.01	2.22	4.327+j13.920	6.600+j29.311
TEQUILA	TQA-115	115	0.95	0.59	23.790+j65.399	48.975+j191.856	1.30	1.03	13.996+j54.274	19.195+j97.889
TEQUISQUIAPAN	TEQ-115	115	7.76	4.47	2.102+j8.294	10.544+j25.457	8.70	4.95	2.000+j8.152	10.531+j25.462
TERMINAL DE GAS MANZANILLO	TGM-115	115	11.94	9.73	0.880+j5.488	1.744+j9.194	15.15	11.52	0.639+j4.778	1.747+j9.215
TERMOENVASES EXPANDIBLES	TER-115	115	17.10	15.28	0.937+j3.767	1.193+j5.132	19.26	16.90	0.835+j3.699	1.209+j5.259
TERRAPLENA	TRP-115	115	6.77	7.86	1.617+j9.670	1.100+j5.635	8.04	9.12	1.360+j8.979	1.121+j5.746
TESISTAN	TSN-69B	69	21.02	23.69	0.236+j1.880	0.056+j1.258	25.36	27.40	0.128+j1.723	0.063+j1.342
TESISTAN	TSN-69	69	31.64	31.89	0.221+j1.240	0.098+j1.229	38.35	36.87	0.136+j1.135	0.103+j1.276
TESISTAN	TSN-230	230	16.17	19.18	1.935+j7.983	0.416+j4.356	23.43	26.01	0.894+j6.170	0.439+j4.365
TESISTAN	TSN-400	400	13.31	14.25	4.310+j16.807	1.953+j13.832	23.47	22.30	1.407+j10.733	1.959+j12.377
TETRAPAK	TTK-115	115	15.26	10.77	0.871+j4.263	6.344+j8.108	16.76	11.81	0.838+j4.276	6.350+j8.184
TISAMATIC	TIS-115	115	14.82	14.07	0.966+j4.375	0.697+j5.166	16.54	15.41	0.900+j4.323	0.725+j5.355
TLAJOMULCO POTENCIA	TLJ-230	230	15.47	17.58	1.976+j8.354	0.603+j5.489	19.97	21.42	1.190+j7.217	0.646+j5.802
TLAJOMULCO POTENCIA	TLJ-400	400	13.79	14.25	3.814+j16.309	2.254+j14.961	20.33	18.79	1.657+j12.383	2.366+j15.408
TLALTENANGO	TLO-110	115	1.88	1.12	9.630+j33.987	19.601+j105.871	2.07	1.23	9.503+j33.904	19.621+j106.113
TOLIMAN	TLI-115	115	1.60	1.02	11.928+j39.738	32.899+j106.402	1.77	1.13	11.687+j39.590	32.933+j106.717
TOTOTLAN	TTO-115	115	4.81	3.50	3.981+j13.208	9.824+j27.710	5.61	3.96	3.622+j12.508	9.782+j27.592
TREJO	TRJ-115	115	8.38	6.90	2.170+j7.622	5.079+j12.049	9.39	7.66	2.062+j7.496	5.084+j12.106
TREMEC	TRE-115	115	18.44	16.12	0.754+j3.521	0.964+j5.066	20.50	17.74	0.714+j3.490	0.970+j5.138
TRES MARÍAS	TSM-115	115	7.49	5.59	1.953+j8.644	3.909+j17.472	8.27	6.13	1.897+j8.627	3.926+j17.620
TRES NACIONES	TEN-115	115	16.78	14.64	0.831+j3.869	0.968+j5.609	18.95	16.25	0.751+j3.780	0.981+j5.699
TRIARA	TTR-115	115	12.82	11.45	1.527+j4.949	0.693+j7.094	14.25	12.63	1.481+j4.907	0.698+j7.149
TRIGUILLOS	TGS-115	115	2.82	1.89	8.239+j22.101	19.830+j54.964	3.10	2.07	8.194+j22.103	19.846+j55.109



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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TURBORREACTORES S.A. DE C.V.	REA-115	115	18.76	20.22	0.936+j3.412	0.526+j2.726	20.88	22.27	0.896+j3.381	0.533+j2.798
TUXPAN	TUX-115	115	3.32	2.65	6.699+j18.852	11.109+j33.217	3.68	2.92	6.478+j18.737	11.160+j33.635
TUXPAN	TXP-115	115	5.65	3.85	3.190+j11.308	9.076+j26.745	6.34	4.27	3.084+j11.098	9.082+j26.805
TUZANIA	TUZ-230	230	13.72	13.90	2.219+j9.419	1.608+j9.177	19.40	18.33	1.118+j7.445	1.540+j8.717
UNIVERSIDAD AUTÓNOMA DE GUADALAJARA	UAG-69	69	17.71	12.86	0.548+j2.182	0.908+j4.710	20.37	14.31	0.466+j2.101	0.925+j4.796
UNIVERSIDAD DEL VALLE DE MÉXICO	UVM-69	69	20.10	15.70	0.526+j1.911	0.778+j3.564	23.16	17.54	0.450+j1.838	0.785+j3.629
UNIVEX	UVX-115	115	4.40	3.30	4.795+j14.312	8.972+j28.784	4.95	3.68	4.653+j14.015	8.980+j28.606
URIANGATO	URG-115	115	5.10	3.39	3.641+j12.497	10.222+j31.183	5.66	3.74	3.551+j12.401	10.230+j31.227
URUAPAN ORIENTE	UOT-115	115	7.78	6.61	2.104+j8.265	2.927+j12.713	9.39	7.63	1.764+j7.572	2.955+j12.820
URUAPAN POTENCIA	UPP-115	115	9.94	10.95	1.363+j6.540	0.505+j4.807	12.20	12.99	1.059+j5.893	0.506+j4.874
URUAPAN POTENCIA	UPP-161	161	4.98	5.19	2.463+j18.499	1.355+j16.290	7.01	7.43	1.510+j14.512	1.097+j12.057
URUAPAN POTENCIA	UPP-230	230	5.13	5.05	4.175+j25.545	2.879+j26.944	6.61	6.41	2.782+j21.935	2.515+j24.044
URUAPAN TRES	UPT-69	69	3.10	1.11	2.284+j12.638	23.108+j78.742	4.69	3.14	1.670+j9.192	3.416+j22.873
URUAPAN TRES	UPT-115	115	9.46	8.82	1.645+j6.822	1.846+j8.337	11.62	10.35	1.321+j6.142	1.857+j8.400
USI	USI-69	69	7.63	4.81	1.406+j5.032	3.740+j13.890	9.23	6.45	1.202+j4.593	2.856+j10.508
USM	USM-115	115	7.16	6.73	2.410+j8.960	4.188+j10.263	7.99	7.46	2.307+j8.850	4.198+j10.359
VALLARTA POTENCIA	VTP-115	115	5.99	8.10	3.312+j10.570	0.162+j2.502	7.36	9.73	2.543+j9.590	0.181+j2.707
VALLARTA POTENCIA	VTP-230	230	3.30	4.19	11.652+j38.547	1.153+j14.798	4.14	5.08	8.603+j34.222	1.289+j15.897
VALLARTA UNO	VRT-115	115	4.82	5.09	4.250+j13.094	2.473+j11.344	5.80	5.92	3.440+j12.112	2.492+j11.549
VALLE DE AGUASCALIENTES	VAG-115	115	14.83	11.48	0.832+j4.401	1.449+j8.276	17.04	12.80	0.727+j4.224	1.464+j8.425
VALLE DE GUADALUPE	VGP-115	115	5.09	3.59	3.504+j12.557	9.170+j27.879	6.68	4.88	2.704+j10.591	7.420+j21.825
VALLE DE LAS DELICIAS	VDL-115	115	2.94	2.35	6.079+j21.746	13.341+j37.329	3.63	2.77	5.579+j19.327	13.298+j36.607
VALLE DE SANTIAGO	VAS-115	115	12.06	9.03	1.260+j5.361	3.070+j10.604	13.61	10.06	1.164+j5.238	3.081+j10.652
VALEO TÉRMICO	VAT-115	115	17.68	16.79	0.739+j3.681	0.813+j4.281	19.99	18.64	0.660+j3.593	0.825+j4.375
VALLE DE TECOMAN	VAT-115	115	2.81	1.86	6.899+j22.610	19.306+j56.776	3.19	2.07	6.598+j21.961	19.312+j56.808
VALLE DEL MEZQUITAL	VDM-115	115	6.42	4.28	2.028+j10.145	7.842+j24.716	8.45	5.22	1.316+j8.542	7.591+j23.632
VALLE DEL MEZQUITAL	VDM-230	230	4.25	3.65	6.135+j30.661	8.870+j45.805	6.52	5.82	3.161+j22.178	5.860+j29.957
VILLA DE ARRIAGA MANIOBRAS	VDM-230	230	6.74	7.09	2.948+j19.484	2.292+j16.648	7.97	8.07	2.482+j18.165	2.466+j17.499
VALLE VERDE	VAV-115	115	7.07	6.15	1.934+j9.184	3.231+j13.216	8.81	7.50	1.523+j8.150	2.985+j12.255
VALLEJO (ANTES CARLOTA)	CAR-115	115	13.18	10.16	1.032+j4.932	1.600+j9.389	14.51	11.09	1.000+j4.931	1.630+j9.553
VALPARAISO	VPS-110	115	1.27	0.82	18.471+j49.119	43.936+j131.989	1.40	0.90	18.245+j48.804	43.960+j132.208
VAQUERÍAS MANIOBRAS	VQM-230	230	7.23	7.92	2.724+j18.154	1.509+j13.520	8.50	8.98	2.293+j17.029	1.643+j14.368
VELCON	VEL-115	115	12.61	10.14	1.251+j5.116	2.226+j8.822	13.89	11.09	1.192+j5.123	2.247+j8.976
VENUSTIANO CARRANZA	VNC-115	115	5.42	3.62	2.994+j11.874	7.239+j29.603	6.11	4.02	2.828+j11.617	7.262+j29.752
VESTA PARK MANIOBRAS	VPM-115	115	8.48	5.55	2.093+j7.541	4.373+j19.764	9.42	6.13	2.033+j7.481	4.374+j19.799
VIDRIERA	VRA-115	115	16.24	14.50	0.868+j3.996	0.984+j5.472	18.32	16.08	0.789+j3.908	0.996+j5.570
VIDRIERA GUADALAJARA	VID-69	69	21.26	17.80	0.459+j1.817	0.511+j2.927	24.63	19.84	0.379+j1.738	0.529+j3.026
VIDRIERA QUERÉTARO	VRR-115	115	15.51	14.88	1.076+j4.143	0.870+j4.753	17.26	16.43	1.030+j4.104	0.874+j4.804
VILLA DE ÁLVAREZ	VDA-115	115	7.73	7.60	1.851+j8.383	1.811+j8.843	9.16	8.71	1.583+j7.812	1.841+j9.029
VILLA DE ARISTA	VAR-115	115	2.77	3.06	9.327+j22.059	4.658+j16.765	3.05	3.40	9.282+j22.059	4.709+j17.342
VILLA DE REYES	VDR-115	115	9.82	10.84	1.031+j6.684	0.343+j4.852	10.64	11.66	1.007+j6.792	0.347+j5.068
VILLA DE REYES	VDR-230	230	18.99	20.93	1.111+j6.904	0.498+j5.038	26.03	30.48	0.687+j5.570	0.215+j3.159



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
VILLA HIDALGO	VHO-115	115	3.29	2.29	6.915+j18.933	14.558+j44.271	3.82	2.59	6.336+j18.015	14.503+j44.025
VILLA JIMÉNEZ	VIJ-115	115	5.22	3.77	3.550+j12.217	7.920+j26.162	6.35	5.25	3.113+j11.074	4.143+j18.270
VILLA JUÁREZ	VJU-115	115	8.88	6.36	1.498+j7.324	2.793+j16.146	9.98	7.02	1.385+j7.186	2.817+j16.349
VILLAGRÁN	VIG-110	115	8.08	6.90	1.905+j7.997	3.095+j12.040	8.89	7.56	1.846+j8.002	3.110+j12.164
VINITECK S.A. DE C.V.	VIN-69	69	6.29	4.77	1.240+j6.209	2.503+j12.122	7.06	5.27	1.173+j6.092	2.516+j12.283
VISTA HERMOSA	VIH-115	115	8.27	6.29	2.215+j7.714	4.897+j14.809	9.66	7.13	2.019+j7.289	4.896+j14.816
VIZARRÓN	VIZ-110	115	3.31	1.75	6.008+j19.127	20.910+j70.582	3.77	1.96	5.681+j18.529	20.823+j70.157
VOLCANES	VCS-69	69	0.69	0.63	18.189+j54.600	19.855+j70.521	0.89	0.75	12.931+j47.289	19.938+j73.581
VOLKSWAGEN	VWS-115	115	7.14	5.55	2.368+j8.987	3.982+j16.839	7.92	6.11	2.272+j8.941	3.999+j16.979
VYNMSA	VYN-115	115	7.53	5.01	1.862+j8.620	4.472+j21.654	8.42	5.47	1.754+j8.498	4.668+j22.203
XALISCO	XLS-115	115	7.08	5.84	2.073+j9.142	3.255+j15.009	8.81	6.91	1.515+j8.155	3.236+j14.793
INGENIO TALA	ELT-69	69	3.33	3.74	4.014+j11.283	0.575+j8.175	5.11	5.16	2.141+j8.300	0.717+j8.363
YERBABUENA	YER-115	115	4.59	2.98	3.436+j14.059	8.676+j36.947	5.41	3.39	3.006+j13.149	8.573+j36.680
YURÉCUARO	YUR-115	115	6.17	4.83	3.007+j10.327	5.666+j18.873	7.33	5.58	2.714+j9.582	5.516+j18.563
ZACAPU	ZCP-110	115	5.11	3.74	4.145+j12.320	9.085+j25.719	6.08	4.64	3.825+j11.394	7.306+j22.040
ZACATECAS	ZCT-115	115	6.53	5.52	2.817+j9.771	4.298+j15.184	7.71	6.29	2.557+j9.127	4.314+j15.311
ZACATECAS II	ZCD-115	115	9.39	11.24	1.683+j6.869	0.426+j3.566	11.72	13.49	1.436+j6.065	0.463+j3.768
ZACATECAS II	ZCD-230	230	6.72	7.12	4.739+j19.180	2.562+j16.313	8.19	8.29	3.831+j17.408	2.719+j17.014
ZACATECAS SUR	ZCS-115	115	6.63	5.68	2.798+j9.614	4.065+j14.507	7.86	6.48	2.539+j8.944	4.084+j14.642
ZALATITAN	ZLT-69	69	12.67	9.19	0.675+j3.071	1.400+j6.564	14.60	10.31	0.586+j2.944	1.406+j6.600
ZAMORA	ZMA-110	115	7.45	6.02	2.102+j8.657	4.280+j14.656	9.05	6.99	1.923+j7.836	4.339+j14.583
ZAMORA POTENCIA	ZRP-115	115	9.16	10.22	1.275+j7.136	0.501+j4.976	12.43	13.24	1.089+j5.773	0.627+j4.769
ZAMORA POTENCIA	ZRP-230	230	7.80	6.94	3.143+j16.728	4.113+j22.937	9.34	8.00	2.437+j15.449	4.292+j23.149
ZAPOPAN	ZPA-69	69	23.08	20.29	0.428+j1.672	0.370+j2.416	26.87	22.65	0.348+j1.594	0.388+j2.515
ZAPOPAN	ZPA-230	230	9.52	8.30	2.951+j13.636	4.176+j19.629	12.04	9.83	1.899+j11.982	4.272+j19.860
ZAPOTILTIC	ZTI-115	115	4.83	4.50	3.656+j13.239	4.792+j16.127	5.38	4.94	3.436+j13.122	4.842+j16.545
ZAPOTLANEJO	ZPO-230	230	15.32	17.14	1.916+j8.453	0.698+j5.883	20.57	21.53	1.049+j7.024	0.751+j6.109
ZAPOTLANEJO	ZPO-400	400	12.71	12.72	3.815+j17.759	2.979+j17.899	18.22	16.42	1.681+j13.844	3.124+j18.288
ZAPOTLANEJO DISTRIBUCIÓN	ZAD-115	115	1.77	1.12	15.064+j34.419	33.881+j97.651	3.02	1.46	7.906+j22.838	33.498+j96.514
ZARAGOZA	ZAG-115	115	5.41	3.51	2.323+j12.055	8.181+j31.229	6.00	3.87	2.245+j11.962	8.199+j31.330
ZIBATA	ZBT-115	115	9.17	6.60	1.857+j7.000	4.747+j14.964	10.19	7.29	1.804+j6.935	4.748+j14.997
ZIMAPAN	ZIM-115	115	3.89	2.58	4.163+j16.573	14.868+j40.596	4.75	3.01	3.424+j15.006	14.615+j39.508
ZINÁPARO	ZID-115	115	6.83	5.41	2.478+j9.396	6.116+j16.284	10.46	7.98	1.816+j6.741	4.650+j12.705
ZINAPÉCUARO	ZIN-115	115	8.49	6.93	1.447+j7.688	2.608+j12.821	9.26	7.55	1.440+j7.758	2.623+j12.983
ZITÁCUARO	ZIT-115	115	6.62	4.43	2.792+j9.636	7.262+j23.776	7.53	4.95	2.646+j9.326	7.274+j23.807
ZITÁCUARO DOS	ZTD-115	115	6.32	4.16	2.833+j10.113	7.451+j25.832	7.22	4.65	2.670+j9.755	7.467+j25.855
ZOLTECH	CYD-69	69	16.45	17.43	0.552+j2.358	0.381+j1.978	19.81	20.30	0.486+j2.159	0.390+j2.013
ZOQUIPAN	ZQP-69	69	14.27	10.72	0.637+j2.718	1.337+j5.402	16.67	12.17	0.529+j2.575	1.329+j5.387
ZUMPIMITO	ZMP-69	69	2.99	1.11	2.579+j13.076	22.732+j77.497	4.62	3.30	1.788+j9.318	2.680+j20.647

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	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ACUÍCOLA	ACU-115	115	2.05	1.41	8.516+j31.202	26.191+j72.319	2.35	1.57	8.003+j30.062	26.248+j72.671
AGRÍCOLA SONOYTA	AGS-115	115	0.67	0.46	27.888+j94.636	61.586+j228.180	0.80	0.52	24.006+j88.415	61.727+j229.251
AGUA PRIETA	AGI-115	115	4.76	3.19	2.680+j13.701	5.963+j34.147	5.55	3.54	2.283+j12.962	6.030+j34.954
AGUA PRIETA DOS	AGD-230	230	8.24	8.71	2.326+j15.953	2.331+j13.900	15.67	17.09	0.697+j9.294	0.505+j6.231
AHOME	AHO-115	115	4.79	3.43	2.998+j13.536	8.701+j29.011	5.47	3.83	2.853+j13.040	8.709+j29.143
ALAMOS	AAM-115	115	1.79	1.19	17.621+j32.600	33.487+j86.903	2.09	1.46	16.385+j30.792	27.033+j76.141
ALTAR	ALT-115	115	2.54	1.86	7.572+j25.071	14.741+j52.488	3.43	2.30	5.170+j20.638	14.353+j50.607
ANGOSTURA	ANG-115	115	4.73	3.40	4.065+j13.431	8.097+j29.365	5.74	3.96	3.597+j12.198	8.126+j28.358
ANTIMONIO	ANT-115	115	2.51	2.19	7.504+j25.391	9.821+j36.888	3.87	2.88	4.125+j18.402	9.847+j37.147
ARROYO SECO	ASE-115	115	1.77	1.30	10.478+j35.937	25.953+j73.941	2.39	1.63	7.294+j29.675	24.916+j69.065
BACHIGUALATO	BCH-115	115	4.45	2.35	2.990+j14.613	15.794+j52.480	5.16	2.63	2.668+j13.908	15.853+j52.564
BACUM	BAC-115	115	17.74	17.23	0.469+j3.714	0.288+j4.054	21.72	19.72	0.347+j3.344	0.323+j4.328
BACUM	BAC-230	230	12.34	13.53	1.384+j10.675	0.658+j7.827	15.83	16.24	0.925+j9.179	0.731+j8.359
BACUM	BAC-400	400	8.68	8.96	3.030+j26.425	2.853+j23.737	10.86	10.54	1.920+j23.303	3.088+j25.070
BACURATO	BRT-115	115	3.44	2.23	3.584+j18.988	10.197+j49.499	6.14	6.55	1.356+j11.822	0.327+j7.183
BAGOTES	BGT-115	115	12.87	12.30	1.461+j4.947	2.226+j5.482	18.51	15.99	0.992+j3.818	2.245+j5.413
BAMOA	BMO-115	115	2.79	1.81	8.681+j22.153	19.632+j59.052	3.22	2.04	8.269+j21.158	19.661+j58.420
BANDERAS	BND-115	115	12.47	10.07	0.959+j5.236	1.623+j8.975	15.39	11.64	0.773+j4.682	1.653+j9.106
BIZANI	BZI-115	115	3.45	3.37	5.553+j18.410	5.703+j19.981	6.12	5.01	2.279+j11.716	5.453+j19.114
BUENA VISTA	BNV-230	230	7.42	6.83	5.177+j17.137	4.134+j22.540	10.58	8.59	3.028+j13.473	4.375+j22.784
CABORCA	CBA-115	115	3.79	3.29	4.815+j16.867	4.398+j25.124	6.83	5.22	1.693+j10.555	3.375+j20.269
CAJEME	CAJ-115	115	12.92	11.80	0.828+j5.070	0.892+j6.531	15.80	13.59	0.663+j4.575	0.933+j6.752
CARDONAL	CRD-115	115	2.06	1.45	8.479+j31.069	26.192+j67.848	2.36	1.63	7.967+j29.928	26.249+j68.200
CARRIZO	CRZ-115	115	3.96	3.80	5.274+j15.938	5.766+j17.894	5.03	4.72	4.364+j13.857	5.202+j16.516
CENTENARIO	CNT-115	115	11.85	9.51	0.837+j5.541	1.465+j9.472	14.42	11.01	0.685+j5.018	1.463+j9.544
CENTINELA	CLA-115	115	7.90	6.21	1.884+j8.192	3.470+j14.887	9.05	6.91	1.769+j7.876	3.504+j15.200
CERRO CAÑEDO	CCA-115	115	3.36	2.81	5.489+j18.979	6.690+j30.832	5.54	4.09	2.452+j12.961	5.784+j26.513
CHINITOS	CHI-115	115	2.20	1.48	8.947+j28.883	25.004+j70.174	2.49	1.65	8.585+j28.040	25.035+j69.923
CHOACAHUI	CHO-230	230	18.98	20.98	0.594+j6.973	0.324+j4.223	24.12	25.56	0.365+j6.044	0.363+j4.423
CHOACAHUI	CHO-400	400	12.02	14.02	1.675+j19.136	0.594+j10.008	14.72	16.52	0.997+j17.227	0.644+j10.822
CIUDAD OBREGÓN CUATRO	COC-115	115	14.90	13.52	0.723+j4.397	0.737+j5.754	18.52	15.63	0.561+j3.903	0.795+j6.020
CIUDAD OBREGÓN CUATRO	COC-230	230	10.14	10.69	1.966+j12.950	1.600+j10.874	13.61	13.25	1.290+j10.655	1.680+j11.255
CIUDAD OBREGÓN DOS	COD-115	115	15.51	14.54	0.676+j4.228	0.671+j5.082	19.31	16.95	0.518+j3.746	0.699+j5.253
CIUDAD OBREGÓN TRES	COT-115	115	15.56	14.88	0.659+j4.217	0.510+j4.812	19.66	17.64	0.484+j3.683	0.541+j4.892
CIUDAD OBREGÓN TRES	COT-230	230	8.75	8.95	2.317+j15.003	1.895+j13.956	11.44	10.85	1.606+j12.664	2.018+j14.466
CIUDAD OBREGÓN UNO	OBU-115	115	13.28	10.99	0.951+j4.910	1.570+j7.948	16.55	12.77	0.760+j4.348	1.603+j8.103
COCORIT	CCI-115	115	11.29	8.07	0.961+j5.802	2.596+j12.632	13.65	9.21	0.793+j5.292	2.623+j12.748
COMEDERO	CMR-115	115	3.51	1.64	3.857+j18.523	20.729+j80.999	5.93	6.61	1.634+j12.212	0.300+j7.444
COMPUERTAS	CMP-115	115	10.62	8.11	1.069+j6.158	2.112+j11.719	12.85	9.34	0.904+j5.610	2.109+j11.782
COSTA RICA	CSA-115	115	6.30	4.69	2.334+j10.280	5.069+j20.700	7.63	5.39	1.916+j9.376	5.088+j20.761
CRUZ DE PIEDRA	CDP-115	115	6.34	6.10	2.464+j10.185	2.044+j11.543	7.54	6.94	2.152+j9.449	2.116+j12.034
CULIACÁN CENTRO	CCC-115	115	10.86	9.53	1.283+j5.977	1.709+j8.443	14.90	12.06	0.812+j4.833	1.687+j8.021



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CULIACÁN CINCO	CUI-115	115	11.64	11.05	1.196+j5.576	1.391+j6.411	15.92	13.83	0.753+j4.524	1.424+j6.369
CULIACÁN CUATRO	CUC-115	115	12.28	12.04	1.139+j5.287	1.223+j5.549	16.70	15.00	0.719+j4.315	1.248+j5.593
CULIACÁN DOS	CUD-115	115	11.77	11.48	1.196+j5.514	1.197+j5.887	16.39	14.77	0.732+j4.396	1.196+j5.639
CULIACÁN LIBRAMIENTO	CLI-115	115	10.33	9.68	1.366+j6.283	1.846+j7.442	13.85	12.02	0.909+j5.193	1.865+j7.303
CULIACÁN MILENIUM	CMI-115	115	10.65	10.53	1.498+j6.051	1.643+j6.182	14.28	14.03	1.062+j5.003	1.400+j5.064
CULIACÁN NORTE	CUN-115	115	11.17	10.72	1.278+j5.808	1.380+j6.490	15.36	14.18	0.814+j4.684	1.254+j5.646
CULIACÁN ORIENTE	CUO-115	115	10.75	9.87	1.297+j6.037	1.591+j7.612	14.70	12.50	0.827+j4.898	1.577+j7.259
CULIACÁN PONIENTE	CPO-115	115	13.89	12.00	0.827+j4.710	0.821+j6.949	18.12	14.37	0.513+j3.997	0.880+j7.032
CULIACÁN PONIENTE	CPO-400	400	6.23	6.66	6.684+j36.465	3.462+j29.060	8.85	8.56	3.351+j28.510	3.667+j30.525
CULIACÁN SUR	CUS-115	115	10.67	9.75	1.282+j6.088	1.716+j7.754	14.15	11.90	0.855+j5.091	1.743+j7.767
CULIACÁN TRES	CUT-115	115	13.10	13.63	1.041+j4.959	0.590+j4.400	19.06	18.95	0.567+j3.790	0.529+j3.680
CULIACÁN TRES	CUT-230	230	8.04	9.32	3.404+j16.169	1.365+j9.376	11.70	12.50	1.794+j12.352	1.387+j9.517
CULIACÁN UNO	CUU-115	115	12.74	12.67	1.118+j5.091	0.954+j5.163	17.98	17.94	0.664+j4.008	0.592+j3.904
DEL MAR	DMA-115	115	12.49	11.98	1.171+j5.183	1.211+j5.865	19.92	16.54	0.597+j3.618	1.210+j5.774
DERIVACIÓN	DER-115	115	8.70	6.87	1.864+j7.404	3.773+j13.221	11.44	8.29	1.365+j6.238	3.811+j13.140
DESEO	DSE-115	115	2.25	1.91	8.865+j28.085	16.905+j42.338	3.30	2.47	5.568+j21.416	16.654+j41.470
DYNATECH	DYN-115	115	9.38	6.95	1.522+j6.916	2.721+j14.251	13.01	9.18	0.962+j5.530	2.468+j12.423
EL FUERTE PENAL	FPE-115	115	3.79	2.64	5.358+j16.657	11.371+j38.638	5.74	5.23	3.053+j12.363	3.329+j16.043
EL DORADO	EDR-115	115	1.76	1.14	10.658+j36.240	18.934+j96.737	1.98	1.27	10.210+j35.367	18.954+j96.798
EL FRESNAL	EFR-115	115	7.65	6.09	0.959+j8.627	0.739+j15.512	9.19	6.72	0.612+j7.920	0.825+j16.621
EL FRESNAL	EFR-230	230	9.25	11.11	2.232+j14.178	0.481+j7.812	15.67	17.43	0.848+j9.281	0.524+j6.075
EL FUERTE	EFU-115	115	3.11	2.09	6.765+j20.274	15.106+j50.309	5.02	5.31	3.295+j14.172	1.212+j12.230
EL HABAL	HBL-115	115	12.34	11.99	1.018+j5.283	0.852+j5.776	19.55	16.50	0.455+j3.708	0.906+j5.723
EL HABAL	HBL-230	230	7.38	8.19	3.412+j17.671	1.525+j12.536	13.31	13.38	1.205+j10.904	1.603+j10.639
EL LLANO	LNO-115	115	3.68	2.69	6.131+j16.988	10.970+j36.441	4.69	3.15	4.816+j14.805	11.030+j36.897
EL MAYO	EMY-115	115	9.31	10.45	1.313+j7.012	0.531+j4.719	12.72	13.25	0.855+j5.678	0.567+j4.918
EL MAYO	EMY-230	230	5.89	6.20	4.190+j22.162	2.300+j18.791	8.45	8.02	2.550+j17.105	2.507+j19.458
EMPALME	EPM-115	115	9.67	8.83	1.358+j6.734	1.540+j8.728	11.51	10.03	1.165+j6.240	1.566+j9.034
EMPALME CICLO COMBINADO	ECC-230	230	13.16	15.81	1.062+j10.033	0.309+j5.237	15.59	18.08	0.831+j9.331	0.347+j5.662
EMPALME CICLO COMBINADO	ECC-400	400	9.33	10.97	2.343+j24.639	0.824+j13.579	11.34	12.78	1.369+j22.357	0.914+j14.683
ESCUINAPA	EPA-115	115	1.92	1.17	8.243+j33.557	32.023+j96.619	2.22	1.31	7.584+j32.048	31.998+j96.406
ESPERANZA	ESP-115	115	9.53	9.02	1.509+j6.803	0.967+j8.134	12.71	10.94	1.007+j5.660	1.024+j8.484
ESPERANZA	ESP-230	230	5.54	5.57	4.793+j23.483	3.267+j23.516	7.81	7.20	2.728+j18.501	3.324+j23.227
ESTACIÓN TORRES	ETO-115	115	3.65	2.33	5.854+j17.241	14.719+j46.836	4.30	2.69	5.425+j16.102	14.465+j45.218
ÉVORA	EVO-115	115	8.70	7.50	1.441+j7.496	1.452+j11.125	11.57	9.45	0.976+j6.239	1.485+j10.068
FÁTIMA	FMA-115	115	10.14	9.50	1.229+j6.434	1.230+j7.817	11.81	10.64	1.108+j6.083	1.277+j8.145
FUNDICIÓN	FUC-115	115	5.68	4.44	3.928+j11.019	4.863+j20.945	6.85	5.04	3.485+j10.075	5.112+j21.483
GRUPO MÉXICO (SE MINA)	SMI-230	230	5.32	4.01	6.913+j24.008	11.441+j48.270	6.86	4.73	4.704+j20.778	11.683+j48.515
GUAMÚCHIL	GML-115	115	7.82	6.34	1.647+j8.326	2.255+j14.184	10.16	7.79	1.181+j7.090	2.284+j13.177
GUAMÚCHIL DOS	GMD-115	115	9.24	8.32	1.319+j7.066	0.969+j9.450	12.48	10.69	0.853+j5.788	1.008+j8.350
GUAMÚCHIL DOS	GMD-230	230	6.41	6.16	4.007+j20.312	3.531+j22.690	8.64	7.62	2.569+j16.701	3.604+j22.680
GUASAVE	GSV-115	115	6.09	4.42	2.485+j10.613	6.732+j22.196	7.30	5.09	2.164+j9.763	6.773+j21.877



