

47.2

Downtown Toronto JET Area Load Forecast & Bremner MTS Incremental Load

For Financial Evaluation Associated with the Bremner MTS Line Connection and HV Switchyard

Load Forecast and Installed Capacity in MVA

Station	Capacity In MVA	Station Peak Load in MVA (1)																												
		2011 (actual)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037 (2)	2038 (2)	2039 (2)
Bremner MTS	-	0	0	0	55	55	56	57	58	60	61	62	63	64	66	67	68	70	71	73	74	76	77	79	80	82	83	84	85	86
Esplanade TS	197.5	180	180	184	189	178	181	184	189	192	196	199	205	208	213	217	220	226	230	234	239	244	249	254	259	265	269	274	279	284
John (Windsor) TS	344.8	311	310	316	267	245	250	253	260	265	271	277	282	288	292	297	303	310	317	323	330	336	343	348	357	363	371	378	385	393
Terauley TS	240.0	190	193	196	201	205	209	213	217	222	226	230	234	240	244	250	254	258	265	269	274	282	286	293	298	303	310	317	324	331
Total (as of 2012)	782.3	681	683	696	712	683	696	707	724	739	754	768	784	800	815	831	845	864	883	899	917	938	955	974	994	1013	1033	1053	1073	1094

Load Forecast and Existing Installed Capacity in MW

Station	Capacity In MW	Station Peak Load in MW (3)																												
		2011 (actual)	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037 (2)	2038 (2)	2039 (2)
Bremner MTS	-	0	0	0	49.5	49.5	50.4	51.3	52.2	54	54.9	55.8	56.7	57.6	59.4	60.3	61.2	63	63.9	65.7	66.6	68.4	69.3	71.1	72	73.8	74.7	75.6	76.5	77.4
Esplanade TS	177.8	162	162	165.6	170.1	160.2	162.9	165.6	170.1	172.8	176.4	179.1	184.5	187.2	191.7	195.3	198	203.4	207	210.6	215.1	219.6	224.1	228.6	233.1	238.5	242.1	246.6	251.1	255.6
John (Windsor) TS	310.3	279.9	279	284.4	240.3	220.5	225	227.7	234	238.5	243.9	249.3	253.8	259.2	262.8	267.3	272.7	279	285.3	290.7	297	302.4	308.7	313.2	321.3	326.7	333.9	340.2	346.5	353.7
Terauley TS	216.0	171	173.7	176.4	180.9	184.5	188.1	191.7	195.3	199.8	203.4	207	210.6	216	219.6	225	228.6	232.2	238.5	242.1	246.6	253.8	257.4	263.7	268.2	272.7	279	285.3	291.6	297.9
Total	704.0	612.9	614.7	626.4	640.8	614.7	626.4	636.3	651.6	665.1	678.6	691.2	705.6	720	733.5	747.9	760.5	777.6	794.7	809.1	825.3	844.2	859.5	876.6	894.6	911.7	929.7	947.7	965.7	984.6

Forecast Unused Capacity in MW

Station	Capacity In MW	Unused Capacity in MW (4)																												
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036 (2)	2037 (2)	2038 (2)	2038 (2)
Esplanade TS	177.8	15.8	15.8	12.2	7.7	17.6	14.9	12.2	7.7	5.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
John (Windsor) TS	310.3	30.4	31.3	25.9	70.0	89.8	85.3	82.6	76.3	71.8	66.4	61.0	56.5	51.1	47.5	43.0	37.6	31.3	25.0	19.6	13.3	7.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terauley TS	216.0	45.0	42.3	39.6	35.1	31.5	27.9	24.3	20.7	16.2	12.6	9.0	5.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	704.0	91.1	89.3	77.6	112.7	138.8	128.0	119.0	104.6	92.9	80.3	70.0	61.9	51.1	47.5	43.0	37.6	31.3	25.0	19.6	13.3	7.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Forecast Incremental Load for Bremner MTS CCRA

Station		Load in MW																												
		2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037 (2)	2038 (2)	2038 (2)
Total Unused Capacity	-	91.1	89.3	77.6	112.7	138.8	128.0	119.0	104.6	92.9	80.3	70.0	61.9	51.1	47.5	43.0	37.6	31.3	25.0	19.6	13.3	7.9	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bremner MTS	-	0.0	0.0	0.0	49.5	49.5	50.4	51.3	52.2	54.0	54.9	55.8	56.7	57.6	59.4	60.3	61.2	63.0	63.9	65.7	66.6	68.4	69.3	71.1	72.0	73.8	74.7	75.6	76.5	77.4
Incremental Load (5) (Annual Peak)	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5	11.9	17.3	23.6	31.7	38.9	46.1	53.3	60.5	67.7	71.1	72.0	73.8	74.7	75.6	76.5	77.4
Incremental Load (6) (Average Monthly Peak)	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	10.4	15.1	20.5	27.6	33.9	40.1	46.4	52.7	58.9	61.9	62.6	64.2	65.0	65.8	66.6	67.3

(1) Forecast Load from 2012 through 2036 is as provided in Toronto Hydro's "Spring 2012 Station Load Forecast".

(2) Forecast Load for the years 2037 through 2039 has been approximated.

(3) A power factor of 0.9 is assumed.

(4) Unused Capacity is station capacity minus station load forecast.

(5) Incremental Load is Bremner load minus total unused capacity.

(6) Incremental load is multiplied by Peak Load Index to get an average monthly value.

(7) Assumed Peak Load Index 0.87

Downtown Toronto Station Capacity and Historical Loading Summary

January 2007 through September 2012

Transformer Station	Assigned Capacity (1)		Summer 10-Day LTR (3) (MVA)	Station Capacity (2, 3) (MVA)	Station Capacity (4) (MW)	Annual Peak Load in 2010 (MW)	Annual Peak Load in 2011 (MW)	Annual Peak Load in 2012 (MW)	Unused Capacity (5) (MW)	Unused Capacity (6) (MW)	Unused Capacity (7) (MW)	Unused Capacity (8) (MW)
	(MW)	Year Achieved										
Esplanade TS	158.1	2012	207.9	197.5	177.8	159.0	166.5	163.8	19.7	18.8	11.3	13.9
John TS	265.3	2011	362.9	344.8	310.3	265.3	283.5	272.8	44.9	45.0	26.8	37.5
Terauley TS	172.5	2007	240.0	240.0	216.0	167.3	171.9	165.3	43.5	48.7	44.1	50.7
JET Total	595.9	-	810.8	782.3	704.0	591.6	621.8	601.9	108.1	112.4	82.2	102.2
Cecil TS	161.6	2012	238.2	226.3	203.7	162.1	171.5	167.6	42.0	41.6	32.1	36.1
Strachan TS	123.1	2012	185.6	176.3	158.7	112.0	123.4	130.6	35.6	46.7	35.3	28.1
Downtown Total	880.6	-	1234.6	1184.9	1066.4	865.8	916.7	900.0	185.7	200.6	149.7	166.3

(1) Highest consecutive three-month average monthly peak load from 2007 through September 2012 as per TSC.

(2) Capacity is assumed to be 95% of summer 10-day LTR, except for Terauley TS.

(3) Capacity for Terauley TS is restricted by the 115 kV supply cables due to post-contingency voltages.

(4) MW capacity is estimated assuming 90% power factor.

(5) Station capacity in MW minus assigned capacity.

(6) Station capacity in MW minus sum of annual peak loads in 2010.

(7) Station capacity in MW minus sum of annual peak loads in 2011.

(8) Station capacity in MW minus sum of annual peak loads in 2012.