

Town of Massena
Electric Department
Summary of Weather Normalization and Customer Growth Adjustment

Assume non-weather load to be average of lowest two months kWh sales

From 12/31/14 Annual Report: Actual kWh & Actual Base Revenue

	kWh Sold			Base Revenue		
	Winter	Summer	Total kWh	Winter	Summer	Total \$
	<u>Nov - April kWh</u>	<u>May - Oct kWh</u>		<u>Nov - April \$</u>	<u>May - Oct \$</u>	
601 Residential	80,035,850	40,688,489	120,724,339	\$ 3,259,620	\$ 1,764,901	\$ 5,024,521
602, 608 Commercial	<u>2,105,822</u>	<u>1,061,751</u>	<u>3,167,573</u>	<u>\$ 111,230</u>	<u>\$ 64,683</u>	<u>\$ 175,913</u>
Total	82,141,672	41,750,240	123,891,912	\$ 3,370,850	\$ 1,829,584	\$ 5,200,434

Weather Normalization

	Nov - April	Nov - April	Increase/(Decrease)	Adjusted			<u>Adj. to Sales</u>
	<u>Non-Weather kWh</u>	<u>Weather kWh</u>	<u>-12.8%</u>	<u>Nov - Apr kWh</u>			
601 Residential	37,588,680	42,447,170	36,995,389	74,584,069	Weather Normalized	76,546,019	
602, 608 Commercial	<u>985,650</u>	<u>1,120,172</u>	<u>976,301</u>	<u>1,961,951</u>	Actual	<u>82,141,672</u>	
Total	38,574,330	43,567,342	37,971,689	76,546,019		(5,595,653)	-6.8%

	Nov - April	Adjusted	
	<u>Base Revenue</u>	<u>Base Revenue</u>	<u>Adjustment</u>
601 Residential	3,259,620	3,037,568	
602 - 608 Commercial	<u>111,230</u>	<u>103,653</u>	
Total	3,370,850	3,141,221	(229,629)

Purchased Power
change in kWh (5,595,653)

Base Cost of Fuel 0.016403
FOA - RY 1.043000
0.0171083

(95,732)

	<u>Sales</u>	<u>Sales</u>	<u>Rev. Req.</u>
	<u>Adjustment</u>	<u>Growth</u>	<u>Adjustments</u>
Revenue	(229,629)	(32,695)	(262,324)
Purchased Power	(95,732)	<u>(14,997)</u>	<u>(110,729)</u>

Increase/Decrease
to Revenue
Requirement

133,897

17,698

151,595

Town of Massena
Electric Department
Determination of Two Lowest Sales Months for Use in Weather Normalization Calculation

12/31/2014 Sales - from Annual Report

601- RESIDENTIAL

	kWh	kWh	kWh	kWh	Total		Base Rev	Base Rev	Base Rev	Base Rev	Total
June	6,364,344				6,364,344		279,315				279,315
July	6,472,875				6,472,875	<u>Lowest 2 Months</u>	281,432				281,432
August	6,908,057				6,908,057	6,165,216 Oct	298,031				298,031
September	6,745,033				6,745,033	6,364,344 June	291,865				291,865
October	6,165,216				6,165,216		270,066				270,066
November	8,665,257				8,665,257	<u>AVG</u>	363,345				363,345
December	11,916,241				11,916,241	6,264,780	484,296				484,296
January	15,792,131				15,792,131		635,239				635,239
February	17,226,635				17,226,635		690,206				690,206
March	14,109,959				14,109,959		579,220				579,220
April	12,325,627				12,325,627		507,314				507,314
May	8,032,964				8,032,964		344,192				344,192
	120,724,339	-	-	-	120,724,339		5,024,521	-	-	-	5,024,521

602 - COMMERCIAL

	kWh	kWh	kWh	kWh	Total		Base Rev	Base Rev	Base Rev	Base Rev	Total
June	170,825				170,825		10,520				10,520
July	166,198				166,198	<u>Lowest 2 Months</u>	10,276				10,276
August	185,304				185,304	162,352 Oct	11,141				11,141
September	167,490				167,490	166,198 July	10,338				10,338
October	162,352				162,352		10,120				10,120
November	212,759				212,759	<u>AVG</u>	12,326				12,326
December	292,514				292,514	164,275	15,817				15,817
January	418,624				418,624		21,533				21,533
February	474,919				474,919		24,029				24,029
March	377,785				377,785		19,897				19,897
April	329,221				329,221		17,628				17,628
May	209,582				209,582		12,288				12,288
	3,167,573	-	-	-	3,167,573		175,913	-	-	-	175,913

Note: Copy kWh data from Annual Report / Historic Test Year. Determine 2 lowest months of kWh usage for Residential and Commercial.