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
GUAYMAS CERESO	GYC-115	115	15.71	15.18	0.562+j4.188	0.417+j4.701	18.64	17.04	0.457+j3.891	0.451+j5.034
GUAYMAS CERESO	GYC-230	230	10.54	11.40	1.703+j12.488	1.343+j9.835	12.92	13.33	1.285+j11.228	1.427+j10.308
HERMOSILLO AEROPUERTO	HAE-230	230	9.33	9.97	3.080+j13.890	2.595+j11.295	16.88	18.03	1.045+j8.590	0.994+j6.957
HERMOSILLO CERESO	HCE-115	115	12.17	10.89	1.388+j5.278	1.718+j7.188	18.09	15.30	0.847+j3.948	1.546+j6.078
HERMOSILLO CINCO	HLI-115	115	15.64	15.51	0.883+j4.153	0.503+j4.353	27.40	30.64	0.322+j2.646	0.115+j1.857
HERMOSILLO CINCO	HLI-230	230	11.44	12.81	2.390+j11.355	1.373+j7.856	18.85	18.88	0.922+j7.694	1.316+j7.646
HERMOSILLO CUATRO	HLC-115	115	17.39	18.80	0.832+j3.727	0.337+j2.967	27.85	26.90	0.368+j2.596	0.356+j2.893
HERMOSILLO CUATRO	HLC-230	230	10.13	11.58	2.736+j12.821	1.240+j8.176	17.06	17.56	1.046+j8.500	1.231+j7.765
HERMOSILLO DOS	HLD-115	115	13.53	12.11	1.084+j4.788	1.206+j6.540	19.71	15.63	0.601+j3.657	1.221+j6.505
HERMOSILLO LA MANGA	HMA-115	115	9.02	7.20	2.162+j7.034	2.932+j12.638	11.94	8.69	1.679+j5.883	2.964+j12.645
HERMOSILLO LOMAS	HLM-115	115	16.04	17.49	0.874+j4.045	0.289+j3.135	24.65	24.00	0.399+j2.936	0.311+j3.201
HERMOSILLO LOMAS	HLM-230	230	9.56	11.02	3.062+j13.542	1.187+j8.403	16.32	16.97	1.174+j8.873	1.205+j7.871
HERMOSILLO MANIOBRAS	HMB-115	115	8.75	8.48	1.706+j7.393	0.898+j8.316	12.60	11.32	1.064+j5.696	0.998+j7.739
HERMOSILLO MISIÓN	HMI-115	115	11.89	10.19	1.245+j5.445	1.575+j8.243	16.64	12.79	0.768+j4.321	1.590+j8.212
HERMOSILLO NUEVE	HLN-115	115	14.06	12.75	1.046+j4.606	1.073+j6.109	21.52	18.07	0.540+j3.350	0.998+j5.266
HERMOSILLO OCHO	HLO-115	115	12.85	10.97	1.097+j5.050	1.495+j7.702	19.79	15.93	0.553+j3.650	1.326+j6.267
HERMOSILLO SEIS	HLS-115	115	12.67	11.10	1.154+j5.113	1.355+j7.356	18.06	14.13	0.679+j3.987	1.369+j7.307
HERMOSILLO SIETE	HLE-115	115	12.25	9.58	1.151+j5.294	1.965+j9.779	17.42	11.98	0.663+j4.140	2.000+j9.719
HERMOSILLO TRES	HLT-115	115	14.55	12.68	0.929+j4.467	0.815+j6.569	21.89	16.50	0.449+j3.306	0.888+j6.562
HERMOSILLO TRES	HLT-230	230	10.22	11.44	2.871+j12.677	1.478+j8.779	17.17	17.09	1.118+j8.435	1.504+j8.532
HERMOSILLO UNO	HLU-115	115	14.55	13.52	1.021+j4.448	0.950+j5.547	22.74	19.87	0.508+j3.172	0.853+j4.547
HERNANDO DE VILLAFañE	HVF-115	115	5.42	3.76	2.661+j11.948	7.712+j27.315	6.47	4.31	2.319+j11.056	7.757+j26.917
HIERRO DE SONORA	HDS-115	115	8.90	5.22	2.234+j7.117	6.396+j22.291	10.77	5.91	2.005+j6.481	6.464+j22.518
HORNILLOS	HRS-115	115	2.64	1.74	8.185+j23.778	18.673+j61.182	4.11	3.86	4.405+j17.231	4.208+j20.853
HUATABAMPO	HPO-115	115	6.13	4.52	2.297+j10.587	6.450+j21.427	7.72	5.28	1.825+j9.282	6.472+j21.530
HUITES	HTS-230	230	3.01	1.65	6.774+j43.653	36.803+j148.368	7.78	8.39	1.264+j18.735	0.432+j11.724
HUMAYA	HYA-115	115	5.49	2.89	2.257+j11.874	10.695+j43.427	8.48	8.72	1.120+j8.540	0.393+j7.089
IMURIS	IMR-115	115	3.37	2.83	5.930+j18.815	10.193+j29.207	4.33	3.36	4.275+j16.337	10.229+j29.673
INDUSTRIAL CABORCA	ICA-115	115	4.04	3.88	4.508+j15.822	2.334+j18.484	7.72	6.81	1.373+j9.364	1.239+j13.180
INDUSTRIAL CABORCA	ICA-230	230	2.47	2.69	15.632+j51.393	6.367+j40.696	5.04	4.39	4.452+j28.646	6.329+j41.223
INDUSTRIAL SAN CARLOS	ISC-115	115	3.91	3.68	5.271+j16.122	4.119+j19.986	5.12	4.41	3.498+j13.820	4.196+j20.708
ISLA MUSALA	ISM-115	115	12.10	11.98	1.130+j5.369	0.843+j5.550	17.15	15.99	0.656+j4.207	0.803+j4.950
JAIME SEVILLA POYASTRO	JSP-115	115	11.85	11.86	1.357+j5.437	1.301+j5.378	16.38	16.45	0.911+j4.366	0.992+j4.145
JOSÉ ÁNGEL ESPINOZA	JAE-115	115	1.68	1.05	12.338+j37.448	32.716+j105.705	2.51	2.11	7.060+j28.206	11.842+j44.073
JUAN JOSÉ RÍOS	JJR-115	115	7.35	5.51	1.567+j8.900	4.471+j17.377	8.70	6.28	1.362+j8.279	4.495+j17.444
LA CARIDAD	LCD-230	230	7.57	5.89	2.972+j17.292	8.422+j31.634	9.21	6.79	2.266+j15.692	8.457+j31.719
LA CARIDAD FUNDICIÓN	LCF-230	230	10.12	9.98	1.619+j13.027	2.109+j13.569	12.09	11.36	1.164+j12.030	2.188+j14.134
LA CARIDAD GENERACIÓN	LCG-230	230	11.97	13.43	1.351+j11.011	0.479+j7.538	14.53	15.47	0.899+j10.010	0.558+j8.102
LA CHOYA	LCH-115	115	2.48	2.67	7.217+j25.837	6.237+j19.986	3.67	3.54	3.704+j19.536	6.568+j21.151
LA CRUZ	LCZ-115	115	1.08	0.67	19.099+j58.652	54.720+j163.989	1.22	0.75	18.391+j57.194	54.775+j163.933
LA HIGUERA	HGA-115	115	14.47	18.60	0.896+j4.500	0.070+j1.496	20.04	24.42	0.514+j3.608	0.083+j1.572
LA HIGUERA	HGA-230	230	8.84	11.34	2.956+j14.723	0.286+j4.942	12.82	15.41	1.516+j11.291	0.325+j5.249



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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
LA HIGUERA	HGA-400	400	6.16	6.89	7.001+j36.816	2.126+j25.061	8.95	9.03	3.370+j28.188	2.360+j26.715
LA MISA	LMA-115	115	3.55	2.71	5.473+j17.874	9.837+j34.913	4.08	3.02	5.155+j17.146	9.909+j35.404
LA PINTA	LPN-115	115	2.37	2.34	8.106+j26.812	6.916+j28.206	3.48	3.05	4.562+j20.455	7.024+j29.027
LA PRIMAVERA	PMV-115	115	10.59	9.42	1.273+j6.139	1.711+j8.372	14.22	11.56	0.827+j5.070	1.751+j8.355
LADRILLERAS	LAD-115	115	13.45	12.23	1.080+j4.816	1.229+j6.314	19.50	15.73	0.594+j3.698	1.247+j6.329
LEYVA SOLANO	LVS-115	115	4.69	3.47	2.843+j13.873	8.757+j27.758	5.46	3.92	2.569+j13.136	8.789+j27.642
LLANO BLANCO	LLB-115	115	2.61	1.83	7.305+j24.369	15.486+j55.629	3.66	2.30	4.680+j19.421	14.952+j53.079
LOS MOCHIS COLINAS	LMC-115	115	13.80	10.65	0.812+j4.742	1.625+j8.780	17.38	12.53	0.631+j4.155	1.623+j8.817
LOS MOCHIS DOS	LMD-115	115	10.31	7.61	1.021+j6.362	1.480+j13.066	12.74	8.95	0.813+j5.674	1.585+j12.829
LOS MOCHIS DOS	LMD-230	230	9.76	8.82	2.163+j13.435	3.251+j17.162	13.35	11.04	1.377+j10.857	3.305+j17.056
LOS MOCHIS INDUSTRIAL	LMI-115	115	15.21	12.70	0.645+j4.318	0.849+j6.745	19.46	15.07	0.461+j3.724	0.867+j6.861
LOS MOCHIS INDUSTRIAL	LMI-230	230	9.96	9.39	1.891+j13.202	2.390+j14.941	14.17	12.79	1.132+j10.247	2.124+j13.010
LOS MOCHIS TRES	LMT-115	115	12.56	9.54	0.855+j5.216	1.777+j9.993	15.53	11.11	0.684+j4.653	1.773+j10.043
LOS MOCHIS UNO	LMU-115	115	14.23	11.51	0.791+j4.597	1.430+j7.691	17.94	13.60	0.615+j4.024	1.426+j7.723
LOUISIANA	LOU-115	115	17.93	17.55	0.451+j3.676	0.270+j3.773	22.88	21.03	0.310+j3.177	0.277+j3.905
LOUISIANA	LOU-230	230	12.68	13.32	1.313+j10.392	1.094+j8.193	17.76	17.91	0.779+j8.189	1.038+j7.444
LUIS DONALDO COLOSIO	LDO-115	115	4.08	3.23	4.900+j15.517	8.195+j27.924	5.44	3.88	3.314+j13.021	8.246+j28.368
MANIOBRA FRESNILLO	MFN-115	115	2.26	1.95	9.543+j27.774	12.374+j41.779	3.29	2.48	5.875+j21.385	12.389+j42.165
MANIOBRA MINA COBRE DEL MAYO	MCM-115	115	3.09	2.07	9.015+j19.488	17.367+j50.287	3.78	2.76	7.785+j17.660	10.934+j39.540
MANIOBRAS APASCO	MAP-115	115	6.60	4.41	2.029+j9.853	5.765+j24.394	9.03	5.98	1.333+j7.976	4.854+j19.892
MANIOBRAS AT SOLAR V	MNV-230	230	3.00	4.08	12.237+j42.583	0.756+j9.469	12.32	14.45	0.924+j11.821	0.652+j6.268
MANIOBRAS BLUMEX	MBL-115	115	7.04	7.28	2.072+j9.195	1.039+j8.527	8.45	8.32	1.761+j8.458	1.111+j9.017
MANIOBRAS CERVECERA OBREGON	MCO-115	115	12.24	9.94	1.139+j5.303	1.997+j8.959	15.08	11.47	0.950+j4.750	2.031+j9.130
MANIOBRAS DON DIEGO	MDD-230	230	3.82	4.41	8.621+j33.651	2.345+j21.019	5.94	6.11	3.904+j24.284	2.600+j22.308
MANIOBRAS MI RANCHITO	MMR-115	115	6.56	6.23	3.141+j9.625	2.399+j11.531	8.34	7.36	2.585+j8.372	2.504+j12.037
MANIOBRAS MINA PANGEA	MAN-PSP	115	3.80	2.51	3.235+j17.159	8.592+j43.533	5.57	4.23	1.883+j12.966	4.407+j23.768
MANIOBRAS MUNISOL	MMU-115	115	5.79	5.00	3.600+j10.886	3.049+j16.760	7.22	5.81	3.039+j9.641	3.226+j17.301
MANIOBRAS OREJANA	MAO-230	230	3.62	4.10	7.026+j36.004	3.205+j23.631	5.78	5.81	2.927+j25.098	3.556+j24.579
MANIOBRAS TASTIOTA	MTA_115	115	3.31	3.80	5.011+j19.414	3.067+j11.974	4.32	4.71	3.650+j16.519	3.071+j12.367
MAR DE CORTÉS	MDC-115	115	2.83	3.26	6.440+j22.539	1.709+j14.322	4.43	4.52	2.961+j16.216	1.850+j15.375
MAR DE CORTÉS	MDC-230	230	1.51	1.78	23.769+j84.464	4.913+j48.798	2.47	2.57	10.086+j58.184	5.405+j52.157
MARINA	MRN-115	115	9.69	9.01	1.611+j6.657	1.755+j8.205	14.08	11.71	1.033+j5.085	1.771+j8.123
MAZATLÁN AEROPUERTO	MAE-115	115	8.72	6.75	1.463+j7.476	2.626+j14.027	12.14	8.39	0.909+j5.947	2.609+j13.832
MAZATLÁN CENTRO	MAC-115	115	12.40	11.00	1.139+j5.232	1.314+j7.273	19.68	14.96	0.568+j3.668	1.305+j7.091
MAZATLÁN DOS	MZD-115	115	15.93	18.34	0.766+j4.097	0.116+j2.525	28.41	29.27	0.232+j2.560	0.100+j2.332
MAZATLÁN DOS	MZD-230	230	8.24	9.97	2.965+j15.846	0.378+j7.709	16.79	20.27	0.738+j8.668	0.147+j4.177
MAZATLÁN DOS	MZD-400	400	6.37	7.06	7.056+j35.588	2.187+j25.411	11.13	10.65	2.118+j22.727	2.339+j25.619
MAZATLÁN EL CID	CID-115	115	10.16	9.63	1.578+j6.342	1.519+j7.443	14.98	12.68	1.000+j4.772	1.531+j7.359
MAZATLÁN NORTE	MZN-115	115	12.76	12.26	1.115+j5.082	1.017+j5.734	20.54	17.03	0.542+j3.515	1.022+j5.646
MAZATLÁN ORIENTE	MZO-115	115	11.02	9.37	1.380+j5.866	2.112+j8.944	16.65	12.29	0.814+j4.309	2.107+j8.805
MAZATLÁN TECNOLÓGICO	MTE-115	115	10.70	9.47	1.531+j6.011	1.964+j8.374	16.01	12.45	0.968+j4.458	1.958+j8.226
MAZATLÁN UNO	MZU-115	115	13.76	13.10	0.924+j4.736	0.959+j5.461	22.74	18.60	0.375+j3.189	0.943+j5.264



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
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MOCHIS CENTRO	MCE-115	115	13.33	10.95	1.017+j4.877	1.720+j7.884	16.64	12.89	0.845+j4.307	1.717+j7.916
MOCHIS LAS VILLAS	MLV-115	115	12.63	9.79	0.825+j5.192	1.653+j9.522	15.55	11.40	0.664+j4.650	1.648+j9.561
MOCUZARI	MRI-115	115	2.11	1.41	13.825+j28.197	27.357+j73.785	2.60	2.04	11.576+j25.581	12.133+j50.425
MORELOS-LA ATRAVESADA	MLA-115	115	4.23	3.39	4.396+j15.085	7.023+j26.473	4.89	3.80	4.078+j14.356	7.095+j26.964
NACUZARI	NRI-230	230	12.55	11.96	1.640+j10.452	2.463+j12.043	16.46	14.50	0.962+j8.820	2.498+j12.127
NAINARI	NNR-115	115	13.71	12.02	0.761+j4.781	1.073+j6.791	16.95	13.98	0.592+j4.268	1.100+j6.905
NAVOJOA	NVJ-115	115	9.53	7.47	1.392+j6.824	2.456+j12.435	12.88	9.11	0.937+j5.594	2.473+j12.365
NAVOJOA INDUSTRIAL	NVI-115	115	6.14	4.98	2.490+j10.529	4.433+j17.737	7.75	5.85	2.024+j9.204	4.471+j17.939
NAVOJOA NORTE	NVN-115	115	8.30	6.39	1.758+j7.805	3.179+j14.774	10.84	7.65	1.296+j6.611	3.206+j14.728
NAVOJOA ORIENTE	NVO-115	115	8.89	6.34	1.426+j7.329	2.681+j16.211	11.79	7.61	0.977+j6.116	2.701+j16.057
NAVOLATO	NTO-115	115	4.80	3.11	2.848+j13.542	7.437+j35.622	5.63	3.51	2.471+j12.739	7.458+j35.632
NOGALES	NGS-115	115	3.91	3.67	5.284+j16.127	4.123+j20.002	5.12	4.41	3.510+j13.826	4.200+j20.725
NOGALES AEROPUERTO	NGA-115	115	5.04	5.71	3.984+j12.543	0.679+j8.785	7.03	7.24	2.287+j10.131	0.753+j9.486
NOGALES AEROPUERTO	NGA-230	230	2.77	3.28	14.307+j45.778	2.491+j26.170	4.03	4.36	7.648+j35.424	2.779+j27.985
NOGALES NORTE	NGN-115	115	3.95	3.96	5.211+j15.963	2.798+j16.628	5.18	4.79	3.438+j13.660	2.888+j17.389
NOVILLO	NVL-115	115	2.00	0.85	6.812+j32.411	46.295+j161.082	4.41	5.33	1.729+j16.461	0.403+j6.776
NUEVO NOGALES	NNG-115	115	3.84	3.81	5.465+j16.405	2.673+j17.720	5.01	4.57	3.696+j14.092	2.815+j18.630
NUEVO PROGRESO	NPO-115	115	4.53	3.09	3.313+j14.270	6.691+j34.581	5.28	3.43	2.916+j13.532	6.758+j35.388
OASIS	OAS-115	115	2.53	1.59	9.520+j24.494	22.796+j69.251	2.96	1.79	8.733+j23.065	22.824+j69.349
OBSERVATORIO	OBS-230	230	5.83	5.03	6.085+j21.950	6.836+j33.277	8.12	6.22	3.565+j17.634	7.060+j33.585
OCUCA	OCU-115	115	3.21	2.39	5.902+j19.799	10.756+j40.659	4.29	2.88	4.043+j16.530	10.746+j40.552
ORIENTE	ORI-115	115	2.66	2.86	6.963+j23.978	3.669+j19.403	4.06	3.85	3.446+j17.665	3.799+j20.449
OVIACHIC	OVI-115	115	2.25	1.58	13.950+j25.984	24.575+j62.835	2.90	2.63	10.455+j22.959	5.761+j31.255
PARQUE INDUSTRIAL HERMOSILLO NORTE	PIH-115	115	14.16	13.92	0.990+j4.582	0.885+j4.869	20.81	18.24	0.512+j3.471	0.906+j4.922
PARTICULAR MINA ALAMO DORADO	PAD-115	115	1.59	1.01	15.656+j38.764	36.511+j107.191	2.10	1.54	12.171+j32.652	22.476+j68.948
PARTICULAR MINA PIEDRAS VERDES	PVD-115	115	2.28	1.37	12.647+j26.233	29.278+j82.261	2.71	1.75	11.406+j24.439	21.151+j68.548
PARTICULAR SAUZAL	PSZ-115	115	0.86	0.51	23.087+j73.393	69.278+j222.336	1.43	1.91	10.340+j50.141	0.484+j12.834
PIAXTLA	PXT-115	115	1.65	1.01	11.979+j38.505	32.073+j113.085	1.89	1.12	11.307+j37.010	32.128+j113.029
PLANTA GUAYMAS DOS	PGD-115	115	13.26	11.74	0.729+j4.953	0.951+j6.931	15.63	13.14	0.618+j4.633	1.006+j7.287
PLANTA GUAYMAS DOS	PGD-230	230	10.99	11.63	1.622+j11.979	1.612+j10.131	13.50	13.62	1.211+j10.750	1.673+j10.531
PLAYA ENCANTO	PYE-115	115	2.59	2.74	7.253+j24.610	4.880+j20.891	3.92	3.67	3.746+j18.271	4.995+j21.837
PORTALES	PTS-115	115	14.28	13.26	1.021+j4.538	0.986+j5.653	21.17	17.45	0.549+j3.406	1.000+j5.581
PROGRESO	PRG-115	115	5.44	3.82	2.781+j11.896	7.717+j26.624	6.17	4.24	2.657+j11.528	7.752+j26.898
PROVIDENCIA	PRO-115	115	13.78	11.74	0.724+j4.765	0.950+j7.248	16.65	13.38	0.587+j4.347	0.984+j7.484
PUEBLITOS	PUE-115	115	13.56	12.69	1.038+j4.784	0.926+j5.858	19.66	16.35	0.559+j3.672	0.946+j5.907
PUEBLO NUEVO	PNO-115	115	10.47	7.83	1.144+j6.239	1.765+j12.581	14.42	9.63	0.701+j5.017	1.785+j12.382
PUEBLO NUEVO	PNO-230	230	7.43	8.30	3.290+j17.567	1.455+j12.028	12.08	12.04	1.620+j11.981	1.507+j11.596
PUERTO LIBERTAD	PLD-230	230	3.01	4.03	12.236+j42.433	1.209+j10.689	13.36	16.25	0.743+j10.908	0.278+j4.765
PUERTO PEÑASCO	PPA-115	115	2.71	3.05	6.825+j23.541	2.781+j16.239	4.16	4.16	3.313+j17.222	2.901+j17.281
QUILA	QLA-115	115	2.59	1.66	7.077+j24.659	6.555+j68.646	2.96	1.86	6.636+j23.779	6.574+j68.708
QUIROGA	QRG-115	115	10.71	9.10	1.511+j6.011	2.817+j9.089	14.62	11.28	1.037+j4.886	2.835+j9.034
RIO SONORA	RIS-115	115	14.38	13.25	1.000+j4.507	0.971+j5.740	21.64	17.86	0.520+j3.335	0.968+j5.447



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ROCA FUERTE	RFT-115	115	12.90	9.76	0.791+j5.086	1.877+j9.980	15.13	10.91	0.680+j4.778	1.906+j10.292
ROLANDO GARCIA URREA	RGU-115	115	9.43	7.01	1.505+j6.881	2.734+j14.089	12.98	9.09	0.962+j5.545	2.552+j12.632
ROSARIO	ROS-115	115	2.24	1.37	6.460+j28.913	27.184+j81.642	2.61	1.55	5.811+j27.404	27.160+j81.432
RUIZ CORINEZ	RUC-115	115	5.34	3.71	2.359+j12.205	7.680+j27.660	6.24	4.20	2.112+j11.509	7.706+j27.603
SAHUARO	SHO-115	115	2.36	2.03	8.992+j26.687	11.120+j40.471	3.50	2.60	5.364+j20.189	11.128+j40.806
SALVADOR ALVARADO	SAA-115	115	7.22	5.83	2.019+j8.974	3.262+j15.309	9.22	7.09	1.565+j7.764	3.295+j14.328
SAN CARLOS	SCR-115	115	5.76	3.67	2.582+j11.243	7.855+j30.252	6.52	4.06	2.466+j10.929	7.888+j30.565
SAN NICOLÁS	SNC-115	115	1.79	1.39	14.100+j34.202	25.381+j64.497	2.04	1.55	13.588+j33.068	25.433+j64.824
SAN RAFAEL AMPLIACIÓN	SRA-115	115	6.57	4.91	2.315+j9.833	5.396+j19.495	8.10	5.78	1.920+j8.809	5.426+j18.864
SANALONA	SLA-115	115	2.55	1.85	11.914+j23.186	17.915+j52.584	3.10	2.99	10.285+j21.186	4.428+j26.118
SANTA ANA	STA-115	115	7.14	7.39	2.584+j8.932	0.765+j8.475	11.24	9.91	1.078+j6.408	0.843+j9.074
SANTA ANA	STA-230	230	4.63	5.49	9.104+j27.224	2.368+j15.371	8.81	8.87	3.209+j16.269	2.525+j15.948
SANTA FE	STF-115	115	9.66	7.77	1.323+j6.745	2.367+j11.597	12.38	9.43	0.932+j5.825	2.270+j11.092
SANTA MARÍA	STM-115	115	5.72	4.04	2.582+j11.323	7.204+j24.958	6.83	4.64	2.252+j10.455	7.247+j24.606
SEIS DE ABRIL	SSA-115	115	4.33	5.77	4.398+j14.704	0.354+j3.955	9.44	11.10	1.066+j7.664	0.380+j4.214
SEIS DE ABRIL	SSA-230	230	2.50	3.16	16.098+j50.646	1.960+j20.167	6.16	6.36	3.590+j23.451	2.160+j21.187
SELECTA	SEL-115	115	1.82	1.19	10.749+j34.762	30.522+j89.512	2.08	1.33	10.190+j33.581	30.580+j89.866
SERI	SER-230	230	11.59	14.21	2.105+j11.264	0.527+j5.154	18.47	20.71	0.836+j7.864	0.579+j5.333
SERI	SER-400	400	6.83	7.26	4.778+j33.475	2.622+j27.723	9.32	9.06	2.135+j27.175	2.860+j29.508
SIEMPRE VIVA	SVV-115	115	3.21	3.24	5.992+j19.778	6.639+j19.109	5.52	4.72	2.685+j12.947	6.568+j18.916
SONOYTA	SNY-115	115	0.91	0.65	20.801+j70.238	41.623+j155.822	1.10	0.74	16.951+j64.022	41.763+j156.891
SUBESTACIÓN BAHÍA DE KINO	SBK-115	115	1.78	1.39	16.290+j33.476	25.381+j64.497	2.03	1.55	15.777+j32.345	25.433+j64.824
SUBESTACIÓN CANANEA	SCN-115	115	7.23	6.27	1.573+j9.052	0.836+j13.503	8.50	6.88	1.063+j8.531	0.921+j14.580
SUBESTACIÓN CANANEA	SCN-230	230	7.31	6.94	5.180+j17.406	3.624+j21.234	10.53	8.80	2.954+j13.547	3.886+j21.561
SUBESTACIÓN CANANEA SUR	CNS-230	230	6.56	5.34	6.104+j19.307	7.642+j33.641	8.85	6.45	3.920+j16.034	7.883+j33.886
SUBESTACIÓN CENTRO	SCE-230	230	5.86	4.57	6.586+j21.686	9.583+j41.104	7.70	5.44	4.380+j18.451	9.824+j41.349
SUBESTACIÓN CINCO	SBI-115	115	3.30	2.52	4.640+j19.593	15.012+j36.121	3.86	2.85	4.129+j18.452	15.069+j36.473
SUBESTACIÓN COLINAS	SCL-115	115	11.73	9.61	1.227+j5.526	1.890+j9.227	16.40	12.00	0.740+j4.390	1.906+j9.178
SUBESTACIÓN CONCENTRADORA	SCO-230	230	5.82	4.59	6.773+j21.801	9.553+j40.426	7.57	5.44	4.603+j18.729	9.794+j40.670
SUBESTACIÓN CUATRO	SBC-115	115	3.06	2.09	6.729+j20.612	14.917+j49.877	3.58	2.35	6.171+j19.433	14.975+j50.230
SUBESTACIÓN CULIACÁN POTENCIA	SCP-115	115	13.39	14.47	0.982+j4.861	0.375+j3.793	19.15	18.89	0.540+j3.776	0.422+j3.796
SUBESTACIÓN CULIACÁN POTENCIA	SCP-230	230	8.12	9.73	3.397+j16.006	1.027+j7.958	11.92	13.20	1.769+j12.127	1.073+j8.159
SUBESTACIÓN DIEZ	SBZ-115	115	2.99	1.96	6.516+j21.243	14.768+j55.287	3.48	2.20	6.009+j20.110	14.819+j55.612
SUBESTACIÓN DOS	SBD-115	115	6.01	4.82	2.646+j10.717	4.898+j18.642	7.49	5.60	2.102+j9.522	4.955+j18.993
SUBESTACIÓN ESDE	SES-230	230	6.19	4.92	6.303+j20.507	8.626+j37.430	8.24	5.90	4.114+j17.243	8.868+j37.674
SUBESTACION GUAYMAS CENTRO	SGC-115	115	9.49	7.16	1.398+j6.853	2.990+j13.537	10.96	7.98	1.283+j6.537	3.024+j13.851
SUBESTACIÓN GUAYMAS UNO	SGU-115	115	11.59	8.30	0.955+j5.649	2.547+j12.320	13.53	9.26	0.841+j5.332	2.580+j12.633
SUBESTACIÓN NUEVE	SBN-115	115	1.79	1.14	12.615+j34.897	29.889+j95.267	2.04	1.28	12.047+j33.734	29.947+j95.621
SUBESTACIÓN OCHO	SBO-115	115	1.76	1.19	12.984+j35.448	26.730+j88.391	2.00	1.32	12.467+j34.326	26.781+j88.717
SUBESTACIÓN PERICOS	SPE-115	115	4.29	2.86	4.291+j14.861	10.802+j37.192	5.00	3.22	3.952+j14.065	10.838+j37.055
SUBESTACIÓN PONIENTE	SPO-230	230	5.81	4.58	6.779+j21.821	9.574+j40.500	7.57	5.43	4.609+j18.750	9.816+j40.744
SUBESTACIÓN PUNTO P	SPP-115	115	9.34	8.64	1.601+j6.923	1.289+j8.799	12.41	10.44	1.100+j5.783	1.340+j9.124



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SUBESTACIÓN SANTA INÉS	STI-115	115	3.76	2.80	5.532+j16.767	9.550+j34.653	4.45	3.17	5.022+j15.636	9.601+j34.979
SUBESTACIÓN SEIS	SBS-115	115	2.56	1.84	6.765+j24.987	20.045+j52.771	2.96	2.07	6.253+j23.847	20.103+j53.124
SUBESTACIÓN SIETE	SBE-115	115	4.48	3.15	4.460+j14.140	8.303+j32.580	5.37	3.59	3.955+j13.007	8.354+j32.905
SUBESTACIÓN TRES	SBT-115	115	4.60	3.32	4.307+j13.768	8.103+j30.096	5.54	3.79	3.801+j12.632	8.155+j30.422
SUBESTACIÓN UNO	SBU-115	115	2.40	1.70	9.272+j26.104	17.418+j59.244	2.76	1.91	8.757+j24.978	17.469+j59.570
SUBESTACIÓN VILLA UNIÓN	SVU-115	115	8.07	6.06	1.614+j8.065	3.100+j16.117	11.03	7.43	1.051+j6.538	3.082+j15.921
TAMAZULA	TZU-115	115	6.10	4.52	2.533+j10.593	6.192+j21.304	7.45	5.28	2.138+j9.570	6.222+j20.673
TASTIOTA	TST-115	115	2.12	1.43	9.358+j29.871	24.107+j72.947	2.43	1.60	8.799+j28.691	24.165+j73.300
TASTIOTA	TST-115	115	2.76	3.70	6.091+j23.233	0.241+j5.868	3.68	4.77	4.224+j19.371	0.275+j6.399
TEACAPAN	TEA-115	115	1.59	0.97	9.901+j40.445	36.420+j115.872	1.83	1.09	9.237+j38.935	36.394+j115.657
TECNOLÓGICO HERMOSILLO	TCG-115	115	11.22	8.91	1.294+j5.774	2.208+j10.315	15.47	10.97	0.801+j4.652	2.226+j10.303
TERRAMARA	TER-115	115	2.97	1.84	7.995+j20.884	19.516+j60.334	3.49	2.08	7.328+j19.593	19.543+j60.354
TETABIATE	TTB-115	115	12.19	9.98	0.997+j5.353	1.687+j8.891	15.01	11.54	0.810+j4.799	1.717+j9.021
TOBARITO	TBR-115	115	6.44	4.45	2.405+j10.033	6.253+j23.251	7.45	4.98	2.239+j9.542	6.311+j23.517
TOPOLOBAMPO	TPO-115	115	6.75	3.54	2.276+j9.571	9.043+j35.316	7.90	3.98	2.094+j9.002	9.040+j35.348
TOPOLOBAMPO	TPO-230	230	7.57	6.55	2.347+j17.392	4.444+j24.677	12.74	13.00	0.994+j11.426	0.864+j10.290
TOPOLOBAMPO DOS	TPD-400	400	11.95	14.11	1.651+j19.260	0.409+j9.469	14.56	16.57	0.995+j17.424	0.460+j10.304
TRES RÍOS	TSR-115	115	12.38	11.85	1.134+j5.243	1.068+j5.932	17.29	16.11	0.685+j4.169	0.827+j4.946
UNIÓN ENERGÉTICA DEL NOROESTE	UEN-230	230	8.13	8.54	2.346+j16.162	2.462+j14.351	15.32	16.49	0.719+j9.509	0.658+j6.724
URES	URE-115	115	1.95	1.18	9.402+j32.700	27.560+j96.981	2.23	1.32	8.897+j31.558	27.634+j96.974
VALLE DEL MAYO	VMY-115	115	4.53	3.09	3.350+j14.269	10.200+j33.661	5.49	3.54	2.876+j12.998	10.217+j33.689
VALLE DEL YAQUI	VDY-115	115	4.95	3.32	4.075+j12.768	9.384+j31.798	5.61	3.68	3.952+j12.402	9.418+j32.072
VALLE DEL YAQUI DOS	VYD-115	115	3.82	2.36	4.388+j16.798	14.318+j47.640	4.34	2.62	4.220+j16.309	14.375+j47.906
VENADILLO	VND-115	115	9.91	8.70	1.425+j6.545	1.646+j9.337	14.48	11.23	0.851+j4.973	1.673+j9.264
VICAM	VCM-115	115	4.17	2.80	3.495+j15.534	9.901+j37.987	4.72	3.11	3.345+j15.118	9.926+j38.179
VILLA ÁNGEL FLORES	VAF-115	115	5.71	3.75	2.329+j11.385	5.899+j29.187	6.76	4.25	1.975+j10.623	5.933+j29.216
VILLA GUADALUPE	VGU-115	115	3.20	1.95	5.169+j20.120	14.778+j58.905	3.58	2.15	5.047+j19.750	14.813+j59.180
VILLA JUÁREZ	VIJ-115	115	2.78	1.76	6.527+j22.990	18.237+j62.498	3.22	1.98	6.058+j21.884	18.297+j62.583
VILLAS DEL CEDRO	VCD-115	115	10.61	10.54	1.318+j6.117	1.201+j6.225	14.20	14.02	0.877+j5.069	0.879+j5.126
VILLAS DEL PITIC	VPI-115	115	13.30	12.51	1.277+j4.825	1.290+j5.813	20.24	18.10	0.750+j3.530	1.150+j4.776
VIÑEDOS	VNO-115	115	4.85	3.02	4.494+j12.924	11.129+j36.896	5.90	3.46	3.944+j11.737	11.159+j36.846

Gerencia de Control Regional Norte



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Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ABASTOS	ABA-115	115	21.53	20.19	0.679+j3.008	0.851+j3.608	28.65	25.15	0.476+j2.505	0.846+j3.539
ABRAHAM GONZÁLEZ	ABG-115	115	4.47	3.73	3.426+j14.461	5.700+j23.056	6.72	5.52	2.268+j10.625	4.628+j17.379
AEROPUERTO	AEP-115	115	9.39	7.50	1.598+j6.890	4.187+j11.739	12.11	8.96	1.205+j5.910	4.200+j11.733
AGNICO EAGLE	AGE-115	115	2.11	2.34	8.736+j30.209	5.812+j21.390	2.34	2.57	8.379+j30.001	5.874+j22.166
ALAMOS	AMS-115	115	12.80	9.13	1.043+j5.080	2.696+j11.131	15.91	10.73	0.820+j4.516	2.676+j10.952
ALCALDES	ADS-115	115	2.65	2.06	6.776+j24.166	18.186+j43.258	3.01	2.30	6.271+j23.430	18.221+j43.455
ALDAMA	AMA-115	115	4.13	3.09	4.269+j15.515	12.343+j29.968	4.81	3.49	3.834+j14.687	12.357+j30.070
ALLENDE	ALL-115	115	16.72	12.62	0.901+j3.868	2.333+j7.503	21.25	14.99	0.692+j3.366	2.329+j7.428
ALTARES	ATR-115	115	0.74	0.50	38.992+j80.687	101.838+j198.086	0.82	0.55	38.526+j80.280	101.960+j198.626
ALTAVISTA	ALV-115	115	2.21	2.07	11.514+j27.795	9.172+j34.984	2.54	2.32	10.374+j26.812	9.287+j35.884
ÁLVARO OBREGÓN	AVO-115	115	4.31	3.63	4.377+j14.780	8.237+j22.622	4.99	4.10	3.918+j14.091	8.256+j22.826
AMADO NERVO	AMN-115	115	2.83	2.14	6.861+j22.422	17.490+j42.721	3.21	2.39	6.613+j21.799	17.573+j42.950
AMÉRICAS	AMR-115	115	10.58	9.22	1.487+j6.099	2.381+j8.811	13.34	10.90	1.078+j5.366	2.396+j8.867
ANAPRA	APR-115	115	7.16	5.92	1.709+j9.110	5.455+j14.241	8.97	7.00	1.308+j8.035	5.477+j14.183
ANDALUCÍA	AND-115	115	14.43	15.64	0.928+j4.506	0.421+j3.527	18.13	18.99	0.685+j3.969	0.393+j3.496
ANDALUCÍA	AND-230	230	10.91	11.43	2.252+j11.965	1.696+j10.417	15.65	16.03	1.256+j9.250	1.346+j8.727
ARCADIO	ADI-115	115	6.54	5.30	2.949+j9.715	6.726+j15.943	7.59	6.01	2.730+j9.223	6.703+j15.935
ARENALES	ARE-115	115	8.29	10.08	1.955+j7.770	0.524+j3.792	10.07	11.83	1.521+j7.089	0.545+j4.015
ARMENDÁRIZ	ARM-115	115	2.99	2.08	6.061+j21.390	17.152+j48.632	3.58	2.41	5.231+j19.720	16.824+j47.162
ASCENSIÓN	AON-115	115	4.70	4.59	2.439+j13.917	2.663+j14.939	5.36	5.11	2.207+j13.448	2.719+j15.359
ASCENSIÓN DOS	AOD-115	115	4.98	5.85	2.056+j13.160	0.529+j7.458	5.68	6.50	1.831+j12.720	0.589+j7.997
ASCENSIÓN DOS	AOD-230	230	2.88	2.92	7.028+j45.598	4.549+j43.820	3.35	3.27	6.038+j43.197	5.041+j46.348
AUMA	AUM-115	115	11.07	9.93	1.235+j5.867	1.881+j7.913	14.34	11.91	0.805+j5.029	1.901+j8.029
AUTOMOTIVE LIGHTING	ALI-115	115	13.57	12.88	1.139+j4.757	1.489+j5.493	21.66	20.19	0.652+j3.308	1.078+j3.974
AVALOS	AVL-115	115	16.18	18.95	0.886+j4.007	0.275+j2.369	22.81	24.70	0.467+j3.167	0.293+j2.476
AVALOS	AVL-230	230	10.46	12.32	2.907+j12.352	1.133+j7.163	16.93	17.94	1.272+j8.533	1.196+j7.168
AZTECAS	AZT-115	115	12.14	10.75	1.351+j5.299	2.666+j7.136	16.59	13.38	0.961+j4.296	2.678+j7.121
BABISAS	BBS-115	115	2.89	2.23	6.519+j22.014	15.050+j40.748	5.28	4.70	3.788+j13.305	4.382+j18.485
BACIS	BAC-115	115	0.55	0.35	54.728+j108.099	139.621+j291.674	0.61	0.39	54.234+j107.716	139.748+j292.220
BASASEACHIC	BAS-115	115	2.42	2.92	7.536+j26.329	2.486+j13.259	2.70	3.21	7.167+j26.077	2.543+j13.986
BATOPILAS	BAT-115	115	4.52	3.07	5.370+j13.679	8.144+j34.686	5.41	4.19	4.718+j12.651	5.132+j25.005
BENITO JUÁREZ	BJZ-115	115	6.05	5.02	2.370+j10.723	6.745+j16.581	7.15	5.77	2.079+j9.996	6.719+j16.362
BERMEJILLO	BER-115	115	4.07	2.37	3.465+j15.957	12.713+j49.662	5.18	3.02	3.130+j13.759	11.453+j42.800
BIOPAPEL	BIO-115	115	4.85	4.57	3.226+j13.316	4.027+j15.689	6.39	5.83	2.675+j11.117	3.991+j14.202
BISMARCK	BSM-115	115	1.62	1.19	12.186+j39.190	30.613+j80.084	1.80	1.31	11.953+j38.755	30.679+j80.631
BOLÍVAR	BLV-115	115	1.66	1.47	13.285+j37.673	19.001+j52.789	1.89	1.63	12.122+j36.684	19.127+j53.704
BOQUILLA	BOQ-115	115	2.80	2.15	6.825+j22.698	15.946+j42.528	5.32	4.89	3.826+j13.172	3.295+j17.156
BUENA VISTA	BUV-115	115	2.51	2.02	5.893+j25.785	15.131+j43.245	2.82	2.24	5.659+j25.317	15.187+j43.666
BÚFALO	BUF-115	115	2.48	1.82	8.498+j25.408	19.763+j52.009	3.79	2.83	6.213+j18.239	12.501+j36.934
CAHUISORI POTENCIA	CPO-115	115	2.52	3.23	7.229+j25.306	0.473+j9.254	2.81	3.54	6.873+j25.093	0.534+j10.029
CAHUISORI POTENCIA	CPO-230	230	1.44	1.69	23.993+j89.320	2.274+j52.288	1.63	1.87	21.994+j87.012	2.538+j56.192
CALIFORNIA	CFN-115	115	20.77	17.65	0.706+j3.118	1.190+j4.752	27.46	21.66	0.500+j2.612	1.186+j4.675



