

Substation	Transmission Substation Owner	City, Township	Minnesota Power Service Area	Transmission Voltage/Buld Distribution (KV)	Distriubtion Primary Voltage (KV)	Transformer Capacity (MVA)	2023 Substation Historical Daytime Minnimum (MW)	Existing DER (MW)	Queue DER (MW)	Available Transformer Capacity (MW)	Available Capacity to avoid an MP Transmission SIS (MW)	Available Solar Capacity to avoid a MISO AFS Screening (MW)
15th Avenue West	MP	Duluth, MN	C	115	13.8	39.2	4.400	0.637	2.883	35.680	0.880	30,554
Askov	MP	Askov, MN Partridge Township, MN	C	46	12.47	2.5	0.310	0.014	0.000	2.486	0.296	MP will review AFS requirements based on interconnection request.
Barnum	MP	Barnum, MN Barnum Township, MN Skelton Township, MN	C	46	12.47	5	0.450	0.097	0.000	4.903	0.353	MP will review AFS requirements based on interconnection request.
Big Rock	MP	Two Harbors, MN	C	115	13.8	18.6	2.500	0.000	0.000	18.600	2.500	4.406
Burnett	MP	Alborn Township, MN Brookston, MN Culver Township, MN Stoney Brook Township, MN	C	115	13.8	2.5	0.454	0.015	0.400	2.085	0.039	1.384
Canosia Road	MP	Esko, MN Midway Township, MN Thomson, MN	C	115	13.8	39.2	3.000	0.074	0.023	39.103	2.903	
Canosia Road	MP	Cloquet, MN Esko, MN Midway Township, MN Sawyer, MN Thomson, MN	C	115	34.5	39.2	0.500	1.669	0.000	37.531	0	8,638
Cloquet	MP	Brevator Township, MN Cloquet, MN North Carlton Township, MN Stoney Brook Township, MN Perch Lake Township, MN	C	115	13.8	40	8.881	5.178	0.135	34.688	3.568	20,691
Colbyville	MP	Duluth, MN Gnesen Township, MN Lakewood Township, MN Normanna Township, MN Rice Lake, MN	C	115	13.8	28	6.540	3.480	0.043	24.477	3.017	12,209
Denham	MP	Birch Creek Township, MN Denham, MN Kettle River Township, MN Sturgeon Lake, MN Sturgeon Lake Township, MN Willow River, MN	C	46	12.47	5	1.240	0.015	0.015	4.970	1.210	MP will review AFS requirements based on interconnection request.
Finlayson	MP	Finlayson, MN Finlayson Township, MN Kettle River Township, MN Rutledge, MN	C	46	12.47	5	0.450	0.018	0.000	4.982	0.432	MP will review AFS requirements based on interconnection request.
Four Corners	MP	Canoisa Township, MN Grand Lake Township, MN Hermantown, MN Solway Township, MN	C	115	13.8	33.6	4.970	0.651	0.008	32.942	4.312	3,025
French River	MP	Duluth Township, MN Lakewood Township, MN Normanna Township, MN	C	115	13.8	18.6	1.000	0.691	0.000	17.909	0.309	1,849
Gary	MP	Duluth, MN Midway Township, MN	C	115	13.8	33.6	4.200	0.128	0.000	33.472	4.072	19,526
Haines Road	MP	Duluth, MN Hermantown, MN	C	115	13.8	33.6	11.170	0.561	0.068	32.971	10.541	22,941
Hibbard	MP	Duluth, MN	C	115	13.8	33.6	0.000	0.000	0.000	33.600	0.000	4,685
Hinckley East	MP	Hinckley, MN	C	69	12.47	5.6	0.522	0.000	0.005	5.595	0.518	MP will review AFS requirements based on interconnection request.
Hinckley West	MP	Hinckley, MN	C	69	12.47	5	0.700	0.192	0.085	4.723	0.423	MP will review AFS requirements based on interconnection request.
Kerrick	MP	Bruno, MN Bruno Township, MN Kerrick, MN Kerrick Township, MN	C	46	12.47	2.5	0.140	0.018	0.000	2.482	0.122	MP will review AFS requirements based on interconnection request.