Town of Massena
Electric Department
Determination of Test Year Weather Deviation from 10 Year Normalized Weather

Massena, New York

Heating Degree Data

<http://www.nyserda.ny.gov/Cleantech-and-Innovation/EA-Reports-and-Studies/Weather-Data/Monthly-Cooling-and-Heating-Degree-Day-Data>

Massena, NY

Season	October	November	December	January	February	March	April	Total	% deviation from 10-yr avg
2004-05	492	848	1286	1633	1312	1268	637	6,897	
2005-06	596	808	1366	1271	1250	1061	605	6,356	
2006-07	412	751	1062	1420	1503	1184	683	6,440	
2007-08	594	927	1383	1348	1369	1264	545	6,865	
2008-09	624	880	1327	1669	1241	1040	597	6,770	
2009-10	547	776	1302	1397	1154	850	481	6,000	
2010-11	486	859	1307	1576	1267	1098	595	6,637	
2011-12	431	693	1182	1386	1103	773	627	5,646	-13.8%
2012-13	484	967	1184	1420	1289	1085	662	6,500	-0.8%
2013-14	427	975	1465	1584	1395	1436	701	7,392	12.8%
								6,550	10 Year Average of November-April

Average of 2005-2013 as data from NYSERDA was unavailable

October was included as analysis of meter data showed that sales recorded in a month were 40% from the month and 60% from pervious month.

Note: Update HDD from weather station closest to municipality.

Town of Massena
Electric Department
Analysis of Sales Growth

	<u>2012</u>	<u>2013</u>	<u>2014</u>	Average Yearly Growth
RESIDENTIAL				
Actual kWh Sales (per annual report)				
A/C 601 Residential sales (nov-apr)	70,782,203	77,286,813	80,035,850	
A/C 601 Residential sales (other)	42,571,844	<u>40,939,439</u>	<u>40,688,489</u>	
Total Residential	113,354,047	118,226,252	120,724,339	
Nov - Apr Deviation of Degree Days from 20 Year Average	-13.80%	-0.76%	12.84%	
WEATHER NORMALIZED				
A/C 601 Residential sales (nov-apr)	75,187,850	77,592,224	74,584,069	
A/C 601 Residential sales (other)	<u>42,571,844</u>	<u>40,939,439</u>	<u>40,688,489</u>	
Total Residential	117,759,694	118,531,663	115,272,558	-2.75%
COMMERCIAL				
Actual kWh Sales (per annual report)				
A/C 602 Commercial sales (nov-apr)	1,950,139	2,081,971	2,105,822	
A/C 602 Commercial sales (other)	<u>1,184,894</u>	<u>1,105,022</u>	<u>1,061,751</u>	
Total Commercial	3,135,033	3,186,993	3,167,573	
Nov - Apr Deviation of Degree Days from 10 Year Average	-13.80%	-0.76%	12.84%	
WEATHER NORMALIZED				
A/C 602 Commercial sales (nov-apr)	2,067,986	2,090,280	1,961,951	
A/C 602 Commercial sales (other)	<u>1,184,894</u>	<u>1,105,022</u>	<u>1,061,751</u>	
Total Commercial	3,252,880	3,195,302	3,023,702	-5.37%
Residential				
Two Lowest Months	6,475,961	6,226,002	6,264,780	
Non-Weather Winter Sales	38,855,763	37,356,012	37,588,680	
Weather Related Winter Sales	31,926,440	39,930,801	42,447,170	
Commercial				
Two Lowest Months	182,690	165,925.5	164,275	
Non-Weather Winter Sales	1,096,137	995,553	985,650	
Weather Related Winter Sales	854,002	1,086,418	1,120,172	

	Sales Change (kWh)	Energy Rate (\$/kWh)	Base Revenues (\$)
Residential	(804,610)	0.03678	\$ (29,594)
Commercial	(71,969)	0.04309	\$ (3,101)
Total	(876,579)		(32,695)
Purchased Power (Base & FOA)	(876,579)	0.017108	\$ (14,997)
Net Increase/(Decrease)			\$ (17,698)