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CAMARGO DOS	CGD-115	115	7.65	9.41	1.874+j8.474	0.231+j3.896	11.82	14.05	0.990+j6.099	0.270+j3.251
CAMARGO DOS	CGD-230	230	5.60	6.10	6.327+j22.852	2.089+j18.118	9.01	9.08	2.946+j15.942	2.075+j15.769
CAMARGO UNO	CGU-115	115	4.99	4.27	2.866+j12.993	3.927+j19.675	7.45	6.16	1.840+j9.636	3.520+j15.546
CANATLAN DOS	CND-115	115	4.75	5.45	2.664+j13.722	2.264+j8.332	5.47	6.12	2.381+j13.144	2.330+j8.797
CANATLAN DOS POTENCIA	CAP-115	115	5.00	5.99	2.331+j13.079	0.719+j6.694	5.75	6.72	2.054+j12.525	0.798+j7.191
CANATLAN DOS POTENCIA	CAP-230	230	3.35	3.53	6.678+j39.025	5.237+j33.415	4.07	4.08	5.374+j35.444	5.741+j35.300
CARICHIC	CRC-115	115	1.75	1.29	10.370+j36.513	31.302+j72.962	1.97	1.43	9.853+j35.793	31.337+j73.160
CAROLINAS	CAS-115	115	10.80	10.05	1.480+j5.965	2.199+j7.282	13.63	11.92	1.075+j5.250	2.217+j7.372
CARTAGENA	CAR-115	115	11.70	10.62	1.396+j5.498	2.381+j7.042	17.15	14.22	0.916+j4.160	2.238+j6.547
CASAS GRANDES	CGR-115	115	7.87	7.84	1.434+j8.316	2.019+j8.315	9.32	8.99	1.188+j7.743	2.035+j8.468
CATEDRAL	CAT-115	115	0.84	0.60	32.110+j71.843	68.181+j159.587	0.94	0.66	30.911+j71.181	68.337+j160.549
CATERPILLAR	CTP-115	115	12.29	10.46	1.060+j5.300	1.927+j8.021	15.12	12.25	0.839+j4.758	1.981+j8.019
CEBALLOS	CEB-115	115	1.05	0.62	25.428+j58.080	58.617+j184.149	2.14	1.32	13.331+j31.397	31.379+j92.177
CEMENTOS	CEM-115	115	9.66	7.75	1.673+j6.664	3.902+j11.349	11.66	9.00	1.434+j6.100	3.895+j11.228
CEMENTOS SAMALAYUCA	CMS-115	115	4.84	3.84	3.448+j13.283	9.364+j22.713	5.85	4.43	2.979+j12.121	9.386+j22.783
CERESO	CER-115	115	7.48	6.68	2.129+j8.620	4.347+j11.317	9.57	8.00	1.669+j7.446	4.368+j11.387
CERESO JUÁREZ	CEJ-115	115	6.87	5.97	2.326+j9.375	5.143+j13.126	8.68	7.09	1.866+j8.201	5.165+j13.197
CHALCHIHUITES	CHL-115	115	1.57	1.09	12.885+j40.373	39.110+j89.523	1.77	1.23	12.362+j39.484	37.687+j87.556
CHAMIZAL	CZL-115	115	13.96	13.47	1.107+j4.625	1.367+j5.104	21.33	19.54	0.654+j3.361	1.082+j4.236
CHARCOS	CHA-115	115	0.94	0.65	20.742+j67.350	66.968+j151.136	1.05	0.73	20.216+j66.447	65.517+j149.152
CHAVEÑA	CVA-115	115	12.52	11.70	1.249+j5.152	1.928+j6.144	18.14	15.49	0.812+j3.943	1.863+j5.827
CHÁVEZ UNO	CZU-115	115	10.07	8.98	1.517+j6.419	1.824+j8.826	12.91	10.96	1.081+j5.552	1.769+j8.527
CHIHUAHUA NORTE	CUN-115	115	13.07	14.39	1.160+j4.945	0.615+j3.708	16.96	17.58	0.762+j4.238	0.640+j3.820
CHIHUAHUA NORTE	CUN-230	230	9.14	8.73	3.295+j14.144	3.602+j16.447	13.30	11.33	1.781+j10.835	3.694+j16.394
CHIHUAHUA PLANTA	CUP-115	115	12.53	11.73	1.276+j5.142	1.796+j6.197	16.36	14.23	0.855+j4.382	1.806+j6.250
CHIHUAHUA PONIENTE	CPN-115	115	10.24	8.91	1.610+j6.284	3.022+j8.967	12.88	10.53	1.209+j5.542	3.033+j9.012
CHUVISCAR	CHU-115	115	14.98	17.86	0.977+j4.325	0.204+j2.367	20.70	22.94	0.552+j3.485	0.231+j2.514
CHUVISCAR	CHU-230	230	9.47	11.86	3.047+j13.685	0.533+j5.844	14.99	17.15	1.360+j9.652	0.613+j6.124
CIENÉGA	CIE-115	115	0.57	0.36	54.973+j102.883	137.626+j286.990	0.63	0.40	54.465+j102.525	137.752+j287.536
CIÉNEGA DOS	CID-115	115	0.58	0.37	54.116+j101.619	135.743+j282.110	0.64	0.40	53.610+j101.259	135.869+j282.656
CLID	CLI-115	115	6.48	5.54	2.418+j9.954	7.869+j13.731	8.16	7.48	1.924+j8.739	4.210+j10.698
COLEGIO	CLG-115	115	11.61	10.36	1.444+j5.533	2.618+j7.368	19.02	15.26	0.825+j3.750	2.217+j6.334
COLINA	CLN-115	115	2.69	0.00	7.640+j23.456	0.000+j0.13E+09	4.71	0.91	4.863+j14.720	4.240+j212.001
COMPLEJO DE SEGURIDAD	CSG-115	115	9.51	8.27	1.646+j6.784	3.185+j9.714	12.03	9.78	1.216+j5.947	3.201+j9.819
COMPLEJO INDUSTRIAL	CIN-115	115	10.72	10.02	1.554+j5.997	2.273+j7.216	13.54	11.91	1.140+j5.271	2.289+j7.295
COMPLEJO LALA	CLA-115	115	13.98	10.28	1.100+j4.621	3.164+j9.391	17.32	12.02	0.892+j4.122	3.159+j9.317
COMPONENTES	COM-115	115	11.50	11.39	1.415+j5.599	1.557+j5.800	14.64	13.64	1.011+j4.887	1.578+j5.900
CONCHEÑO	CON-115	115	1.98	2.09	9.912+j32.104	8.225+j26.763	2.18	2.29	9.648+j32.029	8.379+j27.663
CONCORDIA	CCD-115	115	13.51	14.09	1.063+j4.797	0.864+j4.299	18.23	17.54	0.637+j3.956	0.884+j4.416
CONEJOS MÉDANOS	CJM-115	115	2.54	2.79	6.610+j25.255	3.826+j18.926	3.21	3.33	5.176+j22.182	4.054+j19.874
CORONEL	CRN-115	115	8.77	5.97	1.466+j7.425	4.500+j17.675	10.51	6.85	1.203+j6.843	4.486+j17.571
CREEL	CRL-115	115	1.25	0.96	17.269+j50.381	39.496+j92.496	1.39	1.06	16.772+j49.974	39.571+j93.006



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CUADRO DE MANIOBRAS BISMARCK	CMB-115	115	2.38	1.97	6.216+j27.147	16.176+j42.705	2.67	2.18	5.984+j26.709	16.241+j43.251
CUADRO DE MANIOBRAS BORDER	MBO-230	230	10.89	10.95	2.010+j12.025	2.479+j11.777	17.90	17.75	0.909+j8.108	1.432+j8.264
CUADRO DE MANIOBRAS CEMENTOS	CMC-115	115	5.11	4.11	3.246+j12.572	8.598+j20.971	6.22	4.75	2.778+j11.408	8.620+j21.041
CERRO DEL MERCADO	CME-115	115	8.36	8.14	1.712+j7.753	2.780+j8.160	10.12	9.53	1.429+j7.074	2.798+j8.151
CUADRO DE MANIOBRAS ELECTROLUX	CME-115	115	16.57	17.53	0.837+j3.918	0.605+j3.300	24.88	23.71	0.460+j2.899	0.619+j3.318
CUADRO DE MANIOBRAS FOX	CMF-115	115	9.65	7.82	1.560+j6.702	4.064+j11.045	12.52	9.38	1.168+j5.717	4.076+j11.036
CUADRO DE MANIOBRAS SAN FRANCISCO	CMF-115	115	2.72	3.08	8.507+j22.854	2.542+j15.939	3.17	3.48	7.375+j21.820	2.657+j16.835
CUADRO DE MANIOBRAS GUADALUPE AGUILERA	MGA-230	230	4.30	4.66	5.031+j30.472	3.682+j23.430	5.41	5.55	3.761+j26.735	4.010+j24.610
CUADRO DE MANIOBRAS INTERNACIONAL WIRE	CMI-115	115	8.01	7.75	1.759+j8.100	3.272+j8.611	10.17	9.88	1.363+j7.053	2.451+j7.472
CUADRO DE MANIOBRAS LA LUCHA	MLU-230	230	4.63	4.76	5.322+j28.164	3.222+j26.277	6.10	5.80	3.499+j23.702	3.597+j27.446
CUADRO DE MANIOBRAS LA PARRILLA	CMP-115	115	2.69	1.99	7.510+j23.491	19.628+j46.708	3.03	2.23	7.212+j22.973	19.210+j46.411
CUADRO DE MANIOBRAS NAICA	NAC-115	115	1.58	1.02	18.199+j37.832	37.326+j105.647	3.47	2.45	9.477+j18.795	17.145+j44.345
CUADRO DE MANIOBRAS NAICA	CMN-115B	115	1.58	1.02	18.199+j37.832	37.326+j105.647	3.47	2.45	9.477+j18.795	17.145+j44.345
CUADRO DE MANIOBRAS VITROMEX	VIM-115	115	13.23	13.58	1.132+j4.889	1.153+j4.554	17.78	16.87	0.705+j4.047	1.168+j4.656
CUATRO SIGLOS	CSS-115	115	10.19	8.58	1.748+j6.275	3.561+j9.581	14.07	10.85	1.259+j5.035	3.419+j9.242
CUAUHTÉMOC	CHC-115	115	7.29	8.01	2.512+j8.754	1.799+j6.475	8.86	9.36	2.026+j7.990	1.842+j6.697
CUAUHTÉMOC DOS	CHD-115	115	8.65	10.99	1.865+j7.444	0.204+j2.872	10.57	12.98	1.431+j6.762	0.225+j3.096
CUAUHTÉMOC DOS	CHD-230	230	5.27	6.20	6.277+j24.401	1.389+j14.228	6.75	7.52	4.510+j21.162	1.537+j15.060
CUESTA	CUE-115	115	13.47	12.32	1.272+j4.762	2.069+j5.970	19.49	16.34	0.834+j3.654	1.924+j5.614
DELICIAS	DEL-115	115	7.50	6.55	2.051+j8.609	2.275+j12.570	10.84	8.69	1.084+j6.652	2.007+j11.568
DELICIAS DOS	DLD-115	115	2.51	2.72	7.007+j25.466	2.173+j20.684	11.21	9.91	1.226+j6.398	3.188+j8.601
DELPHI	DPH-115	115	14.98	11.92	0.957+j4.328	2.277+j7.522	18.80	14.14	0.746+j3.813	2.273+j7.429
DELPHI	DLP-115	115	13.51	12.70	1.138+j4.782	1.507+j5.658	21.80	20.47	0.648+j3.288	1.061+j3.868
DIAGONAL	DGN-115	115	11.44	8.64	1.091+j5.700	2.965+j11.087	14.02	10.07	0.856+j5.137	2.974+j11.008
DINAMITA	DIN-115	115	4.63	2.94	3.358+j13.927	11.273+j37.360	5.45	3.41	3.098+j13.044	11.084+j35.760
DIVISADERO	DIV-115	115	0.93	0.68	24.859+j66.558	59.968+j136.846	1.04	0.75	24.350+j66.185	60.048+j137.364
DIVISIÓN DEL NORTE	DDN-115	115	14.04	15.55	1.086+j4.602	0.564+j3.378	18.60	19.34	0.689+j3.866	0.583+j3.454
DIVISIÓN DEL NORTE	DDN-230	230	9.25	9.00	3.131+j14.005	3.261+j15.496	13.61	11.84	1.629+j10.608	3.325+j15.284
DUNAS	DUN-115	115	3.88	2.88	4.474+j16.497	13.578+j32.284	4.61	3.29	4.005+j15.334	13.600+j32.354
DURANGO DOS	DGD-115	115	11.14	13.61	1.066+j5.865	0.249+j2.728	14.04	16.71	0.788+j5.143	0.274+j2.707
DURANGO DOS	DGD-230	230	7.75	8.64	2.855+j16.893	1.705+j11.745	10.30	10.91	1.892+j14.053	1.792+j11.685
DURANGO UNO	DGU-115	115	9.26	8.78	1.473+j7.019	2.779+j7.931	11.28	10.29	1.205+j6.362	2.793+j7.933
DURAPLAY	DUR-115	115	2.19	2.05	11.586+j28.026	9.420+j35.550	2.52	2.29	10.445+j27.044	9.536+j36.450
EL CAPULIN	ECU-115	115	3.86	3.09	3.959+j16.733	10.831+j28.148	4.40	3.46	3.710+j16.166	10.846+j28.302
EL PILAR	ELP-115	115	2.96	1.96	7.710+j21.076	16.683+j54.063	3.53	3.03	6.692+j19.567	5.732+j30.680
EL SALTO	ESL-115	115	1.23	0.79	19.882+j50.398	64.809+j130.336	1.35	0.86	19.846+j50.362	64.821+j130.366
EL SAUCITO	SAU-115	115	9.80	7.88	1.677+j6.567	3.093+j11.375	12.23	9.22	1.266+j5.837	3.107+j11.424
EL SAUZ	ESZ-115	115	3.21	2.48	8.167+j19.016	14.874+j36.079	3.67	2.78	7.762+j18.328	14.898+j36.191
EL TRÉBOL	TRE-115	115	1.56	1.28	10.913+j41.114	13.990+j68.868	2.09	1.72	8.387+j33.996	10.717+j56.656
EL VERGEL	ELV-115	115	8.62	5.44	1.539+j7.549	4.702+j20.702	10.40	6.30	1.305+j6.902	4.651+j20.247
EMILIANO ZAPATA	EZT-115	115	3.90	3.01	5.360+j16.159	13.251+j29.275	4.40	3.36	5.196+j15.760	13.243+j29.357
ENCINO	ENO-230	230	13.58	17.42	2.105+j9.552	0.276+j3.626	24.33	29.90	0.716+j5.962	0.176+j2.750



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ENCINO	ENO-400	400	6.51	7.32	6.051+j34.930	1.070+j24.653	9.67	10.13	2.322+j26.157	0.737+j22.966
ENCINO DOS	END-230	230	13.57	17.34	2.105+j9.557	0.313+j3.724	24.08	28.99	0.725+j6.023	0.276+j3.084
ESCALÓN	ESC-115	115	1.09	0.71	22.944+j56.484	58.179+j148.244	2.19	1.38	12.874+j30.828	31.041+j86.924
ESCUADRÓN 201	EDU-115	115	6.76	4.64	2.459+j9.516	8.097+j21.904	7.86	5.24	2.245+j9.020	8.092+j21.829
FELIPE PESCADOR	FPR-115	115	7.89	0.00	1.698+j8.246	0.000+j0.13E+09	9.38	0.00	1.458+j7.646	0.000+j0.13E+09
FLEXTRONICS	FLE-115	115	14.37	13.35	0.914+j4.528	1.749+j5.438	20.57	17.13	0.543+j3.508	1.762+j5.459
FORD	FRD-115	115	11.43	11.40	1.402+j5.638	1.551+j5.720	14.53	13.65	0.998+j4.926	1.572+j5.821
FORD MANIOBRAS	FOM-115	115	11.82	11.99	1.349+j5.453	1.352+j5.268	15.11	14.43	0.945+j4.741	1.374+j5.368
FOXCONN DOS	FXD-115	115	4.62	2.22	2.608+j14.142	24.074+j56.433	5.51	2.51	2.202+j13.071	24.096+j56.374
FRANCISCO VILLA	FVL-115	115	10.91	11.71	1.359+j5.932	0.523+j4.898	17.15	18.36	0.557+j4.223	0.198+j3.432
FRANCISCO VILLA	FVL-230	230	7.26	7.64	4.845+j17.641	2.652+j15.667	13.86	15.15	1.621+j10.416	0.794+j7.876
FRANCISCO ZARCO	FZA-115	115	7.88	4.88	1.752+j8.238	5.144+j23.438	9.74	5.86	1.500+j7.346	4.956+j21.840
FRANCKE	FRC-115	115	27.39	31.51	0.454+j2.381	0.189+j1.474	38.44	42.19	0.261+j1.882	0.181+j1.407
FUENTES	FTS-115	115	10.36	8.80	1.705+j6.176	3.444+j9.226	14.90	11.55	1.169+j4.759	3.213+j8.628
FUENTES MARES	FMR-115	115	14.05	13.90	1.029+j4.614	0.930+j4.857	19.07	17.29	0.609+j3.782	0.947+j4.945
FUNDILAG	FDL-115	115	11.07	9.12	1.226+j5.874	2.614+j9.502	13.46	10.60	1.004+j5.332	2.661+j9.488
GALEANA	GNA-115	115	6.69	7.19	1.991+j9.727	2.113+j7.597	7.97	8.29	1.684+j9.005	2.144+j7.834
GAMMON LAKE	GML-115	115	1.89	1.97	9.482+j33.864	9.336+j29.394	2.09	2.16	9.125+j33.653	9.398+j30.170
GASASEACHIC	GAS-115	115	2.00	2.13	9.805+j31.728	7.818+j25.837	2.21	2.33	9.541+j31.653	7.972+j26.738
GAVILÁN	GAV-115	115	1.44	1.01	12.655+j44.298	42.414+j97.672	1.61	1.12	12.344+j43.589	42.333+j97.115
GÉMINIS	GEM-115	115	12.42	11.13	1.377+j5.164	2.551+j6.769	17.03	13.89	0.999+j4.170	2.563+j6.765
GENERAL TRÍAS	GTR-115	115	4.68	3.62	3.316+j13.796	10.370+j24.846	5.47	4.10	2.882+j13.046	10.384+j24.909
GÓMEZ PALACIO	GPL-115	115	28.12	34.83	0.434+j2.320	0.070+j1.011	39.75	47.70	0.241+j1.822	0.062+j0.944
GÓMEZ PALACIO	GPL-230	230	12.05	13.39	1.982+j10.844	0.701+j7.747	19.08	20.96	0.891+j7.604	0.503+j5.743
GRANJERO	GJO-115	115	13.04	11.92	1.218+j4.945	2.720+j6.007	18.28	15.17	0.812+j3.912	2.702+j5.957
GRUPO ESSEX MÉXICO	GEX-115	115	10.00	8.65	1.617+j6.438	3.145+j9.242	12.08	10.11	1.385+j5.884	3.137+j9.105
GUACHOCHI	GCH-115	115	0.67	0.49	31.043+j94.058	82.072+j190.663	0.75	0.54	29.825+j93.166	82.226+j191.622
GUADALUPE VICTORIA	GVR-115	115	1.90	1.43	11.426+j32.975	9.063+j69.382	2.17	1.65	10.887+j31.826	5.382+j66.332
GUADIANA	GDN-115	115	6.90	5.85	2.323+j9.339	5.363+j13.879	8.17	6.70	2.042+j8.705	5.374+j13.909
GUENACEVI DURANGO	GVD-115	115	0.59	0.41	41.351+j105.510	105.568+j239.192	0.65	0.45	40.072+j104.754	105.737+j240.174
HACIENDAS	HDS-115	115	9.31	7.65	1.765+j6.910	3.351+j11.352	11.56	8.95	1.363+j6.171	3.363+j11.398
HÉRCULES	HCL-230	230	1.04	0.90	34.328+j123.461	42.001+j182.498	1.36	1.09	25.761+j103.927	42.674+j182.307
HÉRCULES POTENCIA	HCP-400	400	3.15	2.05	7.812+j72.807	49.807+j187.078	3.86	2.39	5.340+j65.510	49.108+j182.691
IBERDROLA	IEL-115	115	28.12	34.61	0.424+j2.323	0.068+j1.045	39.33	46.53	0.238+j1.842	0.071+j1.020
INDUSTRIAL JUÁREZ	INJ-115	115	14.45	13.96	1.155+j4.448	1.653+j4.816	21.02	19.00	0.748+j3.393	1.359+j4.388
INDUSTRIAS SUPERIOR	ISP-115	115	11.41	11.36	1.404+j5.649	1.566+j5.755	14.50	13.60	1.000+j4.938	1.588+j5.855
INSURGENTES	IGS-115	115	15.05	16.60	0.977+j4.303	0.562+j3.134	22.30	22.64	0.581+j3.223	0.585+j3.076
INTERCERAMIC	ITC-115	115	10.55	9.80	1.581+j6.089	2.377+j7.454	13.31	11.63	1.167+j5.363	2.393+j7.533
INTERMEX ORIENTE	INO-115	115	12.70	13.01	1.167+j5.098	3.588+j3.932	17.64	16.72	0.771+j4.068	3.571+j3.929
INTERMEX SUR	INS-115	115	13.52	12.87	1.066+j4.794	1.551+j5.449	19.03	16.42	0.689+j3.776	1.565+j5.467
INTERNATIONAL WIRE	INW-115	115	7.88	7.65	1.799+j8.231	3.297+j8.668	9.98	9.73	1.403+j7.185	2.476+j7.529
JABIL	JAB-115	115	10.46	9.69	1.594+j6.142	2.427+j7.566	13.18	11.49	1.180+j5.416	2.443+j7.645



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
JANOS	JOS-115	115	4.59	3.92	2.743+j14.190	5.637+j21.240	5.26	4.38	2.501+j13.665	5.666+j21.500
JARDÍN	JAR-115	115	15.41	13.05	0.979+j4.196	1.830+j6.407	19.75	16.04	0.742+j3.622	1.733+j6.063
JERÓNIMO ORTIZ MARTÍNEZ	JOM-115	115	11.60	14.34	0.877+j5.655	0.152+j2.460	14.23	17.04	0.667+j5.090	0.177+j2.600
JERÓNIMO ORTIZ MARTÍNEZ	JOM-230	230	9.11	10.67	2.173+j14.418	0.859+j8.157	12.04	13.52	1.378+j12.049	0.958+j8.121
JERÓNIMO ORTIZ MARTÍNEZ	JOM-400	400	5.34	4.99	5.462+j42.879	5.575+j52.205	6.77	5.89	3.135+j37.399	6.065+j54.157
JIMÉNEZ	JEZ-115	115	3.14	2.48	6.338+j20.208	13.965+j35.372	4.81	3.86	4.478+j14.522	8.752+j24.864
JOHN DEREÉ	JND-115	115	10.51	9.34	1.529+j6.129	2.766+j8.255	12.76	10.97	1.297+j5.575	2.758+j8.118
JUÁREZ	JRZ-115	115	10.26	8.44	1.400+j6.318	3.154+j10.218	13.45	10.18	1.022+j5.333	3.167+j10.221
KILOMETRO OCHENTA Y OCHO	KOO-115	115	5.03	3.71	3.680+j12.663	7.376+j26.439	6.44	4.51	2.860+j10.980	7.049+j24.970
LA FLOR	LAF-115	115	1.60	1.16	9.441+j40.469	35.683+j82.637	1.78	1.28	9.228+j39.899	35.709+j82.778
LA LAGUNA	LGA-115	115	24.31	23.17	0.560+j2.673	0.676+j3.068	34.05	32.09	0.337+j2.119	0.472+j2.520
LA PARILLA	LPA-115	115	2.47	1.78	8.074+j25.667	22.310+j53.675	2.77	1.99	7.775+j25.150	21.892+j53.379
LA PERLA	LPL-115	115	1.06	0.77	21.714+j58.571	59.892+j120.904	3.61	3.72	5.460+j19.468	6.397+j17.363
LA ROSITA	LRT-115	115	8.05	6.37	3.137+j7.623	5.442+j13.741	9.58	7.31	2.890+j7.052	5.465+j13.720
LA SALADA	LSA-115	115	1.78	1.38	8.622+j36.393	25.967+j64.909	1.98	1.52	8.389+j35.956	26.032+j65.456
LA TRINIDAD	LTR-230	230	9.33	11.07	1.809+j14.115	0.625+j7.568	12.92	15.51	1.049+j11.257	0.362+j5.685
LA UNIÓN	LAU-115	115	18.70	13.85	0.752+j3.470	1.805+j7.064	24.20	16.57	0.547+j2.968	1.800+j6.993
LAGOS	LAG-115	115	13.23	11.95	1.317+j4.841	2.287+j6.243	18.82	15.42	0.893+j3.777	2.256+j6.076
LAGUNA DEL REY	LRE-115	115	1.05	1.20	20.730+j59.574	3.067+j40.425	1.15	1.29	21.141+j60.086	3.680+j43.116
LAGUNA DOS	LGD-115	115	24.13	22.84	0.570+j2.692	0.696+j3.149	33.71	31.45	0.346+j2.139	0.497+j2.614
LAGUNA ENCINILLAS	LEN-230	230	3.70	2.54	5.687+j35.404	22.171+j82.705	4.45	2.92	4.456+j32.494	22.058+j81.954
LAGUNA SECA	LSC-115	115	10.12	9.17	1.836+j6.302	2.549+j8.221	12.33	10.68	1.583+j5.707	2.647+j8.274
LAJAT	LJT-115	115	16.23	13.04	0.748+j4.022	1.978+j6.844	20.58	15.57	0.537+j3.507	1.974+j6.751
LALA	LAL-115	115	19.91	17.50	0.720+j3.257	1.308+j4.541	26.57	22.77	0.497+j2.704	1.110+j4.005
LAS CUATAS	CUA-115	115	2.20	1.56	4.598+j29.897	26.704+j62.470	2.48	1.75	4.309+j29.159	26.585+j61.848
LÁZARO CÁRDENAS	LCS-115	115	3.75	3.26	5.040+j16.952	5.441+j25.311	7.26	5.12	1.974+j9.861	5.650+j21.989
LEBARON	LEB-115	115	2.51	1.95	6.656+j25.589	18.837+j45.537	2.85	2.18	6.343+j24.873	18.869+j45.774
LEÓN GUZMÁN	LGM-115	115	5.66	3.56	2.202+j11.514	9.959+j31.012	6.57	4.02	1.930+j10.940	9.943+j30.876
LEONI CABLE	LEO-115	115	8.13	9.13	1.997+j7.922	1.241+j5.420	9.86	10.65	1.562+j7.240	1.262+j5.643
LERDO	LED-230	230	11.18	11.12	2.272+j11.662	2.221+j11.902	17.87	19.02	1.042+j8.108	0.932+j6.940
LEXMARK	LEX-115	115	10.48	8.54	1.486+j6.156	3.922+j9.972	13.86	10.35	1.104+j5.151	3.931+j9.970
LEXMARK DOS	LXD-115	115	10.71	9.14	1.104+j6.101	3.271+j8.899	14.22	11.14	0.731+j5.084	3.285+j8.919
LIBERTAD	LTD-115	115	12.71	11.12	1.387+j5.037	2.425+j7.067	17.90	14.36	0.961+j3.965	2.258+j6.744
LÓPEZ MATEOS	LZM-115	115	3.55	3.39	5.059+j18.023	7.426+j20.168	4.06	3.80	4.576+j17.411	7.459+j20.462
MANIOBRAS CENTAURO	MAC-115	115	4.93	4.64	3.131+j13.105	4.073+j15.425	6.52	5.96	2.574+j10.897	3.987+j13.845
MANIOBRAS CERRO DEL MERCADO	MCM-115	115	7.87	7.02	1.870+j8.222	4.027+j10.867	9.46	8.13	1.588+j7.553	4.041+j10.868
MANIOBRAS CIENTO OCHO	MCO-115	115	4.63	3.79	4.021+j13.777	7.068+j22.885	5.39	4.28	3.566+j13.081	7.087+j23.089
MANIOBRAS MARÍA SOLAR	MMS-230	230	4.65	5.79	4.794+j28.164	0.755+j11.782	5.91	7.05	3.461+j24.482	0.866+j12.670
MANIOBRAS MIELERAS	MMI-115	115	14.32	12.38	0.845+j4.558	1.458+j6.673	17.99	14.72	0.622+j4.013	1.485+j6.627
MANIOBRAS MINA MULATOS	MMT-115	115	1.22	1.03	18.021+j51.432	31.201+j77.739	1.46	1.28	15.468+j47.519	25.985+j66.736
MANIOBRAS MVC	MVC-115	115	8.58	8.40	1.521+j7.591	2.447+j7.892	10.40	9.79	1.245+j6.910	2.466+j8.000
MANIOBRAS PARQUE EÓLICO	MPE-115	115	1.40	1.70	13.204+j45.449	1.519+j23.055	1.51	1.81	13.797+j46.298	1.751+j25.017



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
MANIOBRAS PEÑÓLES	MPL-230	230	9.79	8.95	2.677+j13.301	3.656+j17.033	14.40	12.85	1.475+j10.035	2.940+j13.784
MANIOBRAS SABINAS	MAS-115	115	1.56	1.02	17.070+j38.964	41.337+j101.176	1.76	1.15	16.535+j38.121	39.915+j99.209
MANIOBRAS SANTA MARÍA	MMS-115	115	8.13	10.28	1.390+j8.043	0.219+j3.079	9.87	12.09	1.084+j7.319	0.251+j3.326
MANIOBRAS SANTA ROSA	MSR-115	115	3.97	3.06	4.208+j16.190	12.435+j29.296	4.60	3.45	3.747+j15.431	12.455+j29.390
MANIOBRAS TREINTA Y CUATRO	MTC-115	115	5.50	5.18	3.371+j11.584	5.032+j13.515	6.52	5.93	2.878+j10.832	5.066+j13.711
MANIOBRAS VILLANUEVA	MVI-400	400	6.59	7.59	5.121+j34.645	2.581+j21.159	9.31	10.33	2.654+j27.153	2.149+j19.254
MANITOBA	MBA-115	115	5.72	4.70	2.740+j11.285	4.319+j18.716	6.74	5.34	2.297+j10.594	4.337+j18.917
MAPIMI	MPI-115	115	2.42	1.38	5.654+j26.802	20.784+j86.693	2.90	1.65	5.301+j24.616	19.520+j79.819
MASISA	MSS-115	115	6.47	5.74	2.294+j10.003	5.068+j13.362	7.66	6.59	2.009+j9.326	5.086+j13.353
MATAMOROS	MAT-115	115	11.11	10.17	1.374+j5.818	2.219+j7.309	13.52	11.94	1.130+j5.282	2.195+j7.268
MAYRAN	MAY-115	115	4.07	2.84	4.184+j15.765	12.471+j35.472	4.70	3.20	3.807+j15.066	12.428+j35.328
MÉDANOS	MED-115	115	11.09	8.85	1.316+j5.841	3.390+j10.021	14.91	10.82	0.906+j4.815	3.388+j9.953
MENONITAS	MEN-115	115	2.84	2.34	6.321+j22.489	14.090+j36.072	3.23	2.60	5.862+j21.829	14.131+j36.437
MEOQUI	MOQ-115	115	3.02	2.87	6.099+j21.105	4.792+j25.262	8.01	5.86	1.735+j8.951	5.627+j18.382
MESTEÑAS	MES-115	115	2.75	3.67	6.030+j23.342	0.193+j6.327	4.28	5.46	4.132+j16.561	0.339+j6.059
MESTEÑAS	MES-115B	115	2.75	3.64	6.046+j23.415	0.283+j6.506	4.27	5.43	4.144+j16.599	0.428+j6.221
MESTEÑAS	MES-230	230	1.64	1.99	21.808+j77.975	1.910+j38.773	2.46	2.79	14.377+j57.588	2.565+j38.593
MILENIO	MIL-115	115	7.87	7.46	1.709+j8.262	3.445+j9.281	9.36	8.60	1.469+j7.665	3.456+j9.339
MINA CERRO DEL MERCADO	CDM-115	115	7.75	6.37	1.924+j8.353	5.205+j13.222	9.29	7.35	1.641+j7.684	5.220+j13.224
MINERA AUTLÁN	MAU-115	115	14.47	10.19	0.929+j4.495	2.105+j10.153	18.07	11.94	0.715+j3.978	2.100+j10.080
MINERA AUTLÁN TAP	MAX-115	115	14.98	10.64	0.874+j4.345	1.997+j9.652	18.80	12.50	0.660+j3.828	1.991+j9.579
MINERA DEL TORO	MDT-115	115	1.53	1.07	13.119+j41.290	40.056+j91.672	1.73	1.20	12.596+j40.402	38.633+j89.705
MINERA DOLORES	MDO-115	115	0.84	0.65	26.922+j74.721	58.225+j138.329	1.29	1.08	17.860+j53.950	33.406+j83.189
MINERA ROBLE	MRO-115	115	1.55	0.91	18.227+j38.873	46.889+j124.846	1.72	1.01	17.919+j38.389	46.873+j124.708
MINERA SAN JUAN	SAJ-115	115	0.72	0.49	39.481+j83.978	86.064+j199.604	0.80	0.55	38.289+j83.405	86.221+j200.569
MIRAVALLE	MIR-115	115	16.86	13.57	0.732+j3.870	1.442+j6.663	21.53	16.26	0.528+j3.351	1.432+j6.566
MOCTEZUMA	MCZ-115	115	13.10	15.97	0.657+j5.026	0.154+j2.361	16.94	21.01	0.373+j4.295	0.078+j1.813
MOCTEZUMA	MCZ-230	230	10.75	11.82	2.142+j12.165	1.027+j9.058	15.91	17.38	1.078+j9.118	0.602+j6.850
MOCTEZUMA	MCZ-400	400	5.49	1.97	6.486+j41.572	60.389+j260.382	7.61	2.30	3.292+j33.198	60.125+j258.844
MONTE VERDE	MTV-115	115	2.00	1.51	7.804+j32.288	5.848+j65.273	2.24	1.68	7.562+j31.763	5.877+j65.534
NAICA	NAI-115	115	1.60	1.03	18.091+j37.460	36.691+j104.355	3.47	2.44	9.464+j18.793	17.197+j44.535
NAMIQUIPA	NQA-115	115	2.53	2.04	6.672+j25.394	14.257+j43.022	2.86	2.26	6.225+j24.805	14.326+j43.633
NAZAS	NAZ-115	115	20.63	23.19	0.631+j3.155	0.245+j2.157	28.26	30.57	0.382+j2.556	0.230+j2.023
NAZAS	NAZ-230	230	11.09	11.46	2.231+j11.764	1.511+j10.753	16.94	16.91	1.107+j8.553	1.352+j8.788
NICOLÁS BRAVO	NCB-115	115	1.21	0.88	15.429+j52.498	43.786+j109.489	1.35	0.97	14.969+j51.925	43.859+j110.106
NOMBRE DE DIOS	NDD-115	115	10.94	10.14	1.516+j5.876	2.286+j7.229	13.89	12.09	1.102+j5.140	2.301+j7.302
NORTE CERESO	NCE-230	230	14.78	18.68	1.481+j8.861	0.175+j3.391	28.27	33.36	0.488+j5.144	0.234+j2.804
NUEVA HOLANDA	NHO-115	115	1.52	1.20	11.504+j42.284	15.885+j77.324	1.99	1.49	9.014+j35.495	14.706+j72.094
NUEVO CASAS GRANDES	NCG-115	115	9.39	11.69	1.002+j6.997	0.163+j2.921	11.16	13.49	0.778+j6.497	0.183+j3.149
NUEVO CASAS GRANDES	NCG-230	230	6.12	7.08	3.275+j21.433	1.231+j12.965	7.63	8.42	2.357+j18.990	1.368+j13.717
NUEVO IDEAL	NID-115	115	1.53	1.15	16.715+j40.034	38.662+j76.991	1.71	1.27	16.364+j39.533	38.753+j77.490
OASIS	OAS-115	115	1.48	1.16	12.156+j43.197	16.582+j80.088	1.94	1.48	9.541+j36.320	14.396+j71.506