LSPI	MP	Duluth, MN	C	115	13.8	30	8.690	0.113	0.029	29.858	8.548	19,311
Mahtowa	MP	Atkinson Township, MN Blackhoof Township, MN Mahtowa Township, MN Twin Lakes Township, MN	C	115	23	7.5	0.770	1.305	0.000	6.195	0	0.361

Meadowlands	MP	Alborn Township, MN Meadowlands, MN Meadowlands Township, MN Ness Township, MN	C	115	13.8	18.7	0.090	0.027	0.000	18.673	0.063	2.070
North Shore	MP	Silver Bay, MN	C	115	13.8	18.6	1.100	0.067	0.000	18.533	1.033	3.836
Ridgeview	MP	Duluth, MN Gnesen Township, MN Rice Lake, MN	C	115	13.8	33.6	12.700	1.615	0.050	31.935	11.035	20.075
Sandstone	MP	Sandstone, MN	C	46	12.47	5	1.700	0.087	0.016	4.897	1.597	MP will review AFS requirements based on interconnection request.
Savanna	MP	Floodwood, MN Floodwood Township, MN Pot Shot Lake Township, MN Van Buren Township, MN	C	115	13.8	18.6	0.470	0.069	0.000	18.531	0.401	1.305
Swan Lake Road	MP	Duluth, MN Hermantown, MN	C	115	13.8	39.2	7.800	0.563	0.000	38.637	7.237	21.814
Swan Lake Road	MP	Duluth, MN	C	115	34.5	30	5.800	0.043	0.000	29.957	5.757	
Taft	MP	Fredenberg Township, MN Gnesen Township, MN Whiteface Reservoir Township, MN	C	115	34.5	12.5	2.000	0.104	0.013	12.383	1.883	2.877
Thomson	MP	Carlton, MN Thomson, MN Thomson Township, MN	C	115	13.8	10.5	1.670	0.048	0.120	10.333	1.503	5.539
Wrenshall	MP	Blackhoof Township, MN Silver Brook Township, MN Twin Lakes Township, MN Wrenshall, MN Wrenshall Township, MN	C	115	13.8	5	0.810	1.47698	0.000	3.523	0	3.423
Babbitt Townsite	MP	Babbitt, MN	N	46	4	5	0.740	0.03973	0.000	4.960	0.700	MP will review AFS requirements based on interconnection request.
Dunka River	MP	Babbitt, MN	N	46	4	3	0.100	0	0.000	3.000	0.100	MP will review AFS requirements based on interconnection request.
Embarrass	MP	Aurora, MN Bwabik, MN Bwabik Township, MN White Township, MN	N	115	23	18.6	1.950	0.048	0.000	18.552	1.902	1.403
Hat Trick	MP	Bwabik Township, MN Eveleth, MN Fayat Township, MN Gilbert, MN McKinley, MN Virginia, MN	N	115	23	39.2	5.200	0.082	0.240	38.878	4.878	8.406
Hibbing	MP	Balkan, MN Balkan Township, MN Chisholm, MN Great Scott Township, MN Hibbing, MN	N	115	23	39.2	7.950	0.102	0.013	39.086	7.836	24.864
International Falls	MP	International Falls, MN Rainy Lake Township, MN	N	115	12.47	33.6	2.932	0.074	0.403	33.122	2.454	13.622
Laskin	MP	Hoyt Lake, MN White Township, MN	N	115	23	15	0.890	5.600	0.000	9.400	0	0.000
Lind Greenway	MP	Arbo Township, MN Bovey, MN Cohasset, MN Coteraine, MN Grand Rapids, MN Grand Rapids Township, MN Iron Range Township, MN Trout Lake Township, MN	N	115	23	10	1.400	1.178	0.000	8.822	0.222	0.990
Maturi	MP	Cherry Township, MN Hibbing, MN	N	115	23	18.6	0.500	0.029	0.021	18.550	0.450	2.437
Naswauk	MP	Bovey, MN Calumet, MN Coteraine, MN Greenway Township, MN Lone Pine Township, MN Marble, MN Naswauk, MN Taconite, MN	N	115	23	15	1.950	0.032	0.000	14.968	1.918	5.046

St. Croix	MP	Fall Lake Township, MN Winton, MN	N	46	12.47	1.5	0.380	0.043	0.007	1.450	0.330	MP will review AFS requirements based on interconnection request.
Tower Soudan	MP	Breitung Township, MN Tower, MN	N	46	12.47	5	0.680	0.083	0.000	4.917	0.597	MP will review AFS requirements based on interconnection request.