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
OCAPO	OCP-115	115	9.97	8.60	1.642+j6.451	3.267+j9.397	12.60	10.18	1.227+j5.665	3.276+j9.445
OJINAGA	OJI-115	115	0.84	0.61	27.047+j73.954	56.584+j158.914	1.02	0.72	24.070+j67.508	54.319+j150.241
ORIENTE VEINTIUNO	OTV-115	115	12.33	10.34	1.166+j5.255	2.792+j8.064	16.97	12.84	0.768+j4.235	2.794+j8.035
PAILA	PLA-115	115	0.98	0.92	20.520+j64.360	27.264+j77.096	1.06	0.99	21.246+j65.421	27.502+j79.069
PALMAREJO	PAL-115	115	0.66	0.46	37.724+j92.882	94.795+j213.703	0.73	0.51	37.211+j92.554	94.878+j214.226
PALOMAR	PMR-115	115	8.64	6.90	1.827+j7.466	3.536+j13.101	10.62	8.01	1.422+j6.731	3.549+j13.157
PALOMAS	PMS-115	115	1.52	1.15	10.690+j42.396	32.424+j79.470	1.69	1.27	10.456+j41.960	32.490+j80.018
PAPELERA CHIHUAHUA	PCH-115	115	10.61	9.60	1.425+j6.093	2.408+j7.949	13.65	11.49	0.994+j5.256	2.425+j8.055
PARQUE	PQE-115	115	15.90	17.33	1.004+j4.053	0.755+j3.056	24.71	25.56	0.557+j2.902	0.575+j2.604
PARRAL	PAR-115	115	2.07	1.87	12.249+j29.613	11.154+j41.381	2.38	2.09	11.106+j28.638	11.271+j42.283
PARRAS	PRA-115	115	1.25	1.29	15.014+j51.054	11.802+j46.291	1.34	1.38	15.738+j52.123	12.038+j48.261
PASO DEL AGULIA	PSA-115	115	10.52	7.45	1.520+j6.124	4.626+j13.364	12.65	8.57	1.308+j5.626	4.621+j13.290
PASO DEL NORTE	PNR-115	115	15.91	18.77	0.934+j4.067	0.306+j2.256	24.09	26.44	0.539+j2.983	0.330+j2.204
PASO DEL NORTE	PNR-230	230	8.86	10.07	2.779+j14.721	1.789+j9.438	13.77	14.34	1.400+j10.519	1.816+j9.191
PATRIA	PAT-115	115	11.81	9.62	1.292+j5.469	3.344+j8.908	16.12	11.86	0.890+j4.443	3.335+j8.870
PEDRICEÑA	PDA-115	115	1.66	0.97	17.188+j36.074	43.642+j117.474	1.85	1.08	16.883+j35.586	43.625+j117.336
PEÑALES	PEL-230	230	9.45	8.46	2.777+j13.769	4.058+j18.577	13.74	11.95	1.567+j10.514	3.342+j15.329
PHILIPS	PHS-115	115	23.45	20.05	0.561+j2.776	0.772+j4.208	31.73	24.93	0.361+j2.273	0.766+j4.139
PONDERCEL	POE-115	115	5.67	6.06	2.950+j11.329	2.226+j9.285	6.65	6.87	2.548+j10.686	2.352+j9.695
POPULAR	PPR-115	115	5.15	3.72	4.363+j12.131	8.583+j26.375	6.12	4.27	3.921+j11.276	8.529+j26.075
PORVENIR	PRR-115	115	1.73	1.20	10.293+j37.038	34.546+j82.159	1.95	1.34	9.885+j36.046	34.712+j82.410
PUENTE DE NEGROS	PDN-115	115	3.10	2.32	5.607+j20.639	17.076+j39.712	5.87	4.98	3.095+j12.047	6.376+j18.106
PUERTO JUSTO	PTJ-115	115	1.84	1.66	12.921+j33.694	15.753+j45.106	2.10	1.85	11.753+j32.745	15.885+j46.031
QUEVEDO	QVD-115	115	5.25	5.97	2.656+j12.377	0.567+j8.166	6.10	6.70	2.223+j11.771	0.633+j8.771
QUEVEDO	QVD-230	230	3.06	3.25	9.556+j42.391	3.753+j36.037	3.65	3.71	7.731+j39.249	4.151+j38.143
QUINCE DE OCTUBRE	QDO-115	115	7.08	6.27	2.138+j9.136	4.428+j12.268	8.41	7.20	1.859+j8.488	4.442+j12.341
RANCHO LUCERO	RLO-115	115	12.16	8.37	1.097+j5.347	2.916+j12.546	14.90	9.70	0.877+j4.822	2.910+j12.470
REFORMA	REA-115	115	18.29	22.84	0.755+j3.551	0.143+j1.466	28.23	32.92	0.398+j2.556	0.157+j1.480
REFORMA	REA-230	230	11.95	14.01	2.090+j10.910	0.840+j6.180	20.74	21.80	0.892+j6.985	0.935+j5.962
REGIO MÁRMOL	REM-115	115	4.31	2.74	3.641+j14.982	12.397+j39.915	5.04	3.17	3.380+j14.100	12.209+j38.316
REVOLUCIÓN	REV-115	115	7.88	6.03	2.142+j8.149	5.888+j15.119	9.31	6.90	1.905+j7.614	5.875+j15.051
RIO FLORIDO	RIF-115	115	3.07	2.46	6.075+j20.756	14.027+j35.269	4.31	4.04	4.403+j16.359	4.723+j19.777
RIVEREÑA	RVA-115	115	13.93	13.78	1.132+j4.628	1.391+j4.734	22.34	21.33	0.637+j3.206	1.014+j3.604
ROBERT BOSH	ROB-115	115	12.00	10.79	1.433+j5.344	2.561+j6.968	16.68	13.76	1.002+j4.261	2.513+j6.748
ROBINSON	RNN-115	115	11.91	11.31	1.236+j5.436	1.688+j6.309	15.64	13.75	0.805+j4.599	1.704+j6.415
RUIZ CORTINES	RCS-115	115	4.01	3.70	3.676+j16.151	4.228+j20.392	4.60	4.12	3.238+j15.551	4.295+j20.999
SABINAS	SAB-115	115	1.52	1.00	17.568+j39.906	42.505+j104.212	1.71	1.12	17.032+j39.065	41.084+j102.245
SACRAMENTO	SCT-115	115	20.27	19.18	0.668+j3.207	1.072+j3.695	26.86	24.29	0.456+j2.681	0.988+j3.483
SALVARCAR	SVC-115	115	12.81	11.10	1.144+j5.055	2.679+j7.145	17.73	13.86	0.763+j4.048	2.688+j7.142
SAMALAYACA SUR	SYS-230	230	12.49	13.04	1.857+j10.471	1.822+j9.131	27.51	29.75	0.476+j5.289	0.579+j4.090
SAMALAYUCA	SYC-230	230	12.71	13.50	1.818+j10.292	1.640+j8.467	29.49	34.25	0.408+j4.936	0.226+j2.900
SAN ANTONIO DE BELÉN	ABE-115	115	1.70	1.13	15.235+j35.855	37.227+j90.527	1.92	1.28	14.704+j35.002	35.806+j88.561



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SAN BUENAVENTURA	SBV-115	115	4.28	3.52	3.484+j15.116	9.723+j23.921	4.95	3.97	3.181+j14.395	9.740+j24.019
SAN FRANCISCO DE BORJA	SFB-115	115	1.52	0.98	11.310+j42.296	36.218+j110.265	1.70	1.09	10.825+j41.552	36.238+j110.362
SAN FRANCISCO DEL ORO	SFO-115	115	2.48	2.59	9.524+j25.078	5.176+j22.784	2.87	2.92	8.392+j24.051	5.291+j23.680
SAN IGNACIO	SIG-115	115	2.35	1.66	7.459+j27.204	24.186+j58.692	2.69	1.86	7.053+j26.209	24.352+j58.943
SAN ISIDRO	SID-115	115	7.35	5.97	2.034+j8.800	4.652+j14.587	9.17	6.96	1.644+j7.793	4.816+j14.836
SAN JERÓNIMO	SJE-115	115	5.00	2.34	2.421+j13.065	23.128+j54.285	6.01	2.65	2.016+j11.993	23.150+j54.226
SAN MARTIN	MRT-115	115	1.54	1.01	17.322+j39.435	41.920+j102.693	1.74	1.14	16.786+j38.594	40.499+j100.726
SAN PEDRO	SPD-115	115	6.34	4.59	2.448+j10.188	6.345+j21.555	7.52	5.26	2.075+j9.482	6.302+j21.412
SAN PEDRO POTENCIA	SPP-115	115	3.94	4.94	4.292+j16.317	0.511+j6.729	4.48	5.52	3.837+j15.831	0.571+j7.214
SAN PEDRO POTENCIA	SPP-230	230	2.34	2.64	14.402+j54.990	3.298+j37.933	2.72	2.98	12.385+j52.165	3.640+j40.186
SANTA BÁRBARA	BBA-115	115	2.57	2.77	9.325+j24.075	3.968+j20.137	2.99	3.12	8.199+j23.034	4.079+j21.029
SANTA MARÍA DEL ORO	SMO-115	115	0.81	0.59	29.391+j76.567	68.602+j158.568	0.90	0.65	28.141+j75.732	68.763+j159.536
SANTIAGO DOS	SGD-115	115	2.93	3.53	7.847+j21.240	0.629+j11.615	3.43	4.00	6.722+j20.189	0.740+j12.506
SANTIAGO DOS	SGD-230	230	1.67	1.88	27.115+j74.977	3.700+j53.663	2.00	2.17	22.437+j69.474	4.351+j57.386
SANTIAGO PAPASQUIARO	SGP-115	115	1.10	0.79	25.526+j54.411	61.619+j118.206	1.23	0.87	25.134+j53.951	61.723+j118.722
SANTIAGO UNO	SGU-115	115	2.87	3.39	8.101+j21.713	1.107+j12.701	3.35	3.85	6.975+j20.665	1.218+j13.592
SANTOS SOLAR MANIOBRAS	SSM-115	115	11.78	13.40	0.745+j5.586	0.682+j3.560	14.99	17.22	0.459+j4.850	0.566+j2.941
SAUZAL	SAZ-115	115	10.76	8.70	1.439+j6.002	3.592+j9.975	14.44	10.67	1.017+j4.956	3.574+j9.848
SETENTA Y TRES	SAT-115	115	1.79	1.35	10.394+j35.529	28.101+j67.815	2.01	1.50	9.930+j34.879	28.142+j68.180
SOMBRETE	SOM-115	115	1.45	0.95	18.469+j42.040	44.803+j110.152	1.63	1.06	17.934+j41.194	43.381+j108.184
TABALAOPA	TBL-115	115	12.12	12.10	1.367+j5.305	1.684+j5.326	16.00	14.83	0.939+j4.466	1.698+j5.429
TACUBAYA	TBA-115	115	1.07	0.77	21.523+j58.102	59.369+j119.717	3.71	3.87	5.283+j18.973	5.874+j16.177
TAKATA	TAK-115	115	16.23	13.57	0.756+j4.020	1.538+j6.323	20.68	16.33	0.543+j3.490	1.531+j6.202
TECNOLÓGICO	TEC-115	115	11.34	10.19	1.539+j5.650	2.684+j7.379	15.50	12.79	1.107+j4.580	2.656+j7.263
TERRANOVA	TER-115	115	18.49	21.57	0.732+j3.516	0.257+j2.046	28.96	30.76	0.362+j2.496	0.270+j2.067
TERRANOVA	TER-230	230	11.55	12.81	2.199+j11.280	1.205+j8.048	20.80	20.40	0.863+j6.969	1.245+j7.351
TINAJAS	TIN-115	115	3.11	2.19	3.398+j21.095	18.793+j44.980	3.54	2.47	3.103+j20.368	18.715+j44.428
TORREÓN	TRR-115	115	12.49	9.50	0.984+j5.225	2.528+j10.027	15.52	11.18	0.740+j4.648	2.524+j9.927
TORREÓN ORIENTE	TOT-115	115	18.61	15.58	0.720+j3.494	1.382+j5.487	24.17	18.92	0.509+j2.979	1.378+j5.394
TORREÓN SUR	TRS-115	115	21.68	24.63	0.556+j3.011	0.181+j1.969	29.34	32.35	0.340+j2.466	0.169+j1.810
TORREÓN SUR	TRS-230	230	11.48	13.45	2.076+j11.383	0.477+j6.521	16.75	18.78	1.088+j8.650	0.544+j6.060
TORREÓN SUR	TRS-400	400	7.26	8.53	5.213+j31.396	1.649+j17.642	10.28	11.53	2.687+j24.556	1.614+j16.887
TORREONCITOS SOLAR	TOS-115	115	3.00	2.41	6.307+j21.219	14.276+j35.835	4.19	3.97	4.610+j16.794	4.662+j19.906
TORRES	TOR-115	115	14.74	14.20	0.994+j4.392	1.687+j4.755	21.24	18.45	0.618+j3.383	1.695+j4.746
TRECE SOLAR MANIOBRAS	TSM-115	115	2.00	1.88	8.074+j32.232	7.302+j38.818	2.87	3.03	5.707+j24.770	2.470+j21.421
TRES HERMANOS	THS-115	115	1.66	1.62	12.093+j38.155	16.988+j39.754	2.21	2.01	10.087+j31.433	17.133+j39.467
TRES MANANTIALES	TMA-115	115	1.65	1.35	12.923+j38.147	21.297+j63.961	1.84	1.53	12.594+j37.617	20.424+j60.457
VADO SANTA MARÍA	VSM-115	115	1.76	1.45	9.564+j36.522	3.791+j62.392	1.96	1.60	9.322+j36.040	3.811+j62.621
VALLE DE JUÁREZ	VJZ-115	115	16.87	20.02	0.895+j3.833	0.254+j2.075	26.53	29.65	0.474+j2.712	0.245+j1.875
VALLE DE JUÁREZ	VJZ-230	230	10.23	11.11	2.476+j12.740	1.441+j9.823	17.21	16.65	1.067+j8.418	1.452+j9.254
VALLE ESPERANZA	VEZ-115	115	2.90	1.72	3.666+j22.636	27.599+j65.355	3.29	1.92	3.371+j21.910	27.520+j64.804
VALLE VERDE	VAE-115	115	17.57	14.15	0.762+j3.701	1.577+j6.335	22.55	17.00	0.553+j3.191	1.573+j6.250



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
VERDE INDEPENDENCIA UNO	VIU-115	115	9.18	7.33	1.244+j7.123	4.635+j11.998	11.84	8.74	0.870+j6.107	4.648+j12.018
VICENTE GUERRERO	VGR-115	115	2.63	1.92	7.982+j23.921	21.074+j49.147	3.02	2.20	7.476+j23.012	19.669+j47.191
VIDRIERA CHIHUAHUA MANIOBRAS	VCM-115	115	3.35	3.02	5.609+j19.021	5.259+j25.904	7.47	5.31	1.897+j9.591	5.747+j21.005
VILLA AHUMADA	VAH-115	115	2.30	1.65	7.636+j27.847	24.800+j57.907	2.60	1.85	7.331+j27.132	24.719+j57.351
VIÑEDOS	VDS-115	115	13.24	9.75	1.136+j4.884	3.240+j9.908	16.33	11.39	0.923+j4.377	3.234+j9.832
WERNER	WER-115	115	11.93	10.52	1.441+j5.377	2.789+j7.311	16.20	13.04	1.063+j4.382	2.801+j7.307
WRANGLER	WRA-115	115	7.98	6.67	2.046+j8.065	7.652+j11.394	11.59	9.93	1.212+j6.182	4.219+j8.684
YERMO	YMO-115	115	1.34	0.79	19.007+j45.738	49.778+j143.949	2.30	1.41	12.091+j29.289	29.988+j87.608
ZARAGOZA	ZZA-115	115	14.67	14.48	1.136+j4.382	1.467+j4.480	21.65	19.53	0.706+j3.298	1.420+j4.260

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	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ACERO	AEO-115	115	9.75	8.93	1.042+j6.727	1.550+j8.615	11.34	10.08	0.891+j6.377	1.557+j8.755
ACEROS PLANOS	APM-115	115	23.65	11.68	0.522+j2.758	2.370+j11.200	28.23	16.02	0.462+j2.545	1.762+j8.326
ACUARIO	ACU-138	138	13.14	11.65	1.280+j5.928	1.527+j8.440	15.11	13.08	1.160+j5.681	1.537+j8.518
ACUÑA	AUA-138	138	5.56	5.96	2.625+j14.092	1.548+j11.328	7.05	7.47	2.097+j12.254	1.492+j10.199
ACUÑA DOS	ACD-138	138	5.70	6.09	2.289+j13.791	1.477+j11.233	7.56	8.08	1.603+j11.483	1.271+j9.219
AEROPUERTO	AER-138	138	21.38	25.37	0.596+j3.679	0.169+j2.025	26.03	29.93	0.467+j3.335	0.184+j2.102
AEROPUERTO	AER-230	230	20.44	24.87	1.000+j6.419	0.269+j3.190	26.47	31.09	0.650+j5.481	0.285+j3.158
AEROPUERTO	AER-400	400	15.01	17.02	2.245+j15.218	1.258+j10.495	20.06	21.48	1.359+j12.593	1.334+j10.457
AEROPUERTO NORTE	ANE-115	115	12.80	6.90	1.026+j5.086	4.092+j18.043	17.90	9.73	0.732+j4.015	3.150+j14.023
AEROPUERTO OMA MONTERREY	OMA-115	115	20.21	14.04	0.539+j3.241	1.631+j7.444	23.73	16.01	0.473+j3.041	1.626+j7.370
AFI STEEL FOUNDRY	ASF-115	115	17.11	13.30	0.515+j3.845	1.541+j7.070	20.20	15.41	0.418+j3.592	1.505+j6.848
AGUA NUEVA	AGN-115	115	8.00	8.34	1.023+j8.237	0.703+j7.257	12.81	12.28	0.992+j5.615	0.818+j6.397
AGUAS TRATADAS	ATM-115	115	12.77	9.23	0.827+j5.134	2.386+j10.975	15.55	11.35	0.680+j4.648	1.987+j9.754
ALAMO	ALM-115	115	11.59	9.16	1.081+j5.625	2.414+j10.022	13.12	10.23	1.006+j5.475	2.408+j10.015
ÁLCALI MANIOBRAS	ACM-115	115	23.89	25.08	0.358+j2.756	0.209+j2.358	26.40	27.18	0.342+j2.745	0.228+j2.501
ALCOA PRIVADA	APV-115	115	13.19	7.11	0.993+j4.934	3.967+j17.489	18.61	10.12	0.699+j3.863	3.024+j13.469
ALÉN DEL NORTE	ADN-115	115	11.23	7.52	1.060+j5.816	2.916+j14.363	12.61	8.32	1.003+j5.705	2.924+j14.467
ALIANZA	ALZ-115	115	24.66	17.06	0.433+j2.658	1.232+j6.173	28.12	19.01	0.387+j2.568	1.238+j6.214
ALLENDE	ALN-115	115	3.84	2.24	3.588+j16.896	12.503+j52.976	4.26	2.47	3.527+j16.768	12.489+j52.879
ALLENDE DOS	AED-138	138	5.53	4.36	2.466+j14.187	4.726+j25.560	6.97	5.18	1.938+j12.417	4.716+j25.129
ALMACENTRO DEFINITIVO	ALE-115	115	22.39	16.44	0.466+j2.929	1.199+j6.069	26.08	18.63	0.410+j2.770	1.204+j6.051
ALPES	ALP-115	115	14.49	11.80	0.654+j4.534	1.512+j7.581	16.82	13.55	0.559+j4.307	1.470+j7.350
ALTAMIRA	ALT-115	115	28.03	30.58	0.311+j2.348	0.171+j1.826	31.61	33.72	0.300+j2.291	0.179+j1.925
ALTAMIRA	ALT-230	230	21.23	25.21	0.553+j6.230	0.355+j3.521	24.58	28.94	0.466+j5.925	0.298+j3.477
ALTAMIRA	ALT-400	400	21.71	21.21	0.951+j10.595	1.931+j11.485	31.14	31.51	0.551+j8.138	1.083+j8.081
ALTAMIRA DE AGUA Y DRENAJE DE MONTERREY	AAD-115	115	19.83	12.60	0.612+j3.292	1.950+j8.907	31.65	22.09	0.392+j2.274	0.997+j5.212
ALTAMIRA III Y IV	ATC-400	400	22.57	25.35	0.780+j10.201	0.704+j7.031	35.53	42.07	0.374+j7.140	0.378+j4.541
ALTAMIRA V	ATV-400	400	22.54	25.34	0.783+j10.217	0.700+j7.018	35.46	42.04	0.378+j7.155	0.376+j4.532
ALTAMIRANO	ATR-115	115	7.59	5.84	1.396+j8.634	3.345+j16.314	8.75	6.54	1.240+j8.257	3.357+j16.488
ALTOS HORNOS DE MÉXICO	AHM-400	400	8.70	8.93	3.729+j26.292	2.731+j25.437	11.54	10.91	2.342+j21.898	3.064+j26.412
AMERICAN INDUSTRIES	AIN-138	138	16.63	16.92	0.926+j4.700	0.861+j4.523	19.96	19.68	0.781+j4.322	0.870+j4.560
AMERICAN INDUSTRIES DULCES NOMBRES	AID-115	115	23.09	17.50	0.426+j2.844	1.104+j5.523	27.87	20.45	0.352+j2.597	1.090+j5.387
AMÉRICAS	AME-115	115	18.59	12.31	0.522+j3.533	1.824+j8.865	22.40	14.49	0.462+j3.228	1.740+j8.432
AMISTAD	AMI-138	138	3.21	2.78	5.265+j24.294	7.997+j35.436	4.65	5.22	3.080+j18.589	1.133+j12.680
AMPAD	AMP-138	138	9.92	10.86	1.538+j7.880	0.940+j6.079	11.19	12.01	1.433+j7.700	0.970+j6.316
ANÁHUAC	ANH-138	138	2.25	1.40	7.193+j34.748	20.184+j97.930	2.57	1.56	6.705+j33.473	20.270+j98.349
ANÁHUAC POTENCIA	ANP-115	115	20.26	26.77	0.416+j3.251	0.272+j0.890	21.94	28.81	0.421+j3.302	0.316+j0.951
ANÁHUAC POTENCIA	ANP-400	400	16.61	26.32	1.244+j13.848	1.960-j1.289	20.15	32.34	0.966+j12.569	2.198-j1.433
ANÁHUAC TAM.POTENCIA	ATP-230	230	15.77	20.95	1.114+j8.348	0.139+j2.841	18.68	24.21	0.881+j7.772	0.143+j2.972
ANÁHUAC TAM.POTENCIA	ATP-400	400	11.83	14.11	2.115+j19.413	0.747+j11.504	16.71	20.16	1.123+j15.160	0.434+j8.247
ANGOSTURA	ANG-115	115	10.62	8.16	0.906+j6.186	2.557+j11.638	11.93	9.06	0.840+j6.062	2.563+j11.692
ANILLO PERIFÉRICO	APF-115	115	13.72	10.14	0.792+j4.774	1.884+j9.779	15.41	11.14	0.748+j4.679	1.963+j10.005



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ANZALDUAS	ANZ-138	138	15.47	13.32	0.970+j5.057	1.483+j7.564	18.25	15.26	0.833+j4.730	1.474+j7.532
ANZALDUAS RODÉ	ANR-138	138	12.56	9.66	1.317+j6.204	2.611+j11.826	14.75	11.13	1.165+j5.828	2.519+j11.502
APASCO	APC-230	230	10.16	8.48	2.067+j12.906	4.616+j20.373	11.57	9.47	1.825+j12.489	4.655+j20.584
APODACA	APO-115	115	10.56	6.89	1.108+j6.189	3.265+j15.999	19.13	12.55	0.690+j3.755	1.967+j9.623
ARCO VIAL	ARV-115	115	23.59	24.16	0.429+j2.781	0.318+j2.587	26.20	26.35	0.406+j2.758	0.333+j2.709
ARROYO DEL COYOTE	ADC-138	138	9.54	12.40	1.591+j8.197	0.144+j2.621	12.18	15.32	1.155+j7.103	0.167+j2.780
ARROYO DEL COYOTE	ADC-230	230	4.85	5.40	4.720+j26.997	1.383+j19.040	6.10	6.43	3.521+j23.687	1.570+j20.263
ARROYO DEL COYOTE	ADC-400	400	3.48	3.64	9.677+j65.618	4.305+j58.039	4.68	4.51	5.933+j53.962	5.113+j60.287
ARTEAGA	ATG-115	115	4.41	4.43	4.191+j14.451	3.401+j14.472	5.35	5.14	3.487+j13.200	3.613+j14.937
ARTES GRAFICAS	AGR-115	115	10.41	7.84	1.097+j6.284	2.214+j12.467	20.38	14.30	0.627+j3.528	1.541+j8.012
ARVIN MERITOR	AVM-115	115	12.05	6.49	1.087+j5.402	4.352+j19.183	16.59	9.00	0.793+j4.331	3.409+j15.163
ATLAPEXCO	APX-115	115	2.87	2.76	5.579+j22.454	7.784+j24.819	3.15	3.02	5.583+j22.517	7.796+j24.992
AXTLA	AXA-115	115	4.91	3.24	3.431+j13.068	8.701+j33.284	5.30	3.52	3.464+j13.336	8.727+j33.626
AZTECAS	AZT-115	115	1.17	0.74	18.416+j53.889	49.637+j147.785	3.29	2.01	6.335+j21.296	20.015+j61.230
AZTLÁN	AZN-138	138	16.64	14.36	0.920+j4.698	1.501+j6.972	19.93	16.72	0.779+j4.329	1.458+j6.824
BAJÍO	BAO-115	115	2.52	1.72	6.343+j25.546	14.819+j61.163	2.87	1.92	5.973+j24.704	14.856+j61.667
BALL METAL BEVERAGE	BMB-115	115	19.97	13.14	0.595+j3.271	1.791+j8.321	23.57	15.08	0.527+j3.053	1.770+j8.155
BARRETAL	BET-115	115	3.43	2.29	7.212+j17.973	16.601+j45.330	3.74	2.50	7.213+j18.136	16.614+j45.533
BARRY CALLEBAUT	BAC-115	115	21.62	10.94	0.524+j3.025	2.546+j11.793	24.55	12.13	0.477+j2.937	2.560+j11.852
BASF	BSF-115	115	15.36	11.31	0.804+j4.248	1.847+j8.821	18.38	13.60	0.713+j3.909	1.685+j8.042
BASF	BSF-115B	115	15.25	10.79	0.818+j4.275	2.189+j9.556	18.59	14.38	0.696+j3.867	1.425+j7.296
BERLÍN	BRN-115	115	26.86	19.24	0.463+j2.428	1.571+j5.190	31.27	21.72	0.411+j2.299	1.576+j5.200
BICENTENARIO	BIC-115	115	9.32	8.13	1.136+j7.034	2.200+j10.032	10.02	8.72	1.141+j7.199	2.245+j10.328
BIOFILM	BFL-115	115	17.14	12.76	0.690+j3.812	1.687+j7.718	19.99	15.01	0.638+j3.598	1.546+j7.176
BLACK & DECKER	BAD-138	138	16.99	14.19	0.787+j4.624	1.308+j7.403	20.75	16.84	0.636+j4.176	1.238+j7.101
BOMBEO LOMA LARGA	BLL-115	115	20.25	12.66	0.632+j3.217	1.778+j9.005	23.10	14.25	0.581+j3.108	1.767+j8.885
BOMBEO NUEVA CASTILLA III	BNC-115	115	11.24	5.52	1.038+j5.814	4.984+j23.751	12.58	6.08	0.988+j5.721	5.022+j23.882
BOMBEO PORVENIR	POR-115	115	3.19	2.27	6.393+j19.827	18.479+j42.208	3.51	2.50	6.381+j19.805	18.502+j42.258
BRAVO	BRA-115	115	2.04	1.28	9.514+j31.117	29.370+j85.472	2.24	1.41	9.505+j31.139	29.417+j85.509
CADEREYTA	CYN-115	115	15.47	11.63	0.624+j4.246	1.621+j8.394	18.14	13.41	0.551+j3.988	1.568+j8.142
CADEREYTA II	CDT-115B2	115	2.44	1.88	4.467+j26.797	16.796+j49.278	2.66	2.05	4.406+j27.071	16.847+j49.819
CADEREYTA II	CDT-115B1	115	2.47	1.89	4.931+j26.458	16.828+j49.334	2.69	2.05	4.877+j26.729	16.879+j49.875
CAMARGO	CAM-138	138	3.91	2.22	5.447+j19.644	17.247+j64.538	6.88	4.47	3.175+j12.340	7.465+j32.537
CAMPESTRE	CPR-138	138	7.66	7.65	1.992+j10.211	1.718+j10.345	9.50	9.04	1.541+j9.097	1.740+j10.499
CAMPO TAMAULIPAS	CTS-115	115	11.47	7.83	1.303+j5.642	3.337+j13.522	12.78	8.64	1.286+j5.566	3.342+j13.587
CAPELLANIA	CAP-115	115	11.82	9.37	0.824+j5.557	1.979+j9.844	13.54	10.48	0.734+j5.346	2.028+j9.925
CARBÓN DOS	CBD-400	400	8.56	8.44	4.067+j26.664	3.703+j28.215	23.28	27.57	0.612+j10.897	0.347+j6.260
CARPLASTIC	CIS-115	115	19.38	13.37	0.559+j3.381	1.713+j7.862	22.54	15.14	0.497+j3.202	1.714+j7.816
CASA BLANCA	CBL-138	138	10.51	8.33	1.501+j7.428	2.520+j13.512	11.95	9.26	1.389+j7.202	2.534+j13.636
CASTECH	CAS-115	115	16.98	13.22	0.521+j3.875	1.568+j7.102	20.00	15.25	0.425+j3.627	1.540+j6.921
CATERPILA JAGUAR	CJR-115	115	11.47	6.18	1.140+j5.675	4.574+j20.165	15.60	8.46	0.845+j4.604	3.631+j16.144
CEDROS	CED-115	115	26.13	29.28	0.432+j2.504	0.190+j1.723	31.37	34.11	0.346+j2.302	0.205+j1.765



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CEDROS	CED-230	230	12.48	12.81	1.716+j10.503	1.296+j9.765	14.47	14.42	1.427+j9.996	1.375+j10.132
CEJA	CJA-115	115	2.41	1.91	4.870+j27.081	17.933+j46.617	2.63	2.08	4.813+j27.353	17.983+j47.158
CELULOSA	CEL-115	115	30.85	20.14	0.402+j2.114	1.095+j5.478	36.10	23.66	0.351+j1.993	1.022+j5.116
CEMENTOS ANÁHUAC	CAN-115	115	13.84	12.89	0.842+j4.722	1.326+j5.741	15.07	14.03	0.848+j4.773	1.370+j5.802
CEMENTOS HIDALGO	CEH-115	115	7.11	4.67	2.543+j8.991	8.748+j22.357	7.90	5.16	2.496+j8.902	8.754+j22.400
CEMENTOS MEXICANOS	CEM-115	115	28.37	17.79	0.399+j2.306	1.315+j6.383	32.90	21.26	0.348+j2.192	1.181+j5.751
CEMEX (VALLES)	CMX-115	115	7.39	5.45	2.282+j8.692	4.306+j18.135	8.10	5.97	2.283+j8.725	4.350+j18.177
CENTEC	CNE-115	115	10.26	7.12	1.470+j6.300	3.541+j14.630	11.82	8.05	1.379+j6.024	3.507+j14.454
CENTRAL	CEN-138	138	12.82	12.07	1.289+j6.079	1.245+j7.482	14.66	13.47	1.176+j5.862	1.261+j7.621
CENTRAL ANÁHUAC	CAH-230	230	15.73	20.92	1.110+j8.368	0.132+j2.834	18.62	24.15	0.878+j7.796	0.139+j2.973
CENTRAL DULCES NOMBRES	CDU-115	115	17.71	19.90	0.116+j3.747	0.050+j2.513	18.17	20.28	0.098+j4.019	0.055+j2.765
CENTRAL DULCES NOMBRES	CDU-400	400	29.71	32.42	1.299+j7.665	0.523+j5.836	40.86	43.88	0.755+j6.172	0.410+j4.953
CENTRAL DULCES NOMBRES II	DNO-115	115	38.65	41.03	0.239+j1.701	0.155+j1.409	48.33	49.90	0.181+j1.500	0.166+j1.369
CENTRAL IBERDROLA COGENERACIÓN RAMOS	ICR-115	115	15.34	13.14	0.500+j4.299	0.940+j6.478	18.09	15.30	0.407+j4.018	0.939+j6.208
CERRALVO	CER-115	115	3.06	2.21	5.694+j20.936	16.194+j43.827	3.51	2.49	5.428+j20.093	15.814+j43.553
CERRO PRIETO	CEP-115	115	4.83	4.14	2.358+j13.536	5.719+j19.898	5.24	4.50	2.344+j13.749	5.725+j20.048
CHAIREL	CHR-115	115	18.17	15.07	0.650+j3.596	1.788+j5.720	20.49	16.74	0.626+j3.508	1.794+j5.777
CHAMPAYAN	CPY-400	400	25.91	28.07	0.751+j8.880	0.887+j6.986	38.39	43.18	0.402+j6.605	0.596+j4.846
CHAPACAO	CHW-115	115	4.35	3.07	4.004+j14.727	13.754+j31.684	4.80	3.38	3.988+j14.679	13.770+j31.736
CHRYSLER CAMIONES PLANTA MOTORES SUR	CPS-115	115	12.04	9.59	0.957+j5.430	2.289+j9.496	14.83	12.33	0.832+j4.852	1.781+j7.738
CHRYSLER DE MÉXICO	CYM-115	115	12.20	8.51	0.981+j5.351	2.549+j12.271	22.90	18.74	0.574+j3.137	1.169+j5.193
CHRYSLER PLANTA CAMIONES	CYC-115	115	12.30	9.94	0.915+j5.319	2.172+j9.012	15.27	12.96	0.786+j4.718	1.648+j7.171
CIBIOSA (FERSINSA)	CIB-115	115	11.95	8.64	0.854+j5.488	2.148+j11.753	13.67	9.61	0.767+j5.289	2.223+j11.911
CIFUNSA	CIF-115	115	17.77	14.76	0.712+j3.668	1.188+j5.914	21.08	17.10	0.624+j3.408	1.169+j5.773
CIMA	CIM-138	138	12.60	13.40	1.247+j6.199	0.681+j5.367	14.32	14.85	1.140+j6.011	0.712+j5.595
CITROFRUT	CIT-115	115	7.09	3.02	2.482+j9.029	11.991+j45.738	7.90	3.37	2.425+j8.922	11.742+j45.141
CIUDAD INDUSTRIAL	CID-138	138	7.44	8.22	2.154+j10.487	0.962+j7.659	9.37	9.80	1.688+j9.200	1.039+j8.058
CIUDAD INDUSTRIAL	CID-230	230	4.72	4.99	5.156+j27.653	2.962+j23.487	5.99	5.96	3.942+j24.050	3.174+j24.583
CLOSURES INTERIORES	CLI-138	138	11.09	9.40	1.645+j6.996	2.351+j10.994	12.78	10.60	1.507+j6.692	2.350+j10.998
CODEFRONT	CFT-138	138	2.88	2.08	4.390+j27.337	10.528+j58.838	3.33	2.33	3.913+j26.054	10.606+j59.238
COMPañÍA CERVECERA DE COAHUILA	CVC-138	138	5.96	5.09	2.694+j13.096	3.599+j19.934	8.88	7.89	1.773+j9.705	2.584+j13.288
CONCEPCIÓN DEL ORO	CDO-115	115	1.37	0.82	14.628+j46.367	36.829+j142.243	1.58	0.92	14.371+j43.876	36.940+j141.354
CONDUCTORES MONTERREY	CDY-115	115	20.06	15.38	0.523+j3.268	1.403+j6.185	27.06	19.05	0.451+j2.661	1.442+j5.944
CONEK	CNK-115	115	22.87	22.77	0.446+j2.869	0.389+j2.904	25.38	24.85	0.423+j2.846	0.405+j3.026
CONEK	CNK-115	115	23.22	23.71	0.437+j2.826	0.322+j2.653	25.78	25.85	0.414+j2.803	0.339+j2.779
CONEK II	COK-115	115	22.87	22.77	0.446+j2.869	0.389+j2.904	25.38	24.85	0.423+j2.846	0.405+j3.026
CONTEC MEXICANA	CON-115	115	30.54	26.80	0.295+j2.154	0.542+j3.039	38.05	32.36	0.221+j1.907	0.528+j2.903
CONTROLADORA DE TERMINALES	COT-115	115	20.14	9.34	0.567+j3.247	3.058+j14.427	22.82	10.32	0.519+j3.157	3.082+j14.518
CONTRY	CNY-115	115	24.74	15.64	0.463+j2.643	1.422+j7.236	28.57	17.72	0.409+j2.523	1.404+j7.120
CORONA	CRO-138	138	7.08	5.63	2.232+j11.026	3.595+j19.694	11.60	9.26	1.225+j7.457	2.551+j12.967
CORPORATE PROPERTIES OF AMÉRICA	CPA-115	115	10.03	5.39	1.297+j6.493	5.241+j23.108	13.24	7.16	1.002+j5.423	4.298+j19.088
COSMOPOLIS	CPL-115	115	15.48	9.12	0.759+j4.221	2.879+j12.962	17.54	10.39	0.715+j4.102	2.777+j12.459



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Subestación eléctrica	Acónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
CRUZ DE ATAQUE	CRQ-115	115	0.85	0.65	19.308+j75.242	60.107+j138.601	0.94	0.72	19.294+j75.292	60.130+j138.788
CRYOINFRA	CRY-115	115					18.30	15.22	0.811+j3.908	1.154+j6.446
CRYOINFRA SCMS	COF-115	115	31.75	28.37	0.297+j2.070	0.345+j2.821	46.97	38.10	0.233+j1.537	0.378+j2.617
CUADRO DE MANIOBRAS EÓLICA DE COAHUILA	MEH-230	230	5.73	7.39	3.069+j22.961	0.877+j7.686	6.40	8.16	2.891+j22.641	0.932+j8.095
CUADRO DE MANIOBRAS PRESA GRANDE	PGE-400	400	8.11	5.68	2.874+j28.334	14.093+j63.907	12.16	12.44	1.428+j20.848	1.532+j19.847
CUADRO DE MANIOBRAS PROMAX	MPX-115	115	33.19	13.86	0.385+j1.963	2.097+j10.154	39.89	17.15	0.325+j1.802	1.858+j8.922
CUADRO MANIOBRAS DE ABSORMEX	MBX-115	115	19.32	15.09	0.627+j3.379	1.375+j6.229	24.92	21.34	0.481+j2.891	0.817+j4.384
CUADRO MANIOBRAS EÓLICO SANTA CATARINA	MEO-230	230	14.96	12.15	1.260+j8.785	3.601+j14.653	17.03	13.53	1.083+j8.510	3.640+j14.867
CUATRO CIÉNEGAS	CCE-115	115	1.66	1.08	16.148+j36.709	37.025+j97.539	1.84	1.19	16.004+j36.426	37.037+j97.730
CUMBRES FRONTERA	CUF-138	138	21.48	23.69	0.600+j3.661	0.308+j2.703	26.00	27.76	0.475+j3.338	0.321+j2.753
CUMBRES FRONTERA	CUF-230	230	15.67	14.79	1.112+j8.400	1.329+j9.991	18.91	17.06	0.816+j7.679	1.397+j10.218
CUMBRES ORIENTE	CBO-115	115	14.13	10.08	0.655+j4.652	2.248+j10.122	17.28	12.08	0.566+j4.188	2.110+j9.471
CUMBRES PONIENTE	CMN-115	115	16.21	12.26	0.568+j4.057	1.700+j7.876	20.80	15.51	0.466+j3.479	1.505+j6.958
DE ACERO	DEA-230	230	10.26	9.33	2.017+j12.788	3.010+j16.585	11.78	10.43	1.728+j12.283	3.089+j16.952
DE ACERO CLAVOS MONTERREY	DCM-115	115	32.07	20.24	0.382+j2.035	1.146+j5.587	40.49	26.20	0.312+j1.777	0.973+j4.660
DE ACERO POTENCIA	DEP-400	400	19.81	11.87	1.662+j11.539	4.875+j34.767	24.35	13.30	1.126+j10.373	5.225+j36.122
DECOFINMEX	DFX-138	138	12.08	10.13	1.348+j6.454	1.932+j10.431	13.85	11.34	1.230+j6.206	1.942+j10.511
DENSO	DSO-115	115	9.70	6.23	1.209+j6.735	3.711+j17.911	20.41	13.83	0.645+j3.520	1.708+j8.524
DENSO GUADALUPE	DGP-115	115	14.43	8.38	0.805+j4.529	2.945+j14.275	19.81	11.58	0.587+j3.639	2.201+j11.343
DERRAMADERO	DMD-115	115	22.19	22.69	0.390+j2.967	0.297+j2.784	24.95	25.08	0.337+j2.908	0.302+j2.871
DERRAMADERO	DMD-400	400	14.58	12.59	2.248+j15.682	3.927+j23.052	17.65	14.55	1.620+j14.304	3.950+j23.298
DÍAZ ORDAZ	DOR-138	138	4.82	2.91	4.258+j15.985	12.439+j47.498	7.40	4.74	2.900+j11.476	7.646+j30.850
DINASTÍA	DNA-115	115	28.64	17.89	0.421+j2.280	1.228+j6.382	33.35	20.09	0.366+j2.159	1.238+j6.408
DIRONA	DIR-115	115	19.24	8.96	0.582+j3.402	3.102+j15.015	21.78	9.89	0.533+j3.310	3.138+j15.140
DIRONA Y FORJA	DFO-115	115	19.23	8.96	0.582+j3.404	3.113+j15.003	21.77	9.89	0.534+j3.312	3.147+j15.123
DOFASCO DE MÉXICO	DAO-115	115	19.83	9.13	0.576+j3.299	3.110+j14.805	22.45	10.08	0.528+j3.210	3.139+j14.908
DULCES NOMBRES AYD	RDN-115	115	7.71	4.80	1.588+j8.460	5.753+j23.596	8.68	5.34	1.523+j8.278	5.753+j23.542
DYNASOL	DYN-115	115	16.96	12.98	0.779+j3.837	1.723+j7.369	19.01	14.35	0.764+j3.765	1.729+j7.440
EARTH TECH	ETH-115	115	8.14	3.32	1.393+j8.033	9.361+j42.692	9.87	4.06	1.163+j7.304	7.872+j38.436
ÉBANO	EBN-115	115	4.44	3.14	4.154+j14.363	13.357+j30.942	4.90	3.46	4.136+j14.305	13.370+j30.996
EL ABRA	ABR-115	115	2.00	1.38	11.459+j31.080	19.196+j76.231	2.76	1.95	8.218+j25.118	13.670+j57.915
EL CANADÁ	ECN-115	115	21.56	10.97	0.466+j3.044	2.138+j11.810	24.52	12.04	0.417+j2.949	2.211+j12.050
EL COCO	COC-115	115	19.89	25.82	0.436+j3.310	0.337+j1.035	21.55	27.80	0.441+j3.360	0.381+j1.096
EL CUCHILLO	CCL-115	115	5.84	6.64	1.386+j11.287	0.579+j7.228	6.28	7.05	1.322+j11.562	0.628+j7.767
EL CUCHILLO	CCL-230	230	5.92	5.35	3.801+j22.115	4.367+j29.238	6.90	5.99	3.369+j20.896	4.728+j30.475
EL FRAILE	FAI-400	400	26.20	28.05	1.019+j8.754	0.533+j7.099	31.17	31.88	0.715+j8.119	0.588+j7.613
EL GUERREÑO	GRR-138	138	20.11	24.24	0.617+j3.913	0.116+j2.011	24.35	28.43	0.479+j3.567	0.130+j2.116
EL GUERREÑO	GRR-400	400	12.61	13.05	2.431+j18.147	2.494+j17.073	16.58	16.10	1.498+j15.245	2.627+j16.984
EL HIGO DOS	HGD-115	115	2.89	1.71	4.399+j22.583	19.326+j68.217	3.15	1.88	4.445+j22.721	19.337+j68.292
EL MIRADOR	MIO-115	115	27.26	18.31	0.446+j2.395	1.324+j5.863	35.73	24.84	0.341+j2.016	0.975+j4.635
EL PORVENIR	EPR-138	138	8.03	7.38	2.063+j9.707	1.776+j12.497	9.13	8.13	1.953+j9.398	1.924+j13.064
EL REGIOMONTANO	RGM-115	115	29.60	29.17	0.268+j2.227	0.268+j2.329	35.26	33.64	0.224+j2.059	0.280+j2.360



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
EL REGIONMONTANO	RGM-400	400	19.90	17.40	1.617+j11.492	3.056+j16.354	24.90	20.71	1.119+j10.140	3.097+j16.172
EL SARAPE	SRP-230	230	12.05	12.10	1.789+j10.870	1.896+j10.765	13.94	13.62	1.506+j10.369	1.944+j11.078
ELECTRICIDAD ÁGUILA ALTAMIRA	EAA-400	400	22.38	24.70	0.800+j10.287	0.867+j7.574	35.30	41.38	0.384+j7.186	0.450+j4.809
ELENA	ELN-115	115	15.59	16.27	0.715+j4.199	0.595+j3.734	18.26	19.01	0.642+j3.948	0.552+j3.535
EMERSON	EMR-138	138	11.06	8.31	1.538+j7.036	2.996+j14.115	13.55	9.97	1.253+j6.346	2.816+j13.276
EMERSON DOS	EMD-138	138	9.40	5.98	1.941+j8.251	5.697+j22.331	17.20	11.76	0.976+j5.000	2.811+j11.888
EMPALME	EML-138	138	7.38	5.08	2.705+j10.456	6.016+j24.897	8.58	5.81	2.476+j9.905	5.882+j24.244
ENERGÍA MK KF	KAF-115	115	19.45	16.39	0.609+j3.358	0.944+j5.297	24.45	21.22	0.496+j2.946	0.749+j4.337
ENERTEK	ETK-115	115	22.94	21.84	0.430+j2.863	0.496+j3.364	26.44	25.30	0.401+j2.733	0.456+j3.172
EÓLICA CIUDAD VICTORIA	ECV-115	115	13.66	13.93	0.638+j4.820	0.898+j4.496	14.53	14.76	0.637+j4.985	0.926+j4.723
EÓLICA GUADALUPE MANIOBRAS	EGM-400	400	8.90	8.80	2.579+j25.816	3.357+j26.704	10.19	9.79	2.246+j24.827	3.553+j27.903
EÓLICA LA MESA	ELM-115	115	7.38	6.97	1.641+j8.849	1.830+j10.413	7.97	7.44	1.649+j9.017	1.952+j10.939
EÓLICA TRES MESAS	EMS-115	115	5.47	3.59	0.194+j12.147	8.052+j30.496	5.60	3.75	0.171+j13.049	8.080+j31.784
EÓLICA TRES MESAS	EMS-115B	115	3.80	4.18	2.391+j17.288	0.257+j12.811	3.98	4.32	2.370+j18.184	0.282+j14.095
ÉOLICA TRES MESAS FASE CUATRO	EMC-115	115	4.28	4.11	1.009+j15.464	0.987+j17.443	4.37	4.20	1.072+j16.687	1.000+j18.723
ÉOLICA TRES MESAS FASE CUATRO	EMC-115A	115	3.44	3.88	2.133+j19.195	0.129+j12.791	3.56	3.98	2.200+j20.407	0.142+j14.071
ESCOBEDO	ESC-115	115	53.11	54.85	0.192+j1.235	0.105+j1.129	63.31	62.93	0.147+j1.144	0.111+j1.172
ESCOBEDO	ESC-230	230	21.22	19.88	0.873+j6.196	1.061+j7.470	24.62	22.24	0.699+j5.891	1.132+j7.773
ESCOBEDO	ESC-400	400	27.42	27.92	1.520+j8.283	1.197+j7.863	36.13	34.48	0.988+j6.961	1.238+j7.940
ESPERANZAS	ESP-115	115	2.51	1.74	6.732+j25.624	14.298+j60.102	2.85	1.93	6.349+j24.799	14.334+j60.604
ESTANZUELA	ETZ-115	115	17.82	13.58	0.522+j3.689	1.348+j7.092	20.36	15.34	0.465+j3.558	1.335+j6.995
ESTANZUELA	ETZ-115B	115	22.23	15.21	0.550+j2.935	1.393+j6.987	25.65	17.23	0.493+j2.804	1.380+j6.890
ESTRELLA	ELL-115	115	7.16	5.07	1.569+j9.134	4.452+j20.319	7.75	5.50	1.571+j9.298	4.468+j20.530
FALCÓN MEXICANO	FAM-138	138	5.21	3.03	3.987+j14.758	12.515+j46.676	6.39	5.28	3.260+j13.330	2.951+j22.304
FARO	FAR-115	115	20.06	12.78	0.611+j3.253	1.757+j8.798	22.89	14.39	0.559+j3.142	1.746+j8.678
FÉLIX U. GÓMEZ	FUG-115	115	30.74	20.65	0.381+j2.126	1.010+j5.234	35.77	23.97	0.330+j2.015	0.964+j4.967
FINSA	FIT-115	115	12.01	8.83	0.876+j5.458	2.312+j11.268	16.41	11.24	0.716+j4.393	2.252+j10.357
FINSA	FIS-115	115	16.15	13.86	0.593+j4.069	1.326+j6.019	18.69	15.65	0.510+j3.874	1.338+j6.055
FINSA GUADALUPE	FIG-115	115	23.06	15.78	0.510+j2.834	1.426+j6.714	27.52	18.26	0.443+j2.617	1.406+j6.556
FINSA LAREDO	FIL-138	138	7.90	7.83	2.141+j9.853	2.318+j10.116	9.78	9.24	1.727+j8.796	2.340+j10.274
FIRESTONE	FRS-115	115	13.77	8.22	0.941+j4.728	3.203+j14.245	19.84	12.35	0.644+j3.625	2.243+j10.146
FLEX AMÉRICAS	FME-115	115	16.60	12.74	0.485+j3.971	1.600+j7.521	19.12	14.51	0.442+j3.795	1.553+j7.363
FOMERREY	FOM-115	115	11.20	7.49	1.065+j5.831	2.929+j14.422	12.56	8.28	1.010+j5.727	2.937+j14.525
FREIGHTLINER	FRI-115	115	10.74	8.07	1.110+j6.080	3.004+j11.957	12.65	9.70	0.991+j5.687	2.609+j10.736
FRISA	FSA-115	115	19.95	17.52	0.424+j3.301	0.793+j4.630	22.26	19.27	0.401+j3.257	0.806+j4.725
FRONTERA	FRO-115	115	12.25	15.32	0.669+j5.379	0.120+j2.217	14.29	17.39	0.536+j5.084	0.130+j2.405
FRONTERA	FRO-230	230	11.07	13.34	1.595+j11.893	0.422+j6.080	13.61	15.74	1.121+j10.673	0.464+j6.491
FRONTERA	FRO-400	400	9.66	10.06	3.407+j23.655	2.216+j21.865	13.21	12.59	1.995+j19.127	2.495+j22.504
FUENTES	FTE-138	138	8.39	8.26	1.631+j9.353	1.789+j9.821	12.00	10.98	1.046+j7.227	1.649+j9.125
FUNDICIÓN	FDC-115	115	19.08	15.32	0.462+j3.450	1.218+j5.940	22.90	18.17	0.361+j3.169	1.156+j5.580
FUNDIDORA	FUN-115	115	27.90	18.98	0.410+j2.344	1.093+j5.632	32.95	23.37	0.350+j2.188	0.882+j4.866
G. E. PLASTIC	GEP-115	115	9.15	5.88	1.339+j7.130	4.101+j18.994	10.64	6.80	1.236+j6.751	3.922+j18.118



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
GALVASID	GLS-115	115	17.36	12.86	0.576+j3.782	1.463+j7.702	27.56	19.37	0.421+j2.616	1.172+j5.903
GARCIA	GAC-115	115	9.90	8.08	0.776+j6.665	2.172+j11.037	10.92	8.86	0.756+j6.648	2.182+j11.144
GENERACIÓN ELÉCTRICA HUINALA	GEH-115	115	7.60	7.96	0.742+j8.699	0.607+j7.530	8.50	8.70	0.739+j8.562	0.696+j7.970
GENERAL MOTOR	GMO-115	115	12.25	9.44	0.982+j5.331	2.227+j10.019	13.99	10.57	0.899+j5.141	2.239+j10.059
GIRASOLES	GRS-115	115	25.96	18.37	0.433+j2.520	1.130+j5.618	29.75	20.55	0.385+j2.424	1.134+j5.647
GOLDEN DRAGÓN	GOD-115F	115	6.58	4.46	1.684+j9.944	5.176+j24.009	7.51	4.97	1.536+j9.604	5.183+j24.142
GOLLEK	GOK-115	115	4.75	3.52	2.083+j13.825	6.144+j27.994	5.34	4.29	1.918+j13.555	4.239+j23.313
GP BIENES INMUEBLES	GPI-115	115	9.58	6.98	1.218+j6.826	2.663+j14.446	20.29	13.91	0.642+j3.542	1.657+j8.391
GRANJAS	GRA-115	115	8.09	5.96	1.325+j8.096	3.511+j16.711	9.32	6.67	1.174+j7.745	3.518+j16.849
GUADALUPE	GDL-115	115	23.49	15.53	0.539+j2.775	1.434+j7.030	27.89	18.11	0.474+j2.575	1.382+j6.723
GÜEMEZ	GUE-115	115	16.95	18.46	0.381+j3.898	0.279+j2.949	17.89	19.37	0.380+j4.064	0.292+j3.151
GÜEMEZ	GUE-400	400	13.70	12.16	1.834+j16.756	3.773+j23.051	16.19	13.83	1.515+j15.613	3.956+j23.619
GUILLFORD MILLS	GUI-115	115	15.48	11.17	0.691+j4.234	1.817+j9.136	17.40	12.43	0.671+j4.143	1.805+j9.109
H.C. INDUSTRIAS	HCI-115	115	13.02	9.61	1.091+j4.982	2.391+j10.256	15.18	10.97	1.000+j4.706	2.358+j10.080
HIDALGO	HID-115	115	7.85	5.29	2.244+j8.151	8.068+j19.226	8.74	5.84	2.197+j8.061	8.075+j19.269
HUASTECA	HST-115	115	3.70	2.25	4.576+j17.361	12.854+j51.069	4.03	2.46	4.605+j17.543	12.878+j51.307
HUEJUTLA II	HJD-115	115	4.10	3.38	3.556+j15.807	7.889+j25.411	4.47	3.69	3.585+j15.950	7.901+j25.580
HUERTAS	HUS-115	115	7.47	6.47	1.129+j8.819	2.871+j12.715	8.03	6.99	1.114+j9.032	2.877+j12.864
HUICHIHUAYAN	HUH-115	115	3.26	1.95	5.805+j19.490	15.335+j59.419	3.58	2.14	5.819+j19.576	15.358+j59.541
HUINALA	HUI-115	115	45.38	52.02	0.204+j1.449	0.057+j0.903	60.42	69.16	0.130+j1.202	0.043+j0.767
HUINALA	HUI-115B	115	45.38	52.02	0.204+j1.449	0.057+j0.903	60.42	69.16	0.130+j1.202	0.043+j0.767
HUINALA	HUI-230	230	25.82	29.74	0.700+j5.095	0.253+j3.114	33.91	38.37	0.431+j4.286	0.223+j2.832
HUINALA	HUI-230B	230	25.96	29.60	0.690+j5.069	0.299+j3.220	34.08	38.32	0.424+j4.265	0.253+j2.895
HUINALA	HUI-400	400	30.19	33.02	1.314+j7.535	0.510+j5.698	41.81	44.98	0.763+j6.027	0.394+j4.814
HUINALA DOS	HUO-400	400	30.07	32.86	1.310+j7.568	0.512+j5.734	41.61	44.87	0.761+j6.058	0.380+j4.799
HYLSA MANIOBRAS	HYM-400	400	25.79	23.90	1.863+j8.758	1.881+j10.931	33.92	29.42	1.316+j7.373	1.881+j10.782
HYLSA NORTE	EHN-230	230	15.07	11.52	1.382+j8.704	4.020+j16.519	17.82	13.14	1.148+j8.115	4.033+j16.530
IBERDROLA COGENERACIÓN ALTAMIRA	IBC-115	115	20.98	20.10	0.451+j3.132	0.420+j3.611	23.56	22.11	0.440+j3.068	0.449+j3.739
IMIS	IMI-115	115	9.94	7.71	1.319+j6.551	3.098+j12.083	11.25	8.62	1.234+j6.371	3.097+j12.067
IMSA	INM-115	115	10.88	11.67	0.810+j6.047	0.662+j4.873	12.65	13.15	0.674+j5.735	0.678+j5.089
IMSA PARTICULARES	IMO-115	115	20.24	10.87	0.602+j3.225	2.515+j11.488	23.14	12.92	0.552+j3.108	2.273+j10.401
INDUSTRIA VIDRIERA DE COAHUILA	IVC-138	138	6.38	4.89	2.584+j12.213	4.624+j23.518	9.97	7.55	1.573+j8.649	3.580+j16.790
INFONAVIT	INF-115	115	16.33	13.87	0.698+j4.007	2.071+j5.988	18.37	15.39	0.675+j3.917	2.079+j6.052
INFONAVIT	INV-138	138	10.24	8.51	1.515+j7.628	2.287+j12.542	11.58	9.43	1.412+j7.433	2.303+j12.706
INGENIO SAN MIGUEL EL NARANJO	MGN-115	115	2.46	2.65	8.240+j25.725	2.453+j21.241	3.07	3.37	6.577+j22.845	2.384+j17.562
INTERNACIONAL REGIOMONTANA DE ACERO	IRG-115	115	20.58	14.67	0.509+j3.185	1.453+j6.985	23.93	16.60	0.451+j3.018	1.456+j6.958
INTERPUERTO	IPR-115	115	17.20	8.06	0.532+j3.824	3.181+j16.685	19.47	9.00	0.486+j3.720	3.140+j16.544
IQUISA NORESTE	IQN-115	115	14.59	10.92	0.580+j4.514	1.914+j8.947	16.84	12.40	0.531+j4.305	1.883+j8.802
JABIL	JAB-138	138	11.20	8.49	1.521+j6.951	2.902+j13.683	13.68	10.15	1.247+j6.285	2.747+j12.941
JARACHINA	JRA-138	138	17.45	15.16	0.808+j4.493	1.231+j6.571	21.76	18.81	0.644+j3.976	1.064+j5.872
JARDÍN DOS	JAD-138	138	12.73	11.37	1.309+j6.120	1.518+j8.571	14.58	12.72	1.193+j5.891	1.531+j8.678
JERÓNIMO POTENCIA	JEP-115	115	46.95	39.63	0.240+j1.394	0.257+j2.187	56.24	45.38	0.191+j1.284	0.271+j2.217



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			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
JERÓNIMO POTENCIA	JEP-115B	115	46.74	40.10	0.241+j1.400	0.234+j2.118	55.93	45.82	0.192+j1.292	0.250+j2.159
JERÓNIMO POTENCIA	JEP-400	400	20.16	18.83	1.861+j11.304	2.086+j13.756	25.09	22.15	1.297+j10.040	2.155+j14.031
JIMÉNEZ	JIM-115	115	1.57	1.06	13.659+j40.144	41.642+j94.127	1.72	1.17	13.666+j40.296	41.661+j94.340
JOHNSON AND CONTROL	JCC-115	115	8.88	5.26	1.381+j7.349	5.025+j22.383	14.32	9.09	0.803+j5.037	2.990+j13.596
JOHNSON CONTROL	JHC-115	115	15.01	12.10	0.528+j4.391	1.401+j7.485	16.59	13.25	0.509+j4.374	1.411+j7.591
JOSEFA ZOZAYA	JZO-115	115	17.46	10.58	0.697+j3.737	2.357+j10.979	20.47	12.09	0.632+j3.511	2.326+j10.749
JUÁREZ	JUZ-138	138	19.37	18.49	0.734+j4.047	0.940+j4.669	23.82	22.07	0.582+j3.633	0.897+j4.522
JUÁREZ NORTE	JNO-115	115	18.61	12.42	0.604+j3.516	1.757+j8.730	23.02	15.12	0.506+j3.132	1.640+j7.996
KALOS GUADALUPE	KGP-115	115	19.50	13.42	0.464+j3.374	2.054+j7.788	22.88	15.31	0.399+j3.167	2.046+j7.704
KEMET	KMT-115	115	18.21	13.22	0.582+j3.600	1.729+j7.588	24.11	16.10	0.508+j2.987	1.767+j7.347
KEMET	KMM-138	138	8.64	6.58	1.787+j9.042	3.370+j17.761	9.73	7.29	1.683+j8.847	3.386+j17.923
KEMET VICTORIA	KWM-115	115	6.86	5.40	2.288+j9.407	5.294+j16.722	7.42	5.86	2.293+j9.568	5.319+j16.951
KIKAPU	KIK-115	115	2.30	1.54	7.044+j28.059	16.999+j69.450	2.61	1.71	6.675+j27.216	17.036+j69.954
KRAFT	KRA-115	115	32.37	20.65	0.379+j2.016	1.110+j5.430	41.03	26.75	0.308+j1.753	0.945+j4.539
KRAFT FOODS DE MÉXICO	KRF-115	115	16.44	10.24	0.693+j3.980	2.470+j11.099	20.34	12.53	0.572+j3.544	2.239+j10.074
LA FE	LAF-115	115	35.68	24.79	0.332+j1.831	0.781+j4.242	44.26	30.11	0.273+j1.627	0.735+j3.912
LA ROSITA	RSI-115	115	4.10	2.95	4.731+j15.482	14.156+j32.388	4.52	3.24	4.719+j15.460	14.179+j32.438
LA SILLA	SLL-115B	115	13.03	8.07	0.900+j5.016	3.258+j14.133	19.18	12.50	0.598+j3.761	2.154+j9.692
LA SILLA	SLL-115	115	6.36	4.14	1.372+j10.351	6.005+j26.625	19.08	12.43	0.600+j3.780	2.165+j9.743
LADRILLERA	LDA-115	115	3.78	2.68	3.287+j17.261	8.134+j38.363	4.18	2.95	3.228+j17.191	8.140+j38.398
LADRILLERA REVOLUCIÓN	LRR-115	115	23.86	17.07	0.506+j2.736	1.084+j6.008	27.54	19.51	0.452+j2.613	1.053+j5.835
LAGO	LAO-138	138	7.44	7.14	2.283+j10.462	2.588+j11.802	9.14	8.37	1.861+j9.401	2.611+j11.956
LAGUNA DEL CONEJO	LDC-115	115	24.83	23.12	0.400+j2.644	0.535+j3.285	28.84	27.42	0.368+j2.505	0.450+j2.954
LAGUNAS DE MIRALTA	LGM-115	115	17.43	13.63	0.640+j3.755	1.715+j6.866	19.65	15.11	0.617+j3.666	1.724+j6.933
LAJAS	LAJ-115	115	9.82	12.86	0.531+j6.738	0.086+j1.970	10.48	13.65	0.517+j6.950	0.092+j2.120
LAJAS	LAJ-400	400	11.81	10.69	2.213+j19.423	4.306+j25.437	13.82	12.05	1.814+j18.298	4.502+j26.193
LAMOSA	LMS-115	115	17.63	11.99	0.563+j3.724	2.411+j8.779	20.55	13.62	0.499+j3.519	2.404+j8.695
LAMOSA LAREDO	LAL-138	138	7.83	7.60	2.134+j9.951	2.509+j10.851	9.67	8.94	1.726+j8.896	2.531+j11.015
LAMPAZOS	LAM-400	400	8.90	6.32	3.225+j25.750	12.786+j56.543	12.61	8.26	1.729+j20.074	11.959+j50.983
LAREDO PONIENTE	LAP-138	138	6.40	5.81	2.612+j12.165	2.972+j16.003	7.86	6.77	2.140+j10.946	3.023+j16.267
LAS BRISAS	BRI-115	115	17.93	15.59	0.747+j3.626	0.947+j5.297	20.75	17.57	0.669+j3.455	0.961+j5.356
LAS CRUCES	CRU-115	115	1.45	1.17	14.550+j43.573	26.599+j73.412	1.79	1.53	11.711+j39.015	19.856+j58.493
LAS GLORIAS	GLO-115	115	32.70	30.59	0.269+j2.012	0.255+j2.441	40.65	36.37	0.222+j1.783	0.276+j2.419
LAS GLORIAS	GLO-400	400	21.37	17.72	1.522+j10.701	2.535+j17.328	26.78	21.08	1.029+j9.429	2.541+j17.036
LAS LOMAS	LLM-138	138	12.77	10.47	1.382+j6.085	2.188+j10.211	16.43	13.77	1.046+j5.231	1.784+j8.409
LAS MESAS	MES-115	115	11.79	12.11	0.532+j5.604	0.326+j5.134	12.13	12.38	0.583+j5.992	0.363+j5.605
LAS NORIAS	NOI-115	115	0.94	0.58	25.305+j66.173	67.734+j188.082	1.03	0.64	25.304+j66.307	67.754+j188.300
LAS PUENTES	PTS-115B2	115	30.62	22.18	0.366+j2.137	0.868+j4.565	38.03	25.94	0.309+j1.896	0.880+j4.525
LAS PUENTES	PTS-115B1	115	31.85	22.15	0.369+j2.051	0.914+j4.738	37.50	25.09	0.316+j1.922	0.918+j4.753
LAS TORRES	LTO-138	138	11.43	10.92	1.381+j6.831	1.310+j8.054	12.96	12.11	1.275+j6.642	1.332+j8.249
LAURO VILLAR	LVI-138	138	13.06	14.70	1.170+j5.988	0.447+j4.245	14.84	16.29	1.066+j5.807	0.476+j4.482
LAURO VILLAR	LVI-230	230	8.65	9.55	2.891+j15.072	1.528+j11.509	9.93	10.66	2.582+j14.488	1.616+j12.032