Virginia	MP	Cherry Township, MN Clinton Township, MN Eveleth, MN Fayal Township, MN Great Scott Township, MN Iron Junction, MN Kinney, MN Leonidas, MN Moutain Iron, MN Virginia, MN	N	115	23	30	1.780	0.034	0.000	29.966	1.746	17.166
Zemple	MP	Deer Lake Township, MN Deer River, MN Deer River Township, MN Zemple, MN	N	115	23	10	0.900	0.021	0.000	9.979	0.879	3.804
Akeley	MP	Akeley, MN Akeley Township, MN Mantrap Township, MN Nevis, MN Nevis Township, MN Shingobee Township, MN Walker, MN	W	115	34.5	33.6	2.400	0.071	0.000	33.529	2.329	8.915
Baxter	MP	East Gull Lake, MN Fairview Township, MN Lake Edward Township, MN Lake Shore, MN Motley Township, MN Nisswa, MN Pillager, MN Rosing Township, MN Sylvan Township, MN West Crow Wing Township, MN	W	115	34.5	39	4.290	17.287	1.750	19.963	0	0.000
Blanchard	MP	Bellevue Township, MN Flensburg, MN Little Falls Township, MN Pike Creek Township, MN Swan River Township, MN Two Rivers Township, MN	W	115	34.5	30	5.890	28.946	0.141	0.913	0	6.242
Blueberry	GRE	Menahga, MN Nimrod, MN Sebaka, MN	W	115	34.5	30	2.900	0.125	0.006	29.869	2.769	4.859
Birch Lake	GRE	Backus, MN Birch Lake, MN Hackensack, MN Hiram, MN Pine River Township, MN Power Township, MN Shingobee Township, MN Turtle Lake Township, MN	W	69	34.5	20	2.300	0.088	0.000	19.912	2.212	3.295
Dog Lake	MP	Motley, MN Villard Township, MN	W	115	34.5	22.4	2.400	0.062	0.000	22.338	2.338	9.367
Eagle Valley	MP	Bertha, MN Browerville, MN Clarissa, MN Eagle Bend, MN Eagle Valley Township, MN Hartford Township, MN Ward Township, MN	W	115	34.5	39.2	4.200	0.101	15.320	23.779	0	0.000
Little Falls	MP	Agram Township, MN Belle Prairie Township, MN Buh Township, MN Genola, MN Lastrup, MN Pierz Township, MN	W	115	34.5	30	4.200	4.201	0.538	25.262	0	20.898
Long Lake	GRE	Henrietta, MN Park Rapids, MN	W	115	34.5	50	7.000	0.045	0.040	49.915	6.915	3.446

		Bruce Township, MN Hartford Township, MN Leslie Township, MN Little Sauk Township, MN Long Prairie, MN Reynolds Township, MN Round Prairie Township, MN											
Long Prairie	MP		W	115	34.5	39.2	8.250	0.123	0.038	39.039	8.089	21.705	
		Bruce Township, MN Culdrum Township, MN Burnhambille Township, MN Burtrum Township, MN Flensburg, MN Grey Eagle, MN Grey Eagle Township, MN Swanville, MN Swanville Township, MN											
Pepin Lake	MP		W	115	34.5	39.2	5.000	1.298	0.124	37.778	3.578	8.535	
		Lake Shore, MN Nisswa, MN Pequot Lakes, MN											
Pequot Lakes	MP		W	115	34.5	33.6	4.300	0.695	0.000	32.905	3.605	7.890	
		Barclay Township, MN Chickamaw Beach, MN Gail Lake Township, MN Jenkins, MN Jenkins Township, MN Pine River, MN Wilson Township, MN											
Pine River	MP		W	115	34.5	39.2	1.500	0.825	0.101	38.273	0.573	8.382	
		Langola Township, MN Rice, MN											
Platte River	MP		W	115	34.5	39.2	0.500	1.847	0.284	37.069	0	2.958	
		Riverton, MN Crosby, MN Ironton, MN											
Riverton	MP		W	115	34.5	22	4.410	0.481	0.009	21.510	3.920	18.977	
		Aldrich, MN Bertha, MN Hewitt, MN Verndale, MN											
Verndale	MP		W	115	34.5	22.4	11.730	2.767	0.000	19.633	8.963	24.646	