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			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
LECHUGAL	LEC-115	115	15.28	10.53	0.751+j4.279	2.042+j10.026	17.25	11.68	0.692+j4.178	2.047+j10.089
LEGO REAL ESTATE	LGR-115	115	12.12	6.53	1.081+j5.371	4.326+j19.072	16.71	9.07	0.787+j4.300	3.384+j15.052
LEONA	LEO-115	115	14.98	10.20	0.800+j4.360	2.129+j10.450	17.33	11.45	0.699+j4.157	2.137+j10.493
LG	LGE-115	115	10.03	6.49	1.166+j6.515	3.531+j17.120	20.53	13.85	0.640+j3.500	1.718+j8.541
LIBERTAD (MONTEMORELOS)	LBT-115	115	7.83	8.21	0.897+j8.431	2.309+j7.064	8.41	8.82	0.882+j8.644	2.315+j7.213
LIBERTAD (CIUDAD VICTORIA)	LBT-115	115	7.59	6.09	2.030+j8.508	4.354+j14.585	8.20	6.59	2.035+j8.670	4.379+j14.814
LIBRAMIENTO	LBR-115	115	2.10	1.34	11.141+j29.645	20.946+j82.731	3.05	2.00	7.536+j22.693	15.284+j59.842
LINARES	LSN-115	115	3.88	2.71	2.789+j16.885	8.656+j38.399	4.29	3.09	2.682+j16.795	7.680+j36.033
LINDA VISTA	LDV-115	115	5.03	3.08	2.351+j12.987	8.012+j37.595	5.56	3.38	2.338+j12.930	8.030+j37.699
LLANO GRANDE	LLG-138	138	13.32	15.25	1.163+j5.869	0.370+j3.907	15.15	16.90	1.060+j5.687	0.399+j4.144
LLANO GRANDE	LLG-230	230	9.41	10.67	2.693+j13.846	1.227+j9.663	10.85	11.95	2.385+j13.254	1.298+j10.124
LLERA DE CANALES	LLC-400	400	9.39	6.35	2.530+j24.452	14.312+j58.567	10.99	7.23	2.188+j23.018	14.298+j58.024
LOMA LARGA	LOL-115	115	23.26	15.28	0.520+j2.807	1.554+j7.166	40.26	30.65	0.300+j1.789	0.601+j3.472
LOS NOVILLOS	LVN-138	138	6.69	7.27	1.748+j11.786	1.025+j9.017	8.78	9.41	1.221+j9.910	0.969+j7.853
LOS NOVILLOS	LVN-230	230	5.55	5.54	3.529+j23.675	3.738+j23.774	7.40	7.10	2.371+j19.584	3.519+j21.916
LUVATA	LUV-115	115	22.22	15.01	0.532+j2.941	1.523+j7.135	26.44	17.33	0.464+j2.723	1.501+j6.969
MABE	MAB-115	115	15.62	12.08	0.803+j4.175	1.815+j7.793	19.94	15.30	0.658+j3.603	1.536+j6.835
MAGNA FORMEX SALTILLO	MFS-115	115	26.93	26.33	0.375+j2.437	0.376+j2.620	34.43	34.83	0.267+j2.105	0.272+j2.039
MAGNA POWER TRAIN	MGP-115	115	24.21	24.23	0.430+j2.708	0.406+j2.719	30.72	31.74	0.321+j2.356	0.301+j2.136
MAGNÉTICOS DE MÉXICO	MME-138	138	7.69	7.67	2.194+j10.119	2.284+j10.238	9.52	9.05	1.767+j9.038	2.306+j10.392
MALE PISTONES	MPI-115	115	20.45	17.88	0.547+j3.200	0.887+j4.577	26.24	23.24	0.423+j2.751	0.727+j3.804
MANIOBRAS DULCES NOMBRES II	MDU-115	115	42.87	47.09	0.227+j1.532	0.124+j1.125	55.06	59.61	0.165+j1.316	0.120+j1.029
MANIOBRAS PARQUE EOLICO EL MEZQUITE	MMQ-230	230	7.10	6.59	2.739+j18.492	4.470+j22.633	7.94	7.25	2.597+j18.218	4.512+j23.212
MANIOBRAS RANCHO NORTE	MRN-400	400	8.58	7.03	2.860+j26.752	7.618+j44.519	11.20	9.35	1.859+j22.606	6.284+j36.037
MANIOBRAS TRACTEBEL ENERGÍA DE PANUCO	ENP-115	115	17.46	15.37	0.761+j3.726	0.898+j5.409	19.65	16.88	0.741+j3.641	0.949+j5.599
MANNESMANN SACH	MSC-115	115	20.17	17.48	0.555+j3.244	0.923+j4.736	25.83	22.63	0.432+j2.795	0.763+j3.963
MANIOBRAS POLLUX	MAN-115	115	1.38	1.59	17.885+j44.486	4.343+j29.436	1.72	1.89	14.209+j40.046	4.808+j31.242
MANTE	MAN-115	115	2.21	1.35	10.658+j28.069	21.904+j85.452	3.44	2.15	6.738+j20.108	15.900+j57.648
MANUEL	MUL-115	115	7.02	3.00	2.516+j9.123	12.079+j46.057	7.82	3.34	2.458+j9.014	11.820+j45.433
MATAMOROS	MTM-69	69	4.93	5.25	0.432+j8.063	0.134+j6.681	5.05	5.33	0.415+j8.666	0.147+j7.349
MATAMOROS	MTM-138	138	14.08	12.89	1.194+j5.529	1.311+j7.312	16.30	14.54	1.072+j5.270	1.319+j7.370
MATAMOROS POTENCIA	MMP-138	138	15.79	17.72	0.894+j4.967	0.373+j3.589	18.09	19.74	0.797+j4.778	0.393+j3.783
MATAMOROS POTENCIA	MMP-230	230	11.74	12.59	1.902+j11.145	1.525+j9.511	13.73	14.28	1.620+j10.512	1.573+j9.772
MATRIMAR	MTR-115	115	3.17	2.23	5.487+j20.202	15.871+j44.601	3.58	2.51	5.310+j19.687	15.616+j44.017
MAXITILE	MAX-138	138	6.61	6.23	2.490+j11.801	2.455+j14.041	8.15	7.29	2.019+j10.558	2.514+j14.347
MAYTAG	MYG-138	138	11.10	8.36	1.535+j7.015	2.971+j13.994	13.58	10.01	1.254+j6.333	2.799+j13.188
MESAS	MES-400	400	21.48	22.87	0.553+j10.735	0.409+j7.892	23.47	24.62	0.484+j10.812	0.455+j8.525
METALDYNE SINTERED COMPONENTS MÉXICO S. DE R.L DE C.V.	MST-115	115	22.33	22.68	0.479+j2.934	0.435+j2.816	28.33	29.59	0.366+j2.552	0.329+j2.231
METALSA	MSA-115	115	20.09	15.76	0.472+j3.271	1.057+j5.942	31.15	22.82	0.355+j2.318	0.919+j4.828
METRO CUAUHTÉMOC	MCU-115	115	21.52	13.15	0.549+j3.037	1.843+j8.783	24.62	15.15	0.498+j2.924	1.757+j8.351
METRO LINCOLN	MLI-115	115	20.07	12.56	0.606+j3.252	1.901+j9.042	23.23	14.09	0.537+j3.098	1.907+j9.066
MEXICHEM FLUOR	MEF-138	138	10.42	8.28	1.736+j7.450	2.957+j13.428	11.89	9.26	1.614+j7.191	2.965+j13.485



Niveles de cortocircuito de la Red Nacional de Transmisión
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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
MÉXICO	MEX-138	138	15.91	14.15	0.992+j4.907	1.485+j6.783	19.06	16.37	0.844+j4.520	1.486+j6.772
MEZQUITAL	MZQ-115	115	13.84	8.68	0.793+j4.731	2.883+j13.050	15.70	9.78	0.751+j4.592	2.842+j12.797
MEZQUITAL PROVISIONAL	MZP-115	115					15.55	9.51	0.758+j4.636	2.971+j13.339
MICARE	MCR-138	138	7.07	5.20	2.251+j11.048	4.932+j22.935	12.58	12.35	1.061+j6.884	1.288+j7.178
MICARE DOS	MDS-138	138	10.36	11.74	1.097+j7.615	0.601+j4.976	14.77	15.71	0.586+j5.906	0.560+j4.760
MIGUEL ALEMÁN	MIG-138	138	3.99	2.32	5.371+j19.246	16.327+j60.863	6.24	4.49	3.484+j13.603	5.936+j29.892
MINA TAYAHUA	MTU-115	115	1.22	0.73	16.509+j51.993	43.002+j156.235	1.40	0.83	16.240+j49.513	43.112+j155.345
MINERA	MIE-115	115	4.31	4.61	2.610+j15.174	1.726+j12.280	5.04	5.23	2.246+j14.327	1.761+j12.781
MINERA AUTLÁN	MIA-230	230	6.75	4.78	3.001+j19.433	10.668+j43.105	7.51	5.27	2.923+j19.219	10.718+j43.374
MIRA MAR DOS	MMD-230	230	16.20	17.44	0.818+j8.154	0.782+j6.958	18.14	19.10	0.773+j8.014	0.839+j7.298
MIRAVALLE	MAV-115	115	27.24	20.09	0.412+j2.403	1.410+j4.855	31.21	22.48	0.367+j2.311	1.421+j4.886
MISIONES	MSI-115	115	10.15	6.49	1.436+j6.385	4.211+j17.084	11.40	7.23	1.378+j6.254	4.197+j16.987
MITRAS	MIT-115B2	115	20.78	15.51	0.465+j3.161	1.320+j6.324	29.45	21.21	0.355+j2.455	1.093+j5.261
MITRAS	MIT-115B1	115	19.59	14.30	0.504+j3.352	1.467+j7.002	27.20	19.14	0.395+j2.656	1.243+j5.957
MODELO	MOD-115	115	17.02	8.56	0.747+j3.829	3.207+j15.125	26.26	15.12	0.471+j2.740	1.848+j8.737
MODINE	MNE-138	138	7.87	7.74	2.150+j9.887	2.414+j10.397	9.73	9.12	1.741+j8.837	2.436+j10.556
MOLANGO	MOL-115	115	1.56	1.11	11.965+j40.754	35.625+j87.477	1.71	1.22	11.998+j40.893	35.639+j87.650
MONCLOVA	MON-115	115	12.06	14.50	0.698+j5.462	0.186+j2.773	14.10	16.44	0.563+j5.151	0.202+j2.989
MONCLOVA	MON-115F	115	11.72	13.43	0.734+j5.619	0.371+j3.525	13.72	15.24	0.594+j5.290	0.386+j3.733
MONCLOVA	MON-230	230	10.27	11.30	1.863+j12.791	1.134+j9.524	12.54	13.17	1.396+j11.560	1.210+j10.018
MONTE KRISTAL	MKL-115	115	12.73	8.07	0.870+j5.143	3.358+j13.878	15.58	10.00	0.735+j4.631	2.855+j12.224
MONTEMORELOS	MTN-115	115	3.59	2.54	3.570+j18.164	9.005+j40.342	3.96	2.80	3.510+j18.094	9.010+j40.377
MONTERREY	MTY-115	115	33.46	32.83	0.267+j1.966	0.148+j2.098	52.48	47.11	0.203+j1.377	0.186+j1.863
MONTERREY POTENCIA SF6	MTP-115	115	46.43	44.05	0.230+j1.411	0.142+j1.661	56.76	51.62	0.183+j1.274	0.152+j1.670
MONTERREY POTENCIA SF6	MTP-115B	115	33.80	33.74	0.261+j1.947	0.115+j1.976	53.62	49.11	0.197+j1.348	0.153+j1.736
MONTERREY POTENCIA SF6	MTP-400	400	28.25	28.81	1.610+j8.016	0.867+j7.676	38.12	36.86	1.056+j6.580	0.823+j7.328
MONTOI	MTI-115	115	20.70	9.68	0.551+j3.161	2.959+j13.859	23.46	10.70	0.504+j3.071	2.980+j13.938
MORELOS	MRL-115	115	11.15	8.32	0.892+j5.887	2.527+j11.799	12.73	9.37	0.801+j5.682	2.500+j11.662
MÚNICH	MUN-115	115	18.29	12.09	0.560+j3.588	1.890+j9.027	20.94	13.51	0.497+j3.452	1.896+j9.055
MUSEO	MSO-115	115	10.23	8.00	1.278+j6.360	3.160+j11.560	11.21	8.76	1.278+j6.389	3.205+j11.596
NADADORES	NAD-115F	115	4.58	3.43	4.741+j13.708	9.818+j27.336	5.15	3.81	4.604+j13.418	9.829+j27.526
NARANJOS	NRJ-115	115	3.29	2.02	5.115+j19.506	22.912+j53.636	3.62	2.23	5.100+j19.498	22.923+j53.731
NARCISO MENDOZA	NMZ-138	138	6.52	5.85	2.605+j11.937	3.269+j16.102	7.97	6.81	2.140+j10.785	3.298+j16.279
NAVA	NAV-138	138	9.09	10.34	1.364+j8.655	0.593+j5.590	12.64	13.75	0.842+j6.880	0.583+j5.161
NAVA	NAV-230	230	8.98	9.68	2.373+j14.590	1.849+j11.542	16.00	15.54	0.935+j9.083	1.697+j9.606
NAVIDAD	NVD-115	115	1.71	1.82	12.417+j36.781	6.948+j30.988	2.09	2.13	10.119+j33.403	7.283+j32.488
NAVISTAR	NAS-115	115	15.72	9.65	0.751+j4.157	2.536+j11.937	17.69	10.69	0.706+j4.067	2.542+j11.979
NEMAK	NEK-115	115	15.67	12.54	0.555+j4.201	1.472+j7.257	17.84	14.06	0.516+j4.061	1.467+j7.251
NGM CERÁMICA	NGM-115	115	12.79	7.60	1.004+j5.091	3.484+j15.433	17.42	10.66	0.739+j4.127	2.654+j11.881
NOGALAR	NOG-115	115	43.38	20.06	0.273+j1.506	1.398+j6.725	55.77	33.47	0.214+j1.292	0.790+j3.851
NOKIA	NOK-138	138	14.90	8.91	1.026+j5.248	3.700+j15.745	19.40	12.99	0.794+j4.447	2.526+j10.972
NORTE	NRE-138	138	10.53	7.27	1.676+j7.380	4.114+j17.320	12.42	8.52	1.491+j6.898	3.832+j16.343



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
NUEVA CASTILLA	NUC-115	115	12.65	6.13	0.917+j5.168	4.510+j21.549	14.18	6.75	0.868+j5.075	4.548+j21.680
NUEVA ESCOBEDO	NUE-115	115	28.97	20.62	0.368+j2.262	0.939+j4.992	33.25	23.04	0.322+j2.173	0.945+j5.033
NUEVA ROSITA	NUR-115	115	7.18	8.15	1.368+j9.146	0.300+j5.998	8.74	9.43	1.010+j8.294	0.335+j6.498
NUEVA ROSITA	NUR-115F	115	7.03	7.76	1.426+j9.343	0.480+j6.790	8.53	8.96	1.068+j8.491	0.516+j7.290
NUEVA ROSITA	NUR-230	230	5.47	5.94	4.480+j23.855	1.958+j18.596	7.40	7.41	3.124+j19.492	2.211+j19.455
NUEVO LAREDO	NUL-138	138	8.12	8.11	2.062+j9.592	2.225+j9.619	10.07	9.58	1.656+j8.545	2.248+j9.780
NUEVO PROGRESO	NVP-138	138	9.68	7.16	1.956+j7.994	3.892+j16.579	11.88	8.78	1.637+j7.195	3.539+j14.963
NUEVO SANTANDER	NST-115	115	8.22	7.54	1.401+j7.957	1.888+j10.076	8.86	8.06	1.408+j8.123	1.969+j10.515
NUTEC FIBRATEC S.A. DE C.V.	NUF-115	115	15.65	12.21	0.804+j4.166	1.909+j7.606	21.19	16.85	0.630+j3.389	1.464+j5.946
OBISPADO	OBI-115	115	1.17	0.64	12.102+j55.501	45.227+j192.762	1.29	0.70	12.038+j55.386	45.246+j192.803
OBRA DE TOMA	ODT-115	115	1.83	1.23	12.560+j34.032	31.700+j83.787	2.00	1.35	12.570+j34.197	31.788+j84.236
OJO CALIENTE	OJC-138	138	6.86	6.33	2.418+j11.368	2.804+j14.265	8.41	7.40	1.958+j10.234	2.829+j14.428
OLIVO	OVO-115	115	10.02	8.76	1.014+j6.550	2.166+j9.263	10.75	9.39	1.018+j6.715	2.201+j9.520
ORIENTE	OTE-138	138	12.76	12.70	1.272+j6.112	0.993+j6.459	14.55	14.14	1.162+j5.909	1.013+j6.632
ORIÓN	ORN-115	115	18.36	12.37	0.595+j3.568	2.129+j8.619	20.85	13.77	0.545+j3.460	2.145+j8.660
ORIZATLAN	ORZ-138	138	12.73	9.98	1.276+j6.129	2.322+j11.261	15.56	11.87	1.036+j5.536	2.223+j10.770
OXFORD	OXF-115	115	15.17	11.32	0.681+j4.324	1.762+j8.684	18.03	13.36	0.574+j4.010	1.665+j8.141
OZULUAMA	OZL-115	115	3.31	2.19	5.239+j19.335	20.102+j46.979	3.66	2.41	5.221+j19.286	20.113+j47.053
P. IND. COLONIAL	PIC-138	138	11.13	8.37	1.525+j6.991	2.966+j14.007	13.65	10.06	1.239+j6.298	2.782+j13.155
P. IND. PUENTE	PIP-138	138	10.13	7.45	1.849+j7.647	3.970+j15.956	12.13	8.71	1.614+j7.043	3.855+j15.390
P.I. DEL NORTE	INO1-138	138	12.19	7.25	1.357+j6.394	4.688+j19.413	17.55	11.93	0.946+j4.904	2.770+j11.771
P.I. SANTA MARÍA	PSM-115	115	21.88	19.82	0.426+j3.005	0.685+j3.936	26.96	24.76	0.319+j2.690	0.589+j3.393
PANUCO	PAN-115	115	5.11	2.63	2.058+j12.837	11.371+j49.343	5.52	2.87	2.131+j13.059	11.384+j49.420
PARQUE DE INVESTIGACIONES E INNOVACIÓN TECNOLÓGICA	IIT-115	115	11.79	8.21	0.752+j5.583	2.630+j12.752	13.58	9.28	0.677+j5.336	2.615+j12.617
PARQUE EÓLICO VICENTE GUERRERO	VIG-115	115	7.39	8.02	1.356+j8.887	0.725+j6.836	7.97	8.58	1.352+j9.065	0.771+j7.178
PARQUE IND. ACUÑA	PIU-138	138	5.77	5.88	2.173+j13.626	1.783+j12.968	7.57	7.61	1.545+j11.474	1.632+j11.255
PARQUE INDL. ESTRELLA	EST-115	115	14.01	8.34	0.932+j4.648	3.163+j14.059	20.11	12.49	0.640+j3.575	2.221+j10.040
PARQUE INDUSTRIAL	PAI-138	138	14.09	11.88	1.104+j5.545	1.647+j8.743	17.30	14.16	0.882+j4.988	1.586+j8.393
PARQUE INDUSTRIAL AMISTAD-AEROPUERTO	PIA-115	115	10.55	7.37	1.038+j6.207	2.989+j14.134	12.10	8.32	0.939+j5.961	2.973+j13.956
PARQUE INDUSTRIAL APODACA TECHNOLOGY PARK	PQT-115	115	12.07	8.05	0.843+j5.435	2.976+j13.423	13.66	8.95	0.796+j5.287	3.000+j13.473
PARQUE INDUSTRIAL DEL NORTE	INO2-138	138	8.93	5.66	2.065+j8.681	6.067+j23.706	17.54	11.93	0.946+j4.905	2.771+j11.773
PARQUE INDUSTRIAL ESCOBEDO	PIE-115	115	23.88	17.48	0.449+j2.744	1.147+j5.726	27.23	19.52	0.401+j2.652	1.151+j5.753
PARQUE INDUSTRIAL LA SILLA	SIA-115	115	14.28	9.46	0.739+j4.591	2.595+j11.473	16.38	10.63	0.674+j4.408	2.594+j11.419
PARQUE INDUSTRIAL LINARES	PIL-115	115	4.60	3.38	2.229+j14.271	6.515+j29.296	5.09	3.90	2.123+j14.181	5.539+j26.931
PARQUE INDUSTRIAL MONTERREY - APODACA	PMA-115	115	9.11	6.54	1.295+j7.174	2.971+j15.617	20.37	13.83	0.646+j3.526	1.701+j8.507
PARQUE INDUSTRIAL ORADEL	PIO-138	138	7.26	7.45	2.268+j10.740	1.752+j9.992	9.07	8.82	1.807+j9.496	1.824+j10.327
PARQUE INDUSTRIAL SALTILLO RAMOS ARIZPE	ISR1-115	115	20.91	19.51	0.529+j3.131	0.688+j3.809	26.70	25.25	0.409+j2.705	0.565+j3.164
PARQUE INDUSTRIAL SALTILLO RAMOS ARIZPE	ISR2-115	115	16.94	13.32	0.524+j3.885	1.555+j6.962	19.92	15.33	0.429+j3.641	1.534+j6.819
PEMEX	PEM-115	115	45.09	33.49	0.268+j1.448	0.545+j2.953	62.34	47.86	0.193+j1.156	0.412+j2.201
PEMEX CADEREYTA	PCD-230	230	9.06	7.18	2.376+j14.464	5.907+j25.557	11.24	8.37	1.860+j12.862	5.975+j25.692
PEMEX CRIOGÉNICA	PXC-138	138	7.73	4.98	1.909+j10.122	5.436+j26.874	9.29	6.67	1.629+j9.293	3.235+j20.368
PEMEX CRIOGÉNICA	PXC-138B	138	6.94	4.40	2.204+j11.261	6.254+j30.830	8.30	5.88	1.903+j10.386	3.705+j23.341



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Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
PEMEX NARANJOS	PMX-115	115	3.16	1.95	5.346+j20.314	23.757+j55.558	3.48	2.14	5.331+j20.307	23.769+j55.653
PEMEX-REFINERÍA	PRF-115	115	8.41	4.09	1.345+j7.781	8.765+j31.767	10.29	5.94	1.102+j7.014	4.305+j22.294
PEÑÓLES	PÑL-115	115	15.82	12.40	0.795+j4.122	1.873+j7.448	21.47	17.18	0.621+j3.345	1.428+j5.787
PERFILES	PFS-115	115	19.59	15.25	0.486+j3.354	1.116+j6.189	30.47	22.20	0.364+j2.369	0.959+j4.990
PESQUERÍA	PQA-115	115	14.87	12.03	0.648+j4.419	1.409+j7.498	18.96	14.51	0.561+j3.812	1.415+j7.260
PETROCEL	GPT-115	115	15.99	13.10	0.805+j4.075	2.027+j6.678	18.39	15.51	0.755+j3.898	1.704+j6.018
PETROLERA	PER-138	138	15.11	13.35	0.968+j5.183	1.412+j7.279	17.80	15.26	0.832+j4.854	1.413+j7.293
PHEPS DODGE	PHD-115	115	11.29	6.08	1.158+j5.767	4.648+j20.496	15.30	8.29	0.863+j4.696	3.705+j16.475
PIEDRAS NEGRAS	PNE-138	138	9.52	9.53	1.368+j8.258	1.305+j8.271	13.16	12.23	0.860+j6.605	1.312+j8.013
PIEDRAS NEGRAS POTENCIA	PNG-138	138	10.41	11.61	1.171+j7.567	0.615+j5.263	14.69	15.27	0.671+j5.930	0.629+j5.183
PIEDRAS NEGRAS POTENCIA	PNG-230	230	8.18	8.54	2.476+j16.049	2.128+j14.116	13.29	12.40	1.114+j10.933	2.150+j13.024
PLANTA	PTA-138	138	12.85	11.32	1.310+j6.060	1.596+j8.763	14.76	12.69	1.191+j5.818	1.606+j8.848
PLANTA BOMBEO DOS	PBD-115	115	4.73	4.56	1.918+j13.906	3.783+j15.211	5.11	4.90	1.854+j14.180	3.833+j15.751
PLANTA BOMBEO UNO	PBU-115	115	3.65	3.17	2.849+j17.990	8.267+j25.384	3.95	3.42	2.788+j18.263	8.317+j25.925
PLANTA DE AGUAS RESIDUALES NORTE	RNO-115	115	23.81	15.11	0.412+j2.758	1.503+j7.456	27.20	16.80	0.363+j2.661	1.520+j7.528
PLANTA DE BOMBEO 0	PB0-115	115	2.27	1.72	5.229+j28.809	19.701+j54.166	2.47	1.88	5.173+j29.081	19.752+j54.707
PLANTA DE BOMBEO LA SILLA	PBS-115	115	14.69	9.35	0.788+j4.451	2.580+j11.995	17.27	10.83	0.703+j4.170	2.466+j11.521
PLANTA DE BOMBEO SAN ROQUE DE AYD	PBR-115	115	14.18	8.97	0.816+j4.611	2.735+j12.564	16.97	10.60	0.715+j4.243	2.549+j11.804
PLANTA DE BOMBEO SANTA ROSA APODACA	PBA-115	115	12.77	8.62	0.782+j5.142	2.758+j12.422	14.47	9.59	0.735+j4.994	2.782+j12.472
PLANTA DUPONT	DUT-115	115	17.28	15.21	0.767+j3.766	0.896+j5.468	19.44	16.70	0.748+j3.681	0.949+j5.664
PLANTA EL SALTO	STO-115	115	2.20	2.02	9.841+j28.470	10.428+j36.780	2.94	3.05	7.043+j23.860	3.720+j21.892
PLANTA FALCÓN	PFA-115	115	4.22	5.10	3.023+j15.450	0.256+j7.623	4.78	5.64	2.607+j15.064	0.293+j8.346
PLAZA SF6	PZA-115	115	44.97	35.40	0.269+j1.452	0.357+j2.653	53.71	41.55	0.219+j1.342	0.347+j2.533
PLAZA SF6	PZA-400	400	19.56	18.67	1.923+j11.651	1.751+j13.413	24.30	21.96	1.352+j10.364	1.826+j13.719
POLARIS	POI-115	115	21.70	16.09	0.460+j3.025	1.245+j6.140	26.04	18.70	0.386+j2.778	1.230+j6.005
POLICYD	PLC-115	115	19.47	16.21	0.616+j3.354	1.140+j5.406	21.83	17.89	0.603+j3.291	1.147+j5.494
POLVORÍN	POL-115	115	18.33	16.05	0.616+j3.570	1.032+j5.118	21.99	19.15	0.529+j3.279	0.925+j4.760
POSCO DE MÉXICO	PCO-115	115	22.51	18.93	0.399+j2.923	0.860+j4.580	26.28	22.91	0.359+j2.756	0.663+j4.001
PRAX AIR	PAX-115	115	26.28	14.32	0.477+j2.482	1.878+j8.660	36.78	22.18	0.351+j1.955	1.232+j5.782
PRIMEX	PRX-115	115	17.83	13.50	0.671+j3.663	1.566+j7.199	25.96	23.20	0.438+j2.779	0.621+j3.822
PRIMEX	PRX-115B	115	17.88	13.54	0.668+j3.653	1.558+j7.168	25.96	23.20	0.438+j2.779	0.620+j3.820
PROEZA GREDE	PGR-115	115	22.54	17.50	0.510+j2.902	1.896+j5.200	25.63	19.52	0.465+j2.811	1.902+j5.243
PROLAMSA	POM-115	115	19.49	9.00	0.566+j3.360	3.093+j15.012	22.08	9.93	0.517+j3.267	3.130+j15.140
PROLEC	PLE-115	115	17.42	11.16	0.650+j3.755	2.245+j9.977	19.84	12.74	0.603+j3.632	2.178+j9.602
PROLEC PARTICULAR	PLP-115	115	17.77	13.29	0.557+j3.695	1.392+j7.386	28.08	19.86	0.409+j2.569	1.131+j5.724
PROLOGIS	POG-138	138	11.53	8.88	1.467+j6.751	2.714+j12.900	14.08	10.58	1.204+j6.107	2.582+j12.250
PROLOGIS-APODACA	PLG-115	115	13.72	10.84	0.752+j4.779	1.529+j8.577	21.74	15.83	0.535+j3.317	1.371+j6.989
PROPARK	PPK-115	115	6.45	3.94	1.904+j10.108	6.964+j29.168	7.23	4.37	1.838+j9.926	6.963+j29.114
PROPASA	PDP-115	115	18.12	13.13	0.585+j3.618	1.743+j7.651	23.99	15.99	0.510+j3.001	1.781+j7.411
PROVIDENCIA	PRO-115	115	10.59	7.76	1.208+j6.154	3.371+j12.699	12.20	9.06	1.115+j5.881	3.057+j11.833
PTA BOMBEO CUATRO	PBC-115	115	2.17	1.64	5.674+j30.133	18.596+j57.463	2.36	1.79	5.620+j30.404	18.647+j58.004
PTA DE TRATAMIENTO DE AGUAS RESIDUALES NORESTE	RNE-115	115	11.27	7.42	0.908+j5.820	3.254+j14.707	12.73	8.25	0.862+j5.672	3.278+j14.757



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			NCC mínimo 2024				NCC máximo 2024			
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PTA. BOMBEO TRES	PBT-115	115	2.74	2.18	4.315+j23.887	14.876+j40.370	2.98	2.37	4.259+j24.159	14.927+j40.911
PUENTE INTERNACIONAL	PUI-138	138	7.82	6.90	1.756+j10.030	2.738+j14.024	10.67	8.63	1.200+j8.123	2.700+j13.720
PUERTO	PUO-115	115	26.95	25.90	0.287+j2.447	0.439+j2.765	31.49	30.11	0.254+j2.306	0.405+j2.656
PUERTO ALTAMIRA ELÉCTRICA	PAE-115	115	28.76	29.39	0.251+j2.295	0.302+j2.173	33.68	34.28	0.220+j2.157	0.271+j2.085
PUERTO ALTAMIRA ELÉCTRICA	PAE-400	400	23.01	26.12	0.752+j10.007	0.659+j6.630	36.43	43.90	0.349+j6.964	0.326+j4.155
PUERTO CINCO NORTE	PCN-115	115	18.39	14.40	0.491+j3.577	1.252+j6.530	21.06	16.31	0.459+j3.438	1.220+j6.433
QUÍMICA FLUOR	QFL-138	138	10.42	8.28	1.737+j7.449	2.957+j13.428	11.89	9.26	1.615+j7.190	2.965+j13.485
RAMOS ARIZPE	RRA-115	115	19.31	15.99	0.594+j3.387	1.115+j5.482	25.72	22.05	0.452+j2.803	0.836+j4.185
RAMOS ARIZPE POTENCIA	RAP-115	115	28.94	30.15	0.337+j2.269	0.224+j2.021	37.33	40.99	0.230+j1.943	0.118+j1.438
RAMOS ARIZPE POTENCIA	RAP-400	400	22.57	20.38	1.564+j10.110	2.473+j13.361	28.22	24.42	1.029+j8.942	2.260+j13.066
RASSINI	RNI-138	138	7.59	5.99	1.960+j10.314	3.891+j18.537	9.98	7.24	1.449+j8.664	3.898+j18.279
RAYÓN	RAY-115	115	2.43	1.60	7.793+j26.164	24.443+j65.353	2.67	1.76	7.789+j26.189	24.490+j65.390
REAL DE PALMAS	RDP-115	115	5.97	3.55	1.997+j10.950	7.450+j32.954	18.66	12.22	0.571+j3.872	2.151+j9.882
REBOMBEO I	RBU-115	115	3.01	2.09	7.629+j20.661	16.857+j48.479	3.29	2.28	7.639+j20.827	16.943+j48.926
REBOMBEO II	RBD-115	115	4.55	3.40	4.309+j13.944	8.866+j28.064	4.95	3.69	4.317+j14.110	8.949+j28.507
REFINERÍA MADERO	RMA-115	115	14.00	10.43	0.798+j4.675	2.005+j9.449	17.44	13.28	0.635+j4.139	1.539+j8.033
REGIDORES	RGS-115	115	9.24	6.73	1.077+j7.106	3.116+j14.970	10.66	7.53	0.936+j6.789	3.123+j15.107
REYNOSA	REY-138	138	16.63	14.56	0.866+j4.712	1.232+j6.779	19.72	16.80	0.730+j4.384	1.213+j6.702
REYNOSA CENTRO	RYC-138	138	12.16	9.69	1.287+j6.426	2.511+j11.347	14.13	10.95	1.156+j6.095	2.519+j11.383
RHEEM	RHM-138	138	7.87	7.74	2.150+j9.887	2.414+j10.397	9.73	9.12	1.741+j8.837	2.436+j10.556
RICSA	RIS-138	138	10.77	7.99	1.710+j7.196	3.658+j14.749	12.81	9.26	1.507+j6.672	3.583+j14.361
RIEL	RIE-115	115	30.05	16.41	0.395+j2.174	1.589+j7.559	36.74	21.71	0.333+j1.960	1.268+j5.992
RIO	RIO-115	115	22.10	13.94	0.556+j2.953	1.548+j8.131	25.29	15.73	0.506+j2.844	1.537+j8.011
RIO BRAVO	RIB-138	138	16.44	15.98	0.969+j4.750	0.755+j5.304	22.74	24.84	0.599+j3.808	0.244+j3.064
RIO BRAVO	RIB-230	230	14.16	13.02	1.508+j9.258	2.273+j11.868	19.50	20.30	0.891+j7.439	0.730+j6.710
RIO BRAVO III	RBT-400	400	11.64	13.88	2.115+j19.733	0.795+j11.688	16.50	19.92	1.115+j15.358	0.445+j8.309
RIO BRAVO IV	RBC-400	400	11.72	14.02	2.101+j19.589	0.737+j11.501	16.48	19.91	1.117+j15.378	0.445+j8.309
RIO BRAVO PONIENTE	RBP-138	138	12.14	9.35	1.316+j6.429	2.262+j12.311	15.37	11.86	0.991+j5.614	1.904+j10.760
RIO ESCONDIDO	REC-138	138	10.74	12.81	1.003+j7.351	0.250+j3.859	15.50	17.50	0.493+j5.634	0.210+j3.642
RIO ESCONDIDO	REC-230	230	10.71	13.05	1.899+j12.251	0.519+j5.811	22.59	27.51	0.451+j6.449	0.117+j2.786
RIO ESCONDIDO	REC-400	400	8.50	8.54	4.111+j26.852	3.188+j26.934	22.82	26.55	0.634+j11.114	0.451+j6.782
RIO SALADO	SDO-138	138	3.67	2.49	5.534+j20.976	13.660+j50.938	4.27	3.71	5.055+j19.910	5.225+j29.439
RÍO VERDE	RVE-115	115	2.20	1.38	8.775+j28.860	26.919+j79.905	2.42	1.51	8.767+j28.883	26.966+j79.942
ROCKWELL	ROW-115	115	21.71	14.61	0.544+j3.010	1.571+j7.353	25.78	16.84	0.477+j2.793	1.551+j7.193
SABINAS	SAB-115	115	4.72	3.67	2.800+j13.780	5.410+j25.541	5.64	4.17	2.336+j12.746	5.445+j26.041
SABINAS HIDALGO	SAH-115	115	1.95	2.11	10.077+j32.475	2.452+j26.559	2.17	2.29	9.999+j32.180	2.726+j28.494
SALITRILLO	SLT-115	115	4.39	3.59	2.743+j14.862	8.286+j23.951	4.77	3.92	2.729+j15.076	8.292+j24.101
SALITRILLOS	SLT-138	138	5.88	7.28	1.633+j13.444	0.907+j5.713	6.61	8.08	1.529+j13.175	0.991+j5.993
SALTILLO	SAL-115	115	23.96	26.45	0.491+j2.727	0.201+j1.991	28.20	30.17	0.415+j2.556	0.220+j2.079
SALTILLO	SAL-230	230	12.55	13.91	1.691+j10.447	0.853+j7.468	14.49	15.63	1.422+j9.980	0.907+j7.855
SAN AGUSTÍN	AUS-115	115	29.13	20.33	0.401+j2.243	1.078+j5.130	34.87	23.98	0.342+j2.067	0.979+j4.853
SAN BARTOLO	SBT-115	115	1.11	0.89	13.426+j58.559	41.356+j96.442	1.21	0.98	13.415+j58.611	41.379+j96.628



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SAN BERNABÉ	BER-115	115	15.53	10.31	0.712+j4.216	2.250+j10.540	19.12	12.29	0.630+j3.768	2.129+j9.972
SAN CARLOS POTENCIA	SCP-400	400	8.75	7.71	2.630+j26.266	5.977+j36.628	10.01	8.56	2.298+j25.278	6.265+j37.916
SAN CRISTOBAL	SCB-138	138	10.69	7.47	1.370+j7.325	3.351+j16.804	12.92	9.44	1.159+j6.684	2.488+j14.099
SAN FERNANDO	FDO-115	115	0.81	0.49	30.754+j76.462	78.931+j230.004	0.89	0.54	30.745+j76.585	78.952+j230.222
SAN JORGE	JOR-115	115	23.05	14.49	0.532+j2.831	1.575+j7.832	26.70	16.26	0.468+j2.695	1.584+j7.852
SAN JUAN	JAN-115	115	4.04	2.24	3.037+j16.161	11.883+j54.854	8.02	4.84	1.804+j8.922	6.842+j26.226
SAN MARCOS	MCO-115	115	6.92	4.07	1.714+j9.438	6.284+j29.079	10.07	6.05	1.316+j7.130	4.874+j21.179
SAN MARTIN	SMA-115	115	13.52	8.43	0.878+j4.833	2.830+j13.527	15.17	9.33	0.831+j4.743	2.835+j13.558
SAN NICOLÁS	NIC-115	115	58.89	56.47	0.204+j1.109	0.140+j1.268	71.96	65.44	0.155+j1.003	0.149+j1.313
SAN NICOLÁS	NIC-115B	115	59.07	56.74	0.203+j1.106	0.139+j1.258	72.18	65.76	0.154+j1.000	0.148+j1.303
SAN NICOLÁS	NIC-400	400	25.58	25.02	1.730+j8.860	1.481+j9.524	33.42	30.59	1.185+j7.508	1.533+j9.598
SAN ROBERTO	RBO-115	115	0.88	0.95	34.574+j67.151	20.063+j54.277	1.04	1.10	30.841+j62.919	20.534+j56.088
SAN ROQUE	ROQ-115B	115	18.24	11.96	0.626+j3.586	2.052+j9.154	23.44	15.36	0.494+j3.077	1.730+j7.857
SAN ROQUE	ROQ-115	115	18.10	11.85	0.631+j3.613	2.073+j9.246	23.30	15.26	0.497+j3.095	1.742+j7.913
SANDOVAL	SDV-138	138	8.56	7.38	2.270+j9.024	3.067+j13.609	9.87	8.34	2.099+j8.630	3.057+j13.563
SANTA AMALIA TAMAULIPAS	AAT-115	115	21.54	20.56	0.431+j3.053	0.419+j3.553	24.21	22.64	0.420+j2.987	0.443+j3.672
SANTA CATARINA	CAT-115	115	11.53	7.69	1.031+j5.664	2.861+j14.110	12.89	8.48	0.984+j5.582	2.869+j14.213
SANTA CRUZ	STZ-115	115	26.65	18.55	0.442+j2.452	1.190+j5.631	32.41	21.89	0.371+j2.222	1.150+j5.390
SANTANDER	SNT-138	138	18.08	16.83	0.715+j4.348	0.866+j5.366	21.78	19.70	0.580+j3.981	0.848+j5.277
SANTO DOMINGO	DON-115	115	51.94	28.98	0.231+j1.257	0.873+j4.230	63.28	39.77	0.182+j1.140	0.632+j3.142
SANTO DOMINGO	DON-400	400	26.36	24.71	1.820+j8.569	1.715+j10.390	34.88	30.64	1.270+j7.172	1.702+j10.179
SANTO DOMINGO VIEJO PROVISIONAL	DVP-115	115	20.02	15.01	0.522+j3.275	1.477+j6.480	27.01	18.54	0.450+j2.666	1.516+j6.239
SELLO ROJO	SER-115	115	4.43	3.20	2.274+j14.825	7.093+j31.548	4.97	3.86	2.109+j14.556	5.194+j26.883
SENDERO NACIONAL	SEN-138	138	11.45	9.33	1.433+j6.807	2.190+j11.705	13.09	10.42	1.315+j6.562	2.201+j11.791
SIDERÚRGICA	SIG-138	138	12.66	10.90	1.291+j6.162	1.711+j9.373	14.54	12.22	1.173+j5.914	1.721+j9.454
SIDERÚRGICA DEL GOLFO S.A.	SGA-230	230	10.24	8.20	1.941+j12.826	4.729+j22.408	13.17	11.08	1.317+j11.013	3.185+j17.250
SIECOR	SIE-138	138	12.98	7.73	1.247+j6.012	4.359+j18.190	17.99	12.18	0.906+j4.786	2.710+j11.583
SOLIDARIDAD	SRD-115	115	15.20	10.00	0.730+j4.307	2.353+j10.941	18.24	11.67	0.657+j3.949	2.275+j10.531
SORIANA CEDIS	SOC-115	115	14.24	8.49	0.877+j4.581	3.107+j13.803	19.15	11.47	0.661+j3.755	2.506+j11.211
SOTO LA MARINA	SOT-115	115	1.08	0.72	20.449+j58.195	58.556+j143.566	1.18	0.79	20.460+j58.358	58.647+j144.020
SPARTECH	SEH-115	115	14.79	10.93	0.703+j4.434	1.852+j9.079	17.55	12.87	0.595+j4.120	1.755+j8.537
STIVA	STV-115	115	19.20	13.25	0.561+j3.413	1.800+j7.918	22.41	15.06	0.495+j3.221	1.798+j7.852
TAMAULIPAS	TAM-115	115	14.99	11.55	0.815+j4.354	2.208+j8.151	17.23	13.13	0.768+j4.168	2.181+j7.979
TAMAZUNCHALE 115	TZE-115	115	6.98	5.37	1.721+j9.359	3.739+j17.635	7.37	5.71	1.775+j9.744	3.777+j18.106
TAMAZUNCHALE 400	TMH-400	400	21.36	22.94	0.554+j10.797	0.330+j7.646	23.30	24.65	0.491+j10.892	0.376+j8.296
TAMBACA	TBC-115	115	3.39	2.33	5.333+j18.838	16.592+j43.352	3.73	2.56	5.331+j18.865	16.638+j43.389
TAMOS	TMO-115	115	21.59	19.65	0.451+j3.041	0.706+j3.984	24.22	21.63	0.438+j2.984	0.725+j4.088
TAMOS	TMO-400	400	17.77	15.11	1.174+j12.941	4.005+j19.722	23.47	19.40	0.799+j10.795	3.564+j17.574
TAMPICO	TPC-115	115	27.35	29.71	0.352+j2.402	0.245+j1.911	31.22	33.06	0.331+j2.316	0.261+j2.007
TAMPICO	TPC-230	230	16.03	16.08	0.923+j8.231	1.344+j8.509	18.10	17.76	0.853+j8.024	1.399+j8.803
TAMPIQUITO	TPQ-115	115	33.13	21.38	0.339+j1.975	0.926+j5.227	38.74	24.06	0.289+j1.863	0.939+j5.254
TANCOL	TCL-115	115	17.16	14.74	0.650+j3.814	1.910+j5.573	19.33	16.35	0.628+j3.725	1.919+j5.642



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TECHNOCAST	THC-115	115	14.30	10.30	0.700+j4.592	2.052+j9.858	16.95	12.12	0.591+j4.267	1.947+j9.275
TECNOLÓGICO POTENCIA SF6	TEC-115	115	43.67	40.45	0.276+j1.495	0.212+j1.876	52.89	48.19	0.220+j1.363	0.199+j1.779
TECNOLÓGICO POTENCIA SF6	TEC-400	400	19.06	17.90	2.010+j11.947	1.887+j14.387	23.66	21.09	1.435+j10.642	1.939+j14.574
TEKSID	TKS-115	115	8.84	8.16	1.023+j7.441	1.765+j9.267	10.14	9.13	0.889+j7.147	1.776+j9.456
TELEFLEX	TLX-138	138	7.30	7.01	2.031+j10.722	2.076+j12.129	9.00	8.23	1.582+j9.611	2.099+j12.283
TEMPOAL II	TED-115	115	2.71	1.70	4.979+j24.031	17.167+j66.299	2.96	1.86	5.012+j24.140	17.178+j66.398
TERNIUM MANIOBRAS	TNM-400	400	12.38	9.09	1.950+j18.555	7.491+j38.339	15.88	11.86	1.252+j15.945	6.218+j31.897
TEXTILERAS	TXE-115	115	16.69	12.38	0.633+j3.928	1.590+j8.037	18.80	13.80	0.613+j3.837	1.577+j8.010
TIERRA NUEVA	TNA-115	115	6.25	4.53	3.365+j10.074	7.415+j21.481	6.78	4.93	3.366+j10.237	7.428+j21.684
TOPO CHICO	THO-115	115	28.67	21.10	0.447+j2.272	0.911+j4.725	33.26	23.97	0.397+j2.160	0.899+j4.666
TOSHIBA	TOS-115	115	11.29	6.08	1.158+j5.767	4.648+j20.496	15.29	8.29	0.863+j4.697	3.705+j16.475
TRANE	TNE-115	115	19.20	13.25	0.561+j3.413	1.800+j7.918	22.41	15.06	0.495+j3.221	1.798+j7.852
TRES MESAS MANIOBRAS	TMS-400	400	9.42	6.47	2.383+j24.396	12.584+j56.951	10.96	7.33	2.069+j23.080	12.627+j56.739
TRIARA II	TII-115	115	11.40	8.94	0.975+j5.743	1.766+j10.488	20.76	15.05	0.602+j3.467	1.367+j7.401
TRICO COMPTS.	TCO-138	138	11.83	9.83	1.366+j6.592	2.015+j10.864	13.55	10.99	1.249+j6.347	2.025+j10.951
TUBACERO MONTERREY	TBM-115	115	18.98	13.99	0.554+j3.455	1.610+j7.066	25.35	17.15	0.480+j2.841	1.648+j6.825
UCAR	UCA-230	230	15.50	12.68	1.332+j8.464	3.378+j13.924	18.52	14.66	1.086+j7.812	3.360+j13.768
UNIDAD DEPORTIVA	UDP-138	138	7.24	6.93	2.362+j10.750	3.243+j12.103	8.96	8.14	1.923+j9.594	3.283+j12.336
UNIVERSIDAD	UNI-115	115	21.88	14.05	0.548+j2.985	1.644+j7.940	25.70	15.87	0.465+j2.803	1.650+j7.960
UNIVERSIDAD SACH	UNT-115	115	16.81	13.16	0.673+j3.892	1.463+j7.154	19.64	15.13	0.607+j3.668	1.404+j6.960
VALADECES	VDL-138	138	4.35	2.59	4.792+j17.683	14.198+j53.776	7.82	5.12	2.737+j10.864	6.832+j28.197
VALLE	VLL-115	115	38.26	33.52	0.316+j1.706	0.331+j2.453	45.21	38.25	0.265+j1.593	0.344+j2.476
VALLE ALTO	VAL-115	115	12.44	10.46	0.940+j5.255	1.976+j8.180	13.62	11.45	0.938+j5.281	2.024+j8.211
VALLE DEL ROBLE	VRO-115	115	9.57	6.36	1.131+j6.846	4.029+j16.988	10.95	7.18	1.057+j6.588	3.975+j16.732
VALLE HERMOSO	VHE-138	138	3.17	2.78	7.139+j24.102	8.774+j34.813	3.57	3.12	6.892+j23.569	8.638+j34.160
VALLE ORIENTE	VOT-115	115	43.04	33.29	0.286+j1.516	0.415+j2.872	51.19	38.86	0.235+j1.407	0.405+j2.759
VALLE PONIENTE	VAP-115	115	16.44	12.23	0.717+j3.976	1.582+j8.050	18.88	13.71	0.637+j3.815	1.592+j8.089
VALLE SOLEADO DEFINITIVO	VSL-115	115	21.97	13.56	0.563+j2.970	1.763+j8.463	26.51	16.09	0.493+j2.710	1.674+j7.938
VALLE SUR	VSR-138	138	3.63	3.44	6.187+j21.066	6.304+j25.011	4.10	3.88	5.942+j20.531	6.168+j24.358
VALLES	VES-115	115	12.54	10.47	0.937+j5.210	1.957+j8.250	13.71	11.45	0.938+j5.243	2.001+j8.292
VENTIKA MANIOBRAS	VKM-230	230	6.78	7.35	3.100+j19.353	2.376+j14.918	7.58	8.08	2.926+j19.048	2.432+j15.555
VERDE CO.	VEC-138	138	10.09	7.34	1.858+j7.678	4.053+j16.358	12.11	8.64	1.615+j7.054	3.893+j15.589
VICTORIA	VRA-115	115	7.84	6.25	1.828+j8.272	3.844+j14.430	8.46	6.76	1.834+j8.435	3.875+j14.673
VIDRIERA MONTERREY	VMO-115	115	25.29	15.72	0.459+j2.585	1.508+j7.271	29.16	18.41	0.408+j2.472	1.401+j6.750
VILLA DE CASAS	VDC-115	115	2.40	1.62	10.151+j25.725	22.951+j63.953	2.63	1.77	10.161+j25.891	23.039+j64.402
VILLA DE GARCÍA	VDG-115	115	28.00	32.51	0.347+j2.346	0.094+j1.377	31.25	35.56	0.319+j2.315	0.103+j1.480
VILLA DE GARCÍA	VDG-230	230	24.91	28.89	0.682+j5.288	0.280+j3.135	28.77	32.47	0.517+j5.051	0.299+j3.343
VILLA DE GARCÍA	VDG-400	400	28.64	28.95	1.332+j7.953	1.314+j7.747	37.09	35.16	0.829+j6.800	1.356+j7.908
VILLA DE JUÁREZ DOS	VJD-115	115	12.38	7.26	0.951+j5.276	3.503+j16.329	15.79	9.35	0.794+j4.558	3.057+j13.860
VILLA DE SANTIAGO	VDS-115	115	9.09	5.70	1.581+j7.135	5.251+j19.643	10.19	6.34	1.522+j7.005	5.238+j19.545
VILLA FLORIDA	VLF-138	138	16.84	14.69	0.788+j4.664	1.183+j6.758	20.42	17.42	0.641+j4.243	1.115+j6.462
VISTEON	VIS-115	115	12.72	9.55	0.814+j5.155	2.008+j10.237	17.63	12.31	0.655+j4.090	1.948+j9.327



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
WHIRLPOOL	WHI-115	115	14.43	10.56	0.724+j4.544	1.942+j9.475	17.09	12.41	0.616+j4.230	1.845+j8.932
WHIRLPOOL APODACA	WHA-115	115	19.12	14.77	0.499+j3.437	1.176+j6.436	29.84	21.62	0.373+j2.419	0.998+j5.149
XICOTENCATL II	XID-115	115	1.43	0.89	15.603+j43.754	38.912+j123.883	1.94	1.24	11.602+j35.899	32.856+j96.008
XOCHIPILLI	XOC-115	115	9.30	7.95	1.086+j7.059	2.056+j10.633	10.83	8.96	0.930+j6.681	2.067+j10.807
YESOS INDUSTRIALES DEL NORTE	YIN-115	115	33.12	10.69	0.403+j1.964	5.580+j13.571	38.30	11.86	0.357+j1.873	5.587+j13.614
ZACUALTIPÁN	ZAC-115	115	1.11	0.74	16.731+j57.352	50.303+j142.578	1.22	0.81	16.765+j57.491	50.317+j142.751
ZAPALINAME	ZPL-115	115	12.57	9.90	0.909+j5.203	1.904+j9.369	14.35	11.11	0.823+j5.023	1.903+j9.354
ZINC NACIONAL	ZNA-115	115	31.81	13.40	0.401+j2.048	2.168+j10.470	38.07	16.51	0.341+j1.888	1.930+j9.238

Gerencia de Control Regional Baja California

Sistema Interconectado Baja California



Regresar a mapa del SEN



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Baja California

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
ACUEDUCTO	ACU-115	115	3.52	2.69	3.059+j18.618	10.425+j34.987	4.15	3.06	2.751+j17.379	10.437+j35.124
AEROPUERTO DOS	APD-230	230	9.40	7.74	2.141+j13.965	4.253+j22.823	11.47	8.95	1.736+j12.618	4.305+j23.127
BAJA RECYCLING	B.RECYCLING	69	13.88	12.86	0.438+j2.836	0.656+j3.504	15.75	14.31	0.409+j2.752	0.664+j3.577
BAJÍO	BAJ-69	69	6.14	2.15	2.102+j6.133	10.717+j41.272	6.86	2.37	2.069+j6.044	10.728+j41.344
CACHANILLA	KCH-161	161	14.90	13.15	0.845+j6.181	1.765+j8.567	18.58	15.47	0.634+j5.465	1.780+j8.656
CAÑÓN	KON-115	115	3.26	2.70	5.142+j19.681	7.600+j32.267	3.70	3.01	4.899+j19.124	7.620+j32.517
CÁRDENAS	CNA-69	69	14.19	10.08	0.545+j2.754	1.271+j6.126	16.64	11.38	0.488+j2.587	1.278+j6.182
CARRANZA	CNZ-161	161	13.70	12.34	0.990+j6.713	1.815+j8.870	17.83	15.93	0.692+j5.692	1.542+j7.604
CEMENTOS	CEC-115	115	8.00	7.45	1.504+j8.163	5.075+j9.274	9.89	8.72	1.206+j7.284	5.102+j9.493
CENTENARIO	CNT-230	230	11.85	9.49	1.578+j11.091	4.609+j19.071	14.95	11.18	1.198+j9.698	4.620+j19.187
CENTINELA	CTA-69	69	2.63	3.06	3.737+j14.699	11.343+j4.809	2.86	3.34	3.734+j14.849	11.347+j4.891
CENTRO	CRO-161	161	17.35	17.79	0.746+j5.304	0.674+j4.925	22.22	21.41	0.530+j4.572	0.702+j5.064
CENTRO	CRO-230	230	14.51	13.31	1.286+j9.058	1.737+j11.520	18.98	16.04	0.894+j7.645	1.797+j11.802
CERRO PRIETO CUATRO	CPC-161	161	12.84	13.58	0.932+j7.178	0.714+j6.037	15.50	15.76	0.759+j6.551	0.787+j6.201
CERRO PRIETO DOS	CPD-230	230	13.01	14.48	1.416+j10.105	0.742+j7.101	16.51	17.33	1.053+j8.786	0.802+j7.557
CERRO PRIETO TRES	CPT-230	230	12.95	14.41	1.431+j10.152	0.727+j7.142	16.67	17.42	1.036+j8.700	0.787+j7.595
CERRO PRIETO UNO	CPU-161	161	12.81	12.47	1.000+j7.190	1.140+j7.780	15.49	14.43	0.820+j6.551	1.201+j7.943
CERVECERA BAJA CALIFORNIA	CBC-230	230	10.79	9.14	1.912+j12.152	4.085+j18.583	13.44	10.69	1.503+j10.764	4.149+j18.834
CESPT	CPT-69	69	13.58	9.43	0.469+j2.896	1.361+j6.681	15.65	10.54	0.427+j2.768	1.376+j6.759
CETYS	CTY-161	161	15.74	15.75	0.871+j5.841	0.908+j5.832	20.41	19.62	0.613+j4.973	0.888+j5.517
CETYS	CTY-230	230	10.07	8.56	1.987+j13.033	3.452+j19.918	12.38	9.93	1.581+j11.694	3.514+j20.243
CHAPULTEPEC	CHQ-230	230	9.11	8.04	2.298+j14.391	4.630+j19.918	11.05	9.26	1.890+j13.089	4.674+j20.396
CICLO COMBINADO MEXICALI	CCM-230	230	20.28	23.74	0.846+j6.491	0.283+j3.703	30.84	32.66	0.431+j4.717	0.315+j3.964
CIPRÉS	CIP-115	115	9.40	11.42	1.224+j6.953	0.294+j3.415	11.97	13.88	0.921+j6.031	0.322+j3.659
CIPRÉS	CIP-230	230	5.97	6.28	3.683+j21.940	2.084+j19.366	7.53	7.42	2.793+j19.198	2.278+j20.542
COLONET	COE-115	115	2.24	1.97	8.498+j28.447	9.606+j40.586	2.51	2.19	8.239+j27.904	9.624+j40.971
COMISIÓN ESTATAL DE SERVICIOS PÚBLICOS DE TIJUANA	CES-69	69	17.85	14.53	0.348+j2.205	0.703+j3.710	21.30	16.60	0.292+j2.037	0.710+j3.767
DART CONTAINER	DAR-69	69	14.74	10.80	0.485+j2.659	1.314+j5.513	16.74	12.00	0.456+j2.578	1.323+j5.587
DINAMIS PLASTICS	PLA-69	69	16.36	14.55	0.423+j2.399	0.583+j3.305	18.80	16.27	0.386+j2.299	0.591+j3.388
DURAZNO	DRA-69	69	12.51	9.67	0.569+j3.133	0.990+j5.920	14.44	10.75	0.521+j2.990	1.039+j6.100
EL ARRAJAL	ARJ-115	115	3.45	4.19	3.099+j18.972	0.759+j9.070	3.76	4.51	3.079+j19.169	0.838+j9.754
EL ARRAJAL	ARJ-230	230	2.31	2.30	9.393+j56.762	6.099+j57.623	2.59	2.51	9.000+j55.725	6.761+j61.335
ENCINAL	ENL-69	69	4.35	3.99	1.504+j9.042	1.803+j11.505	4.82	4.33	1.481+j8.978	1.937+j12.022
ENSENADA	EDA-115	115	8.21	8.51	1.456+j7.956	1.624+j7.140	10.13	10.01	1.170+j7.112	1.653+j7.377
FABRICAS MONTERREY	FAM-115	115	7.94	7.90	1.512+j8.223	2.034+j8.351	9.78	9.26	1.221+j7.366	2.061+j8.581
FEVISA	FEV-161	161	11.22	6.99	1.312+j8.180	5.112+j22.808	13.70	8.02	1.078+j7.386	5.108+j22.771
FLORIDO	FLO-69	69	13.77	9.23	0.542+j2.843	1.616+j6.989	15.70	10.29	0.508+j2.745	1.620+j7.034
FRANCISCO VILLA	FCO-69	69	13.34	10.13	0.512+j2.941	1.482+j5.651	15.19	11.30	0.477+j2.845	1.487+j5.708
FRONTERA	FTA-69	69	21.77	16.62	0.321+j1.802	0.726+j3.466	25.63	18.83	0.282+j1.686	0.732+j3.507
GALLO	GLL-115	115	8.31	8.52	1.449+j7.854	1.990+j7.250	10.32	10.06	1.153+j6.984	2.014+j7.469
GONZALES ORTEGA	GOR-161	161	13.45	11.84	1.039+j6.832	1.876+j9.575	18.34	17.58	0.674+j5.534	0.960+j6.159
GUERRERO	GER-69	69	17.82	13.13	0.421+j2.196	0.919+j4.554	21.22	14.94	0.363+j2.033	0.929+j4.606



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Baja California

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
HERRADURA	HRA-69	69	24.87	27.90	0.232+j1.585	0.097+j1.085	28.89	31.44	0.203+j1.503	0.106+j1.160
HERRADURA	HRA-230	230	12.65	11.41	1.412+j10.406	1.929+j13.853	15.89	13.40	1.078+j9.129	2.049+j14.333
HIDALGO	HGO-161	161	6.59	5.31	2.388+j13.899	4.688+j23.867	7.60	5.96	2.153+j13.285	4.734+j24.075
HIPÓDROMO	HMO-69	69	26.99	21.81	0.292+j1.447	0.566+j2.476	33.23	25.38	0.241+j1.297	0.570+j2.501
HUNTER	HTR-69	69	16.52	11.39	0.428+j2.373	1.213+j5.555	19.42	12.89	0.379+j2.225	1.215+j5.579
HYUNDAI. CARGA INDUSTRIAL	HIU-69	69	26.46	17.81	0.276+j1.480	0.623+j3.659	31.35	20.05	0.242+j1.377	0.630+j3.728
INDUSTRIAL	INA-69	69	24.30	18.50	0.283+j1.615	0.652+j3.126	28.94	21.10	0.242+j1.495	0.655+j3.156
IOJOS NEGROS	ONG-69	69	1.34	1.00	10.549+j27.913	16.284+j57.912	1.44	1.08	10.680+j28.466	16.344+j58.864
JATAY	JAT-115	115	3.74	2.83	2.880+j17.500	9.808+j33.683	4.40	3.21	2.586+j16.385	9.824+j33.834
JOVITA	JOV-230	230	7.71	8.80	1.882+j17.127	0.771+j11.784	9.09	9.97	1.642+j15.990	0.875+j12.676
JOYA	JOY-115	115	8.19	9.53	1.002+j8.042	1.280+j4.604	13.08	13.63	0.591+j5.552	1.290+j4.811
KENWORTH	KEN-230	230	5.59	6.44	3.129+j23.546	2.804+j14.110	6.54	7.41	2.719+j22.155	2.819+j14.246
LA ENCANTADA	ENA-69	69	17.03	18.04	0.411+j2.302	0.346+j1.927	19.75	20.43	0.373+j2.187	0.352+j1.987
LA MESA	LMS-69	69	21.89	16.95	0.351+j1.786	0.698+j3.352	26.05	19.33	0.304+j1.655	0.702+j3.385
LA ROSITA	ROA-230	230	23.20	25.28	0.767+j5.671	0.627+j4.291	34.16	33.69	0.418+j4.255	0.642+j4.436
LAGO	LGO-69	69	15.09	11.60	0.510+j2.591	0.995+j4.928	17.36	12.99	0.467+j2.480	1.001+j4.991
LIBRAMIENTO	LIB-230	230	6.21	5.28	3.528+j21.078	6.285+j32.165	7.29	5.92	3.074+j19.802	6.658+j33.349
LOMAS	LOS-69	69	3.04	3.28	2.212+j12.910	0.456+j10.316	3.21	3.41	2.336+j13.464	0.515+j11.267
LOMAS	LOS-115	115	8.66	10.14	1.311+j7.552	0.414+j4.396	10.69	11.98	1.045+j6.754	0.451+j4.691
LOMAS	LOS-230	230	6.02	5.95	3.581+j21.759	2.949+j23.096	7.61	7.02	2.708+j18.995	3.166+j24.265
MABAMEX	MAB-69	69	13.21	8.84	0.554+j2.964	1.875+j7.266	15.08	9.86	0.519+j2.859	1.880+j7.311
MANEADERO	MND-115	115	7.43	8.05	1.652+j8.781	1.002+j6.908	9.11	9.46	1.350+j7.903	1.029+j7.140
MATRIX	MATRIX-69	69	10.83	6.46	0.857+j3.576	2.423+j10.903	12.34	7.19	0.816+j3.456	2.426+j10.932
MESA INDUSTRIAL GROUP	MGI-69	69	15.09	9.98	0.567+j2.578	1.431+j6.548	17.43	11.20	0.526+j2.458	1.434+j6.577
METROPOLIS	MEP-69	69	30.57	32.20	0.180+j1.291	0.106+j1.111	36.63	36.95	0.146+j1.187	0.114+j1.180
METROPOLIS	MEP-230	230	19.42	20.70	0.925+j6.776	0.974+j5.599	28.57	27.84	0.534+j5.084	0.999+j5.659
MEXICALI II	MXI-161	161	19.11	20.41	0.690+j4.816	0.515+j3.912	25.56	25.73	0.443+j3.975	0.506+j3.875
MEXICALI II	MXI-230	230	16.91	16.78	1.200+j7.761	1.233+j7.960	22.79	20.88	0.797+j6.359	1.241+j8.081
MEXICALI ORIENTE	MOE-161	161	11.72	11.28	1.106+j7.850	1.462+j8.750	14.39	13.25	0.868+j7.054	1.538+j8.789
MÉXICO	MXC-69	69	17.31	11.85	0.471+j2.253	1.156+j5.375	20.53	13.43	0.414+j2.094	1.166+j5.420
MINERA	MIN-115	115	1.49	1.04	11.171+j43.220	31.330+j97.043	1.63	1.14	11.151+j43.412	31.409+j97.728
MISIÓN	MSN-115	115	3.45	2.72	3.081+j19.007	10.114+j33.432	4.09	3.11	2.759+j17.628	10.123+j33.564
MONTECITO	MUE-69	69	17.13	13.14	0.434+j2.285	0.898+j4.363	19.92	14.81	0.390+j2.165	0.903+j4.410
NACOZARI	NZI-161	161	13.17	11.18	1.050+j6.980	1.914+j10.664	16.44	13.25	0.810+j6.168	1.910+j10.523
OPTICA	OPT-69	69	22.64	16.88	0.278+j1.737	0.733+j3.496	26.68	19.15	0.241+j1.625	0.736+j3.527
ORIZABA	OZA-230	230	15.50	13.85	1.248+j8.478	2.008+j11.484	20.53	16.85	0.856+j7.064	2.028+j11.618
PACIFICO	PAF-69	69	23.56	17.97	0.268+j1.670	0.689+j3.210	28.74	20.77	0.217+j1.509	0.691+j3.236
PACKARD	PKD-161	161	16.16	15.65	0.851+j5.690	1.106+j6.229	20.97	19.23	0.599+j4.840	1.085+j6.087
PANAMERICANA	PNM-115	115	6.53	5.92	1.317+j10.079	3.370+j13.008	9.55	7.60	0.891+j7.598	3.381+j13.216
PANAMERICANA POTENCIA	PAP-69	69	36.24	44.89	0.156+j1.088	0.033+j0.477	46.76	55.71	0.107+j0.931	0.036+j0.511
PANAMERICANA POTENCIA	PAP-230	230	16.17	18.47	1.183+j8.128	0.662+j5.253	24.42	25.65	0.652+j5.945	0.704+j5.373
PARQUE INDUSTRIAL	PID-161	161	7.57	7.70	1.897+j12.136	1.675+j11.538	8.69	8.56	1.679+j11.652	1.818+j12.165



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Baja California

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
PARQUE INDUSTRIAL	PID-230	230	6.42	5.60	3.424+j20.387	5.639+j29.347	7.55	6.26	2.967+j19.114	6.132+j30.747
PARQUE INDUSTRIAL LOS OLIVOS	POL-69	69	17.20	18.90	0.405+j2.280	0.273+j1.679	19.96	21.42	0.368+j2.165	0.280+j1.742
PARQUE INDUSTRIAL PACÍFICO	PFCO	69	15.06	12.69	0.455+j2.606	0.848+j4.054	17.65	14.42	0.405+j2.450	0.850+j4.088
PLANTA DE BOMBEO UNO	PB1-69	69	13.19	7.04	0.645+j2.950	2.601+j10.630	15.38	7.89	0.588+j2.788	2.608+j10.677
POPOTLA	POP-115	115	4.93	4.47	1.889+j13.342	5.668+j16.947	6.46	5.42	1.495+j11.202	5.674+j17.115
PRESIDENTE JUÁREZ	PJZ-115	115	9.39	12.22	0.682+j7.035	0.099+j2.217	16.06	19.09	0.278+j4.538	0.109+j2.424
PRESIDENTE JUÁREZ	PJZ-230	230	18.12	23.74	1.042+j7.254	0.193+j2.306	31.86	40.13	0.416+j4.566	0.166+j2.104
PUERTO NUEVO	PNU-115	115	4.01	3.95	2.467+j16.370	5.589+j16.688	4.97	4.67	2.103+j14.533	5.594+j16.854
PUNTA CHICA	PCH-115	115	2.32	2.09	7.390+j27.668	9.270+j37.023	2.63	2.33	7.101+j26.881	9.293+j37.227
RIO	RII-69	69	22.01	16.91	0.366+j1.773	0.709+j3.388	26.60	19.39	0.311+j1.618	0.721+j3.436
RIO NUEVO	RIN-161	161	15.38	14.03	0.854+j5.983	1.448+j7.666	19.31	16.58	0.640+j5.256	1.468+j7.772
RSI HOME PRODUCTS	RSI-69	69	24.28	21.01	0.256+j1.621	0.467+j2.371	28.59	23.80	0.221+j1.516	0.474+j2.435
RUBÍ	RUB-69	69	27.92	29.70	0.197+j1.413	0.119+j1.180	34.99	35.27	0.141+j1.245	0.126+j1.245
RUBÍ	RUB-230	230	12.99	13.90	1.469+j10.118	1.362+j8.290	19.29	18.82	0.834+j7.526	1.421+j8.380
RUIZ CORTINEZ	RZC-161	161	7.48	6.14	2.114+j12.244	3.601+j20.267	8.70	6.94	1.875+j11.601	3.628+j20.366
RUMOROSA	RUM-69	69	10.47	13.99	0.362+j3.788	0.046+j0.937	11.08	14.72	0.357+j3.940	0.050+j1.020
RUMOROSA	RUM-230	230	9.09	8.21	1.886+j14.487	2.527+j19.194	10.86	9.32	1.578+j13.354	2.711+j19.998
SAMSUNG	SAM-230	230	17.38	17.18	1.033+j7.569	1.488+j7.895	24.71	22.26	0.641+j5.877	1.512+j7.955
SAN FELIPE	SAF-115	115	2.16	1.79	6.191+j30.114	11.374+j48.689	2.37	1.95	6.163+j30.244	11.429+j49.295
SAN LUIS REY	SRY-230	230	6.24	5.19	3.480+j20.984	6.656+j33.578	7.33	5.84	3.033+j19.702	6.901+j34.528
SAN MATÍAS	SMT-115	115	2.64	2.90	5.929+j24.412	1.890+j18.386	2.91	3.14	5.877+j24.420	2.110+j19.562
SAN QUINTÍN	SQN-115	115	1.30	1.74	16.909+j48.111	0.271+j12.934	1.45	1.92	16.615+j47.600	0.322+j14.115
SAN SIMÓN	SMN-115	115	1.03	1.06	20.040+j60.969	11.046+j59.382	1.15	1.16	19.738+j60.463	11.098+j60.567
SAN VICENTE	SVE-115	115	3.08	2.38	5.530+j20.835	9.726+j39.622	3.50	2.65	5.274+j20.218	9.744+j39.836
SÁNCHEZ TABOADA	STB-230	230	14.13	12.57	1.453+j9.288	2.483+j12.673	18.34	15.13	1.051+j7.894	2.498+j12.810
SANTA ISABEL	SIS-161	161	19.52	21.03	0.605+j4.723	0.491+j3.716	25.16	25.56	0.406+j4.044	0.508+j3.838
SANTA ISABEL	SIS-230	230	18.60	18.38	1.004+j7.069	1.277+j7.305	25.70	23.19	0.630+j5.648	1.300+j7.439
SAUZAL	SAZ-115	115	3.39	2.64	3.339+j19.288	9.932+j35.222	3.98	2.99	3.006+j18.092	9.946+j35.359
SEMINARIO	SIO-69	69	14.97	8.99	0.488+j2.616	1.719+j7.798	17.31	10.07	0.444+j2.492	1.722+j7.825
SHARP	SHA-115	115	8.54	9.94	0.806+j7.729	0.610+j4.518	13.91	14.39	0.398+j5.235	0.622+j4.729
SIDERÚRGICA	CSC-230	230	11.40	9.87	1.778+j11.514	3.239+j16.772	14.29	11.61	1.383+j10.128	3.261+j16.995
SKYWORKS	SKW-161	161	14.34	13.28	0.966+j6.411	1.301+j7.937	18.22	16.08	0.715+j5.565	1.297+j7.727
SONY	SON-69	69	11.00	6.20	0.696+j3.553	2.553+j11.772	12.51	6.89	0.654+j3.442	2.559+j11.834
TAICO	TYC-69	69	16.07	12.74	0.454+j2.437	0.869+j4.346	18.56	14.30	0.413+j2.324	0.874+j4.406
TECATE DOS	TCD-69	69	7.55	5.55	0.936+j5.195	2.093+j10.768	8.43	6.05	0.908+j5.118	2.195+j11.120
TECNOLÓGICO	TEK-230	230	12.66	10.99	1.630+j10.366	2.989+j14.983	16.11	13.06	1.216+j8.983	3.005+j15.135
TECOLOTE	TEE-69	69	15.82	10.76	0.385+j2.489	1.283+j5.949	18.72	12.21	0.329+j2.318	1.285+j5.977
TECRA	TCR-69	69	8.25	3.38	1.079+j4.705	6.485+j24.887	9.25	3.73	1.048+j4.621	6.508+j25.001
TENSHO. CARGA INDUSTRIAL	TSHO-115	115	8.78	10.55	0.769+j7.522	0.444+j3.785	14.49	15.59	0.362+j5.027	0.455+j3.995
THOMSON	THO-230	230	12.56	10.56	1.616+j10.449	3.285+j16.265	15.99	12.53	1.214+j9.056	3.300+j16.402
TIJUANA	TJI-69	69	37.91	45.39	0.132+j1.043	0.036+j0.541	46.50	53.72	0.099+j0.937	0.039+j0.581
TIJUANA	TJI-69A	69	18.57	21.33	0.348+j2.116	0.082+j1.328	21.33	23.80	0.315+j2.030	0.092+j1.436



Niveles de cortocircuito de la Red Nacional de Transmisión

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
TIJUANA	TJI-230	230	21.43	24.60	0.814+j6.143	0.510+j3.870	31.61	33.60	0.460+j4.599	0.537+j3.971
TOYOTA	TOY-230	230	11.49	9.65	1.546+j11.448	3.030+j18.016	14.37	11.30	1.201+j10.092	3.118+j18.359
TRINIDAD	TRI-115	115	2.53	2.04	6.633+j25.410	10.148+j43.980	2.81	2.24	6.506+j25.175	10.245+j44.561
UNIVERSIDAD	UND-69	69	14.32	9.24	0.535+j2.729	1.627+j7.208	16.64	10.39	0.485+j2.589	1.631+j7.230
VALLE	VAL-69	69	15.52	10.30	0.502+j2.517	1.291+j6.356	18.27	11.63	0.445+j2.357	1.301+j6.404
VALLE DE GUADALUPE	VLP-69	69	2.43	1.61	5.769+j15.354	11.072+j40.242	2.63	1.75	5.815+j15.610	11.095+j40.631
VALLE DE LAS PALMAS	VPM-69	69	3.26	2.20	5.139+j11.093	7.033+j29.231	3.60	2.42	5.110+j11.050	7.036+j29.332
VALLE DE PUEBLA	VPA-230	230	11.18	9.19	1.865+j11.726	4.320+j19.181	13.99	10.76	1.452+j10.342	4.357+j19.377
VALLECITOS	VLC-69	69	2.53	1.67	6.472+j14.323	10.866+j39.073	2.78	1.83	6.463+j14.373	10.872+j39.259
VICTORIA	VIC-230	230	6.70	5.20	3.050+j19.576	8.791+j35.946	7.91	5.90	2.636+j18.278	8.836+j36.424
VIGOBITE	VIB-69	69	20.62	13.55	0.349+j1.900	1.072+j4.853	24.43	15.36	0.305+j1.768	1.074+j4.875
WISTERIA	WIS-230	230	18.02	17.75	1.104+j7.288	1.278+j7.621	24.64	22.28	0.715+j5.885	1.287+j7.722
XOCHIMILCO	XCO-230	230	16.28	15.05	1.219+j8.066	1.766+j10.017	21.76	18.50	0.823+j6.663	1.774+j10.124

Gerencia de Control Regional Baja California

Sistema Interconectado Baja California Sur



Regresar a mapa del SEN



Niveles de cortocircuito de la Red Nacional de Transmisión
Gerencia de Control Regional Baja California sur

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
AEROPUERTO SAN JOSÉ	ASJ-115	115	2.72	2.67	7.949+j23.064	4.965+j25.482	5.01	3.99	2.945+j14.278	5.040+j25.216
AURA SOLAR	ASU-115	115	3.89	4.79	4.149+j16.545	0.940+j7.471	9.01	9.27	0.957+j8.050	1.105+j7.104
BLEDALES	BLE-115	115	3.67	4.24	4.642+j17.488	2.338+j10.557	8.43	8.19	1.184+j8.582	2.183+j9.010
BUENAVISTA	BUV-115	115	1.86	1.44	12.076+j33.512	16.075+j65.257	2.82	1.87	7.474+j24.844	15.641+j63.061
CABO BELLO	CAB-115	115	2.77	2.95	7.833+j22.609	3.892+j19.420	5.64	4.98	2.383+j12.725	3.812+j17.643
CABO FALSO	CAF-115	115	2.91	3.32	7.374+j21.624	2.166+j14.401	6.59	6.50	1.871+j10.923	1.921+j11.357
CABO REAL	CRE-115	115	2.99	3.33	7.218+j20.972	2.593+j15.365	6.01	5.51	2.208+j11.950	2.699+j15.175
CABO SAN LUCAS DOS	CAD-115	115	3.00	3.49	7.341+j20.902	1.956+j12.756	6.82	6.85	1.887+j10.538	1.773+j10.370
CABO SOL	CAS-115	115	2.77	2.89	7.716+j22.651	3.928+j20.762	5.45	4.67	2.436+j13.170	3.968+j19.699
CAMINO REAL	CAR-115	115	2.42	2.21	7.789+j26.303	11.752+j33.456	4.40	3.54	3.582+j16.210	10.112+j26.906
CENTRAL TURBOGÁS LOS CABOS	TCB-230	230	1.66	2.19	24.750+j75.926	1.886+j22.875	3.90	4.59	5.386+j37.097	1.508+j20.227
COROMUEL	COR-230	230	2.42	3.22	11.825+j53.542	0.894+j14.295	5.32	6.46	2.225+j27.387	0.710+j12.497
EL PALMAR	ELP-115	115	3.29	4.10	6.700+j19.040	0.716+j8.433	7.24	7.69	1.750+j9.936	0.823+j8.246
EL PALMAR	ELP-230	230	1.78	2.35	23.801+j70.770	1.922+j20.875	4.14	4.83	5.326+j34.907	2.003+j19.862
EL RECREO	RCO-115	115	3.73	4.39	4.504+j17.236	2.018+j9.582	8.56	8.48	1.105+j8.461	1.980+j8.375
EL TRIUNFO	ETR-115	115	2.21	1.89	9.244+j28.572	13.106+j43.662	3.69	2.74	4.841+j19.179	11.942+j38.444
GENERAL AGUSTÍN OLACHEA	GAO-115	115	1.41	1.79	12.554+j45.416	1.165+j17.527	3.28	4.19	2.618+j22.093	0.316+j7.811
INSURGENTES	INS-115	115	1.29	1.75	17.936+j48.242	2.476+j10.976	2.64	3.36	6.164+j26.946	2.089+j9.704
LA PAZ	LPZ-115	115	3.25	3.36	5.562+j19.686	5.068+j17.572	7.00	6.07	1.825+j10.273	4.296+j14.487
LAS PILAS	LAP-115	115	1.88	1.88	10.963+j33.604	10.805+j33.372	3.38	2.92	4.846+j21.072	9.498+j30.392
LORETO	LRO-115	115	0.63	0.48	36.362+j99.426	43.693+j195.428	0.89	0.60	23.456+j78.619	43.278+j194.107
MANIOBRAS EÓLICO COROMUEL	MAN-ENV	115	2.32	2.75	7.069+j27.716	2.703+j15.046	3.73	4.00	3.759+j19.214	3.057+j15.234
MONTE REAL	MOR-115	115	2.89	3.02	7.604+j21.673	3.561+j19.828	5.58	4.75	2.581+j12.827	3.649+j19.600
OLAS ALTAS	OLA-115	115	4.22	5.47	3.933+j15.239	0.529+j4.962	10.66	11.94	0.760+j6.810	0.668+j4.365
OLAS ALTAS	OLA-230	230	2.36	3.06	13.544+j54.575	2.070+j17.700	5.51	6.19	2.462+j26.389	2.189+j17.218
PALMILLA	PAA-115	115	3.14	3.07	5.570+j20.410	4.810+j21.988	6.74	5.53	1.768+j10.688	3.954+j17.382
PALMILLA	PML-115	115	2.71	2.73	7.804+j23.249	4.680+j23.477	5.01	4.14	2.739+j14.319	4.781+j23.281
PUERTO ESCONDIDO	PES-115	115	0.69	0.55	33.231+j90.730	36.547+j164.211	1.00	0.70	20.448+j69.808	36.133+j162.892
PUNTA PRIETA	PUP-115	115	3.71	4.25	4.745+j17.263	2.318+j10.866	10.84	12.89	0.704+j6.700	0.337+j3.385
PUNTA PRIETA	PUP-115B	115	3.70	4.22	4.754+j17.326	2.322+j11.010	10.75	12.68	0.718+j6.758	0.372+j3.553
REFORMAS AGRARIAS	REA-115	115	2.13	2.37	7.924+j30.159	5.546+j20.786	3.34	3.35	4.421+j21.400	5.808+j20.772
ROFOMEX	RFO-115	115	1.30	0.99	14.947+j48.758	28.674+j95.837	1.83	1.23	9.805+j38.743	28.072+j94.125
SAN JOSÉ DEL CABO	SJC-115	115	2.92	3.12	7.524+j21.476	3.342+j18.154	5.69	4.98	2.465+j12.588	3.440+j17.949
SANTIAGO	SNT-115	115	1.92	1.52	12.304+j32.265	14.253+j60.667	2.93	1.98	7.602+j23.701	14.056+j59.414
SANTO DOMINGO	DOM-115	115	1.15	1.34	19.368+j54.341	7.110+j32.221	2.15	2.20	7.459+j33.136	6.721+j30.946
TURBO GAS LOS CABOS	TCB-115	115	3.07	3.89	6.748+j20.570	0.512+j8.126	7.85	9.72	1.287+j9.209	0.156+j3.923
VILLA CONSTITUCIÓN	VIO-115	115	1.51	1.84	14.491+j41.636	4.261+j19.832	3.51	4.54	3.675+j20.504	0.512+j6.598

Gerencia de Control Regional Baja California

Sistema Interconectado Mulegé



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 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
BAHÍA ASUNCIÓN	BAS-115	115	0.36	0.46	45.216+j178.269	6.850+j55.907	0.57	0.69	34.954+j123.313	7.601+j60.277
MEZQUITAL	MEZ-115	115	0.53	0.68	17.403+j124.829	6.253+j34.762	1.19	1.36	4.950+j60.927	6.407+j36.670
SANTA ROSALÍA	SRI-115	115	0.49	0.65	20.990+j134.056	2.404+j26.330	1.18	1.42	4.976+j61.955	2.632+j28.554
TRES VÍRGENES	GLV-115	115	0.53	0.67	15.579+j123.564	6.164+j41.595	1.09	1.22	6.144+j66.680	6.608+j44.232
VIZCAÍNO	VIZ-115	115	0.53	0.64	16.579+j123.730	6.896+j45.856	1.08	1.17	6.563+j67.478	7.502+j48.906

Gerencia de Control Regional Peninsular



Regresar a mapa del SEN



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

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
AH KIM PECH	AKI-115	115	4.32	3.80	4.980+j14.525	6.466+j20.801	5.77	4.71	3.416+j12.194	6.457+j20.261
AK TUNCHEN	AUC-115	115	6.56	6.12	3.466+j9.516	2.845+j12.061	8.51	7.38	2.075+j8.327	2.858+j12.214
AKUMAL II	AKD-115	115	5.78	4.82	3.839+j10.826	4.343+j17.892	7.32	5.69	2.467+j9.663	4.354+j18.027
ALOM	ALO-115	115	10.98	10.42	1.691+j5.803	1.504+j6.879	16.81	14.58	0.793+j4.271	1.308+j6.148
AVENTURA PALACE	AVP-115	115	6.04	3.88	3.698+j10.344	7.425+j28.454	7.74	4.52	2.307+j9.155	7.438+j28.608
BALAM	BLM-115	115	9.86	13.09	2.667+j6.183	0.178+j1.841	16.26	20.34	1.057+j4.365	0.179+j1.800
BALAM	BLM-230	230	4.82	5.87	9.932+j25.696	1.004+j13.254	7.49	8.36	3.907+j19.114	1.027+j13.463
BONAMPAK	BNP-115	115	9.27	11.86	2.861+j6.567	0.424+j2.523	15.47	18.52	1.134+j4.583	0.383+j2.370
BONFIL	BNI-115	115	7.82	7.68	3.097+j7.909	2.140+j8.773	12.23	10.80	1.308+j5.826	1.916+j8.126
CALICA	CLC-115	115	7.07	7.54	3.333+j8.783	2.199+j7.346	9.60	9.53	1.806+j7.393	2.206+j7.473
CALKINI II	CKD-115	115	3.15	1.99	6.339+j20.103	17.863+j55.320	3.76	2.27	5.266+j18.684	17.819+j55.088
CANCUN	CNC-115	115	9.24	10.80	2.857+j6.595	0.819+j4.083	15.77	17.83	1.071+j4.507	0.430+j3.010
CANDELARIA II	CAS-115	115	1.78	1.24	9.649+j36.050	33.908+j79.629	2.02	1.38	8.768+j35.011	33.922+j79.952
CANEK	CEK-115	115	8.84	9.64	2.900+j6.929	1.278+j5.583	13.92	13.75	1.261+j5.091	1.191+j5.323
CAUCEL POTENCIA	CCP-115	115	12.63	15.76	1.441+j5.055	0.165+j2.157	19.63	22.78	0.620+j3.668	0.177+j2.131
CAUCEL POTENCIA	CCP-230	230	7.71	9.44	4.417+j16.641	0.936+j7.766	11.97	13.48	1.691+j12.084	0.951+j7.941
CAYAL	CYL-115	115	2.32	1.60	8.120+j27.404	18.262+j64.714	2.82	1.85	6.557+j25.066	18.254+j64.208
CD. DEL CARMEN	CRE-115	115	3.57	4.32	3.940+j18.181	1.376+j8.830	5.26	6.51	1.922+j13.756	0.729+j6.541
CEMENTOS MAYA	CMY-115	115	8.93	7.38	2.200+j7.104	3.092+j11.718	13.45	10.85	1.139+j5.311	2.177+j9.003
CENTRO	CNO-115	115	10.88	10.24	1.849+j5.818	1.721+j7.052	16.01	13.69	0.987+j4.453	1.583+j6.656
CHAAC	HAA-115	115	7.91	9.68	3.220+j7.753	0.820+j3.770	12.34	14.04	1.464+j5.735	0.805+j3.691
CHAMPOTON	CMO-115	115	3.75	2.68	4.941+j16.989	9.631+j37.791	4.68	3.13	3.658+j15.178	9.621+j37.622
CHANKANAAB	CHB-115	115	5.46	4.47	4.888+j11.130	6.709+j19.128	7.50	5.49	2.893+j9.299	6.734+j19.316
CHANKANAAB II	CHS-115	115	5.59	5.22	4.810+j10.853	5.254+j13.433	7.71	6.54	2.826+j9.036	5.279+j13.620
CHEMAX	CEX-115	115	3.04	2.08	5.545+j21.098	15.966+j49.793	3.74	2.41	4.560+j18.983	15.932+j49.273
CHETUMAL NORTE	CTE-115	115	3.10	3.09	7.069+j20.195	4.897+j21.187	4.72	4.19	3.688+j15.043	4.854+j20.580
CHICBUL	CBU-115	115	2.91	1.98	5.719+j22.061	14.068+j53.218	3.42	2.24	4.747+j20.811	14.074+j53.405
CHICHÍ SUÁREZ	CCS-115	115	13.60	17.64	1.402+j4.676	0.168+j1.543	20.44	24.90	0.660+j3.512	0.186+j1.609
CHICHÍ SUÁREZ	CCS-230	230	7.67	9.34	4.710+j16.664	0.886+j8.057	11.81	13.19	1.882+j12.220	0.953+j8.345
CHOLUL	HOL-115	115	12.30	14.91	1.531+j5.178	1.068+j2.345	17.84	20.27	0.789+j4.016	1.082+j2.406
CHUBURNA	CBR-115	115	10.10	9.27	1.882+j6.301	1.993+j8.083	14.05	11.65	1.115+j5.079	2.006+j8.114
CONCORDIA	CNR-115	115	3.24	3.56	4.597+j19.972	2.785+j14.795	4.63	4.98	2.554+j15.582	2.358+j12.965
DZITAS	DZI-115	115	3.47	2.38	4.832+j18.520	13.607+j43.440	4.25	2.76	4.041+j16.708	13.586+j42.913
DZITNUP	DZT-400	400	3.55	3.56	21.755+j61.343	13.673+j63.574	5.21	4.66	8.508+j48.044	13.751+j64.484
DZYTIA	DYT-115	115	10.47	9.32	1.547+j6.152	1.995+j8.399	14.18	11.48	0.858+j5.080	2.013+j8.492
ENVASES UNIVERSALES DE MEXICO	EUM-115	115	3.69	2.69	4.081+j17.532	9.785+j36.714	4.41	3.08	3.260+j16.246	9.795+j36.706
ESCÁRCEGA	ESA-115	115	7.09	8.93	1.665+j9.214	0.075+j3.647	8.92	10.83	0.805+j8.146	0.088+j3.967
ESCÁRCEGA	ESA-230	230	5.87	7.50	5.476+j21.931	0.459+j8.128	8.79	10.60	2.139+j16.476	0.523+j8.621
ESCÁRCEGA	ESA-400	400	4.65	5.44	12.035+j48.179	1.760+j28.720	6.62	7.14	4.600+j38.075	1.956+j30.410
HECELCHACAN	HCE-115	115	2.92	1.79	6.896+j21.677	14.902+j63.963	3.50	2.04	5.676+j20.055	14.905+j63.814
HÉROES	HRO-115	115	10.58	10.46	1.782+j6.017	2.023+j6.180	14.49	13.16	1.076+j4.924	2.039+j6.238
HIDROGENADORA YUCATECA	HRA-115	115	11.07	10.55	1.800+j5.720	1.471+j6.763	18.28	17.86	0.747+j3.926	0.614+j4.165



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

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
HOLPECHEN	HOP-115	115	1.21	0.78	15.928+j52.622	43.556+j139.138	1.38	0.87	14.676+j51.038	43.558+j138.986
HUNABKU	HBK-115	115	8.07	10.02	3.200+j7.576	0.724+j3.424	12.66	14.66	1.454+j5.585	0.707+j3.340
HUNUCMA	HNC-115	115	4.55	3.36	3.174+j14.247	7.651+j29.154	5.55	3.88	2.354+j12.958	7.661+j29.145
HUXECTAMAN	HUX-115	115	9.72	8.43	2.051+j6.515	2.430+j9.677	14.90	12.58	1.013+j4.796	1.644+j7.368
IBEROESTAR	IBR-115	115	6.51	6.19	3.214+j9.681	2.609+j11.544	8.73	7.63	1.622+j8.204	2.626+j11.705
INSURGENTES	INS-115	115	3.13	3.15	6.984+j20.041	4.460+j20.484	4.77	4.29	3.607+j14.885	4.416+j19.877
ISLA DE TRIS	ILT-115	115	3.59	4.18	3.868+j18.102	2.374+j10.402	5.20	6.00	1.928+j13.922	2.108+j8.892
ITZAES	IZE-115	115	9.96	8.80	2.017+j6.351	2.161+j9.075	14.88	12.30	1.058+j4.794	1.726+j7.753
ITZIMNA	IZI-115	115	10.93	11.91	1.707+j5.829	1.831+j4.221	15.29	15.44	0.970+j4.677	1.845+j4.281
IXCHEL	IXC-115	115	6.03	5.60	4.069+j10.235	6.103+j12.130	8.31	7.07	2.440+j8.448	6.104+j12.088
IZAMAL	IZL-115	115	3.10	1.90	6.330+j20.432	17.168+j59.938	3.64	2.14	5.602+j19.268	17.179+j59.786
KABAH	KAB-115	115	8.31	10.42	3.135+j7.345	0.645+j3.162	13.18	15.42	1.394+j5.363	0.627+j3.075
KALA	KAL-115	115	5.01	4.76	4.048+j12.617	4.013+j14.842	6.98	6.15	2.427+j10.176	4.003+j14.270
KAMBUL	KBL-115	115	2.67	2.99	7.248+j23.752	1.860+j17.169	3.31	3.51	5.411+j21.395	2.017+j18.310
KANASÍN POTENCIA	KNP-115	115	12.54	17.99	1.463+j5.090	0.068+j0.487	18.75	26.30	0.678+j3.836	0.071+j0.500
KANASÍN POTENCIA	KNP-230	230	8.24	9.77	4.480+j15.480	1.304+j8.534	12.92	13.90	1.696+j11.180	1.354+j8.729
KANTENÁH	KTH-115	115	8.41	10.86	2.748+j7.402	0.163+j2.662	11.58	14.21	1.329+j6.163	0.179+j2.839
KANTENÁH	KTH-400	400	2.97	3.80	28.928+j72.230	2.120+j27.793	4.43	5.29	12.079+j56.118	2.315+j29.487
KAY	KAY-115	115	6.62	6.11	3.159+j9.518	3.229+j12.161	9.48	7.84	1.431+j7.567	3.225+j12.156
KEEH	KEE-115	115	7.54	7.42	3.115+j8.240	2.220+j9.010	11.64	10.16	1.327+j6.131	2.144+j8.765
KEKEN	KEK-115	115	8.78	10.25	2.773+j7.033	1.122+j4.218	13.51	14.47	1.191+j5.273	1.126+j4.191
KOHUNLICH	KHN-115	115	8.66	9.35	2.735+j7.159	1.360+j5.888	12.87	12.61	1.238+j5.539	1.363+j5.875
KOPTE	KOP-115	115	4.46	3.36	3.967+j14.337	9.709+j27.970	5.18	3.79	3.512+j13.647	9.727+j28.098
KUKULKAN	KUK-115	115	8.47	8.97	3.002+j7.236	1.315+j6.520	13.24	12.61	1.335+j5.351	1.233+j6.234
LAGUNA DE TÉRMINOS	LTE-115	115	3.26	3.65	4.593+j19.822	2.347+j13.748	4.67	5.11	2.548+j15.436	2.025+j12.142
LÁZARO CÁRDENAS	LAC-115	115	2.41	1.95	9.601+j25.858	14.210+j44.573	3.18	2.37	6.815+j21.955	14.175+j44.209
LEE	LEE-115	115	7.16	4.04	2.048+j9.046	9.813+j29.199	9.16	4.69	1.253+j7.871	9.817+j29.270
LEONA VICARIO	LEV-115	115	9.57	11.93	2.521+j6.466	0.295+j2.919	14.53	16.75	1.049+j4.915	0.322+j3.031
LEONA VICARIO	LEV-400	400	3.05	3.84	27.862+j70.426	2.806+j30.369	4.62	5.37	11.075+j53.878	3.037+j31.873
LERMA	LRA-115	115	6.31	8.28	3.074+j10.064	0.115+j3.134	9.62	12.47	1.428+j7.453	0.106+j2.505
LERMA	LRA-230	230	3.29	3.96	11.336+j38.791	0.929+j20.356	4.80	5.55	5.303+j29.954	0.861+j18.462
MAHAHUAL	MHH-115	115	1.21	0.73	18.716+j51.822	50.644+j154.801	1.45	0.83	15.881+j47.927	50.606+j154.430
MALECÓN	MAC-115	115	9.19	10.83	2.874+j6.625	0.779+j3.966	15.49	17.09	1.113+j4.582	0.572+j3.357
MANIOBRAS EÓLICA PROGRESO	MEP-115	115	5.69	6.21	2.272+j11.447	0.816+j8.424	6.80	7.12	1.707+j10.598	0.907+j9.013
MANIOBRAS LA PIMIENTA	MPI-230	230	4.42	5.31	6.373+j29.358	1.647+j15.153	7.17	8.54	2.623+j20.192	1.434+j12.390
MAXCANU	MAX-115	115	4.79	3.06	4.327+j13.160	11.060+j35.818	5.91	3.54	3.364+j11.884	10.989+j35.579
MAYA KOBÁ	MYK-115	115	6.48	6.32	3.386+j9.666	2.490+j10.839	8.74	7.83	1.748+j8.171	2.505+j10.984
MÉRIDA II	MDA-115	115	11.95	12.21	1.671+j5.297	1.153+j5.105	20.57	22.91	0.614+j3.497	0.238+j2.390
MÉRIDA ORIENTE	MDN-115	115	10.16	9.62	1.909+j6.248	2.011+j7.379	14.31	12.27	1.106+j4.982	1.999+j7.352
MÉRIDA POTENCIA	MDP-230	230	8.04	10.44	4.039+j16.021	0.256+j5.199	12.52	15.13	1.489+j11.575	0.295+j5.548
METROPOLITANA	MTO-115	115	10.05	9.13	1.954+j6.309	2.213+j8.321	15.17	13.05	0.983+j4.712	1.729+j6.896
MOON PALACE	MPA-115	115	5.87	4.57	3.406+j10.792	5.226+j20.316	7.91	5.54	1.728+j9.076	5.235+j20.404



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

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
NACHI COCOM	NCM-115	115	12.82	14.66	1.551+j4.943	0.877+j3.110	19.55	20.59	0.740+j3.662	0.835+j3.022
NICHUPTE	NCT-115	115	8.62	10.96	3.039+j7.079	0.518+j2.804	13.69	16.31	1.344+j5.164	0.504+j2.726
NICTE HA	NIH-115	115	7.86	9.35	3.154+j7.837	0.971+j4.381	12.32	13.47	1.378+j5.766	0.959+j4.312
NIZUC	NIZ-115	115	9.40	13.39	2.751+j6.509	0.093+j0.791	16.40	22.70	0.965+j4.348	0.083+j0.751
NIZUC	NIZ-230	230	5.07	5.99	9.627+j24.352	1.792+j14.544	7.98	8.68	3.632+j17.944	1.611+j13.840
NORTE	NTE-115	115	13.24	16.70	1.399+j4.816	0.224+j1.893	19.56	23.04	0.677+j3.672	0.247+j1.985
NORTE	NTE-230	230	7.53	9.06	4.699+j17.007	1.042+j8.692	11.56	12.73	1.892+j12.498	1.105+j8.973
OXTANKAH	OXT-115	115	2.98	2.73	7.466+j20.953	9.017+j27.013	4.47	3.61	4.082+j15.806	8.973+j26.404
PESCADORES	PSD-115	115	6.33	6.10	3.610+j9.854	2.725+j11.429	8.46	7.52	2.009+j8.400	2.737+j11.567
PHOTOEMERIS SUSTENTABLE	PHS-115	115	2.60	2.95	7.412+j24.456	1.594+j16.485	3.21	3.47	5.543+j22.035	1.761+j17.683
PLAYA CAR	PLY-115	115	7.92	7.86	3.206+j7.744	1.717+j8.544	11.42	10.11	1.544+j6.205	1.739+j8.728
PLAYA DEL CARMEN	PCN-115	115	8.21	10.54	3.117+j7.465	0.262+j2.849	11.98	14.41	1.456+j5.922	0.284+j3.033
PLAYA DEL CARMEN	PCN-230	230	4.31	5.17	10.992+j28.786	1.877+j15.739	6.25	6.92	4.751+j22.870	2.009+j16.533
PLAYA MUJERES	PMU-115	115	7.00	6.90	3.401+j8.856	2.247+j9.718	10.02	8.94	1.773+j7.067	2.248+j9.676
POKTAPOK	PKP-115	115	8.89	11.37	2.987+j6.849	0.476+j2.615	14.47	17.33	1.259+j4.887	0.457+j2.522
POLYUC	PYU-115	115	3.96	4.88	4.296+j16.203	0.577+j7.415	5.05	5.94	2.618+j14.227	0.648+j7.938
POLYUC	PYU-230	230	2.62	2.74	14.272+j48.588	5.747+j44.287	3.59	3.41	7.656+j39.997	6.445+j46.611
PONIENTE	PTE-115	115	11.91	12.81	1.571+j5.349	0.862+j4.330	17.77	17.29	0.769+j4.037	0.872+j4.322
POPOLNAH	PPH-115	115	2.73	2.11	6.274+j23.455	11.458+j44.488	3.16	2.38	5.459+j22.437	11.468+j44.538
PUERTO JUÁREZ	PJU-115	115	9.54	11.86	2.736+j6.398	0.482+j2.932	15.54	17.88	1.111+j4.566	0.462+j2.830
PUERTO MORELOS	PMO-115	115	7.50	7.58	2.932+j8.348	1.755+j8.491	10.48	9.62	1.354+j6.834	1.779+j8.680
PUERTO PROGRESO	PPO-115	115	4.68	4.52	3.006+j13.868	3.112+j15.128	5.51	5.12	2.438+j13.023	3.203+j15.718
PUERTO REAL	PTR-115	115	4.39	6.26	3.091+j14.798	0.038+j1.652	6.22	8.86	1.527+j11.635	0.051+j1.765
PUERTO REAL	PTR-230	230	2.61	3.55	11.162+j49.628	0.320+j10.794	3.69	4.91	5.626+j39.165	0.403+j11.593
PUNTA SAM	PSA-115	115	8.23	8.11	2.951+j7.513	1.830+j8.326	12.46	10.84	1.330+j5.710	1.831+j8.284
RIVIERA MAYA	RMV-115	115	8.81	10.68	2.716+j7.034	0.277+j3.715	12.81	14.29	1.168+j5.579	0.307+j3.954
RIVIERA MAYA	RMV-230	230	4.96	6.57	9.988+j24.841	0.415+j7.508	7.55	9.40	3.987+j18.936	0.460+j7.990
RIVIERA MAYA	RMV-400	400	3.08	4.05	29.217+j69.175	1.717+j22.056	4.75	5.86	11.687+j52.173	1.860+j23.337
SABANCUY	SBY-115	115	2.54	1.66	6.841+j25.214	17.279+j65.279	2.98	1.88	5.798+j23.847	17.280+j65.381
SAMULA	SAM-115	115	4.98	4.86	4.018+j12.719	3.506+j13.903	6.98	6.33	2.365+j10.197	3.496+j13.295
SAMULA II	SAD-115	115	4.59	4.57	4.235+j13.832	3.106+j14.354	6.29	5.89	2.590+j11.313	3.096+j13.745
SAN IGNACIO	IGN-115	115	6.31	6.48	1.948+j10.343	1.409+j9.383	7.62	7.46	1.380+j9.488	1.471+j9.859
SAN PEDRO	SAE-115	115	2.15	1.37	5.429+j30.366	26.609+j79.687	2.57	1.57	4.597+j28.005	26.611+j79.011
SANTA LUCIA	SLC-230	230	4.79	4.91	5.888+j27.091	5.171+j25.384	8.30	9.69	2.053+j17.479	0.953+j11.318
SANTO DOMINGO	SDM-115	115	3.75	4.00	3.676+j17.343	2.438+j14.323	4.15	4.35	3.591+j17.214	2.596+j15.120
SIHOCHAC	SHC-115	115	2.85	1.91	6.601+j22.359	13.349+j56.091	3.49	2.21	5.198+j20.297	13.339+j55.771
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 1	SET1-115	115	3.16	1.93	6.221+j20.052	16.757+j59.098	3.71	2.18	5.497+j18.908	16.767+j58.964
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 2	SET2-115	115	5.68	4.97	2.521+j11.421	4.597+j16.088	7.89	6.36	1.665+j9.102	4.554+j15.315
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 3	SET3-115	115	2.47	1.61	7.701+j25.760	21.935+j66.275	2.95	1.84	6.441+j23.943	21.920+j66.088
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 4	SET4-115	115	5.89	4.83	3.413+j10.751	4.650+j18.095	7.99	5.93	1.713+j8.975	4.648+j18.098
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 5	SET5-115	115	4.88	3.72	4.377+j12.894	6.066+j25.729	6.02	4.31	3.040+j11.748	6.077+j25.830
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 6	SET6-115	115	2.13	1.72	6.749+j30.434	12.116+j51.857	2.52	1.96	5.027+j28.514	12.187+j52.381



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

Subestación eléctrica	Acrónimo	Tensión (kV)	Corriente de cortocircuito (kA) e impedancias de Thévenin secuencias positiva y cero (Ω)							
			NCC mínimo 2024				NCC máximo 2024			
			3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$	3F	1F	$Z_{TH(+)}$	$Z_{TH(0)}$
SUBESTACIÓN ELÉCTRICA DE TRACCIÓN DEL TREN MAYA 7	SET7-115	115	2.49	2.08	9.308+j25.034	12.653+j40.433	3.33	2.55	6.449+j20.975	12.616+j40.035
SUCILA	SUC-115	115	3.76	3.19	4.050+j17.212	8.188+j26.412	4.25	3.54	3.832+j16.771	8.236+j26.715
SUR	SUR-115	115	11.81	12.12	1.694+j5.361	1.329+j5.027	18.31	17.51	0.791+j3.909	1.114+j4.355
TEKAX II	TKD-115	115	3.43	2.43	5.620+j18.508	9.119+j42.415	4.10	2.77	4.492+j17.218	9.147+j42.703
TEMAX II	TXS-115	115	3.85	3.57	3.708+j16.821	5.807+j20.611	4.30	3.93	3.566+j16.612	5.860+j21.031
TICUL I	TIU-115	115	9.02	10.16	1.829+j7.128	0.749+j4.868	11.65	12.37	0.968+j6.192	0.764+j5.117
TICUL II	TIC-115	115	9.87	12.19	1.627+j6.531	0.099+j2.952	12.91	15.11	0.775+j5.602	0.114+j3.206
TICUL II	TIC-230	230	7.68	9.73	5.432+j16.424	0.506+j6.558	11.65	13.67	2.025+j12.372	0.570+j7.002
TICUL II	TIC-400	400	4.43	5.29	16.528+j49.391	2.225+j27.719	6.66	7.21	6.046+j37.668	2.492+j29.509
TIXMEHUAC	TXM-115	115	2.13	1.38	7.601+j30.293	20.386+j79.184	2.46	1.55	6.471+j29.004	20.414+j79.473
TIZIMIN	TZM-115	115	4.85	4.46	2.963+j13.375	4.572+j17.460	5.60	5.02	2.671+j12.755	4.607+j17.669
TULUM	TUM-115	115	3.58	2.49	5.919+j17.568	10.765+j41.776	4.29	2.84	4.687+j16.374	10.756+j41.742
UCU	UCU-115	115	8.08	7.04	2.035+j7.964	2.891+j11.506	10.78	8.61	1.227+j6.660	2.900+j11.497
UMAN	UMA-115	115	8.43	6.40	2.476+j7.477	4.271+j14.776	11.85	8.27	1.501+j5.979	3.845+j13.586
VALLADOLID	VAD-115	115	8.36	10.70	1.352+j7.824	0.094+j2.817	13.80	17.48	0.481+j5.269	0.043+j1.943
VALLADOLID	VAD-230	230	8.82	11.15	2.358+j14.875	0.155+j5.694	12.91	15.72	0.778+j11.283	0.124+j5.207
VALLADOLID DISTRIBUCIÓN	VDD-115	115	7.07	6.04	1.825+j9.218	6.262+j13.112	10.54	7.99	1.006+j6.854	6.266+j12.440
XCALACOCO	XLC-115	115	6.58	6.27	3.198+j9.564	2.418+j11.415	8.85	7.73	1.607+j8.096	2.436+j11.586
XCUNYA	XCN-115	115	8.39	6.84	1.706+j7.730	3.058+j12.828	10.71	8.09	1.061+j6.738	3.080+j12.986
XPUJIL	XPU-115	115	1.68	1.30	7.168+j38.765	18.699+j71.836	2.02	1.50	5.125+j35.793	18.684+j71.662
XUL HA	XUL-115	115	3.99	5.44	5.290+j15.759	0.125+j3.534	6.84	8.99	2.015+j10.486	0.083+j2.931
XUL HA	XUL-230	230	2.18	2.79	19.055+j57.942	1.052+j21.425	3.51	4.24	7.556+j40.887	0.875+j20.040
YAXCHE	YXE-115	115	8.31	8.65	2.800+j7.486	1.455+j6.968	12.31	11.54	1.255+j5.797	1.461+j6.981
ZAC NICTÉ	ZNE-115	115	7.09	7.18	3.281+j8.778	1.380+j9.059	9.82	9.06	1.625+j7.260	1.398+j9.213