# Town of Massena Electric Department Summary of Wegther Normalization and Customer Growht 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

From 12/31/14 Annual F	Report: Actual kWh &	Actual Base Re	venue							
		kWh Sold					Base Revenue			
	Winter	Summer			Winter		Summer			
	Nov - April kWh	May - Oct kWh			Nov - April		May - Oct \$	Total		
601 Residential	80,035,850	40,688,489	120,724,339		\$ 3,259		\$ 1,764,901		24,521	
602, 608 Commercial	2,105,822	1,061,751	3,167,573				\$ 64,683		75,913	
Total	82,141,672	41,750,240	123,891,912		\$ 3,370	,850	\$ 1,829,584	\$ 5,20	0,434	
Weather Normalization										
Weather Normalization			Increase/(Decrease)							
	Nov - April	Nov - April	-12.8%	Adjusted						Adj. to Sales
	Non-Weather kWh	Weather kWh		Nov - Apr kWh						7 taj. 10 Gaioo
601 Residential	37,588,680	42,447,170	36,995,389	74,584,069	•	V	Weather Normalized	76.54	6,019	
602, 608 Commercial	985,650	1,120,172	976,301	1,961,951		A	Actual		1,672	
Total	38,574,330	43,567,342	37,971,689	76,546,019					95,653)	-6.8%
. 013.	00,01.1,000	.0,00.,0.=	0.,0,000	. 0,0 .0,0 .0				(0,0)	,0,000)	0.070
	Nov - April	Adjusted								
	Base Revenue	Base Revenue	Adjustment							
601 Residential	3,259,620	3,037,568								
602 - 608 Commercial	111,230	103,653								
Total	3,370,850	3,141,221	(229,629)							
	Durch and Dawer									
	Purchased Power change in kWh	(E EOE 6E2)					Sales	ı	Sales	Rev. Reg.
	change in kwn	(5,595,653)					Adjustment		Sales Growth	Adjustments
	Base Cost of Fuel	0.016403	ı		Revenue		(229,629)		32,695)	(262,324)
	FOA - RY	1.043000			Purchased Po	wer	(95,732)		4,997)	(110,729)
	10/11/1	0.0171083				,,,,,	(00,102)		1,001	(110,720)
		0.0171003						ı		
					Increase/Decr	ease				
					to Revenue					
		(95,732)			Requirement		133,897	•	7,698	151,595
		,			•		•		•	•

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# **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	I - I	R	F۵	חו	F١	JT	ΙΔ	

June <u>6,364,344</u> 6,364,344 279,315	279,315
July 6,472,875 Lowest 2 Months 281,432	281,432
August 6,908,057 6,908,057 6,165,216 Oct 298,031	298,031
September 6,745,033 6,364,344 June 291,865	291,865
October 6,165,216 270,066 270,066	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 14,109,959 579,220	579,220
April 12,325,627 12,325,627 507,314	507,314
May 8,032,964 8,032,964 344,192	344,192
400 704 000	5 004 504
120,724,339 120,724,339 5,024,521	- 5,024,521
602 - COMMERCIAL	
kWh kWh kWh KWh Total Base Rev	Rev Total
June 170,825 170,825 10,520	10,520
July 166,198 Lowest 2 Months 10,276	10,276
August 185,304 185,304 162,352 Oct 11,141	11,141
September 167,490 166,198 July 10,338	10,338
October 162,352 162,352 10,120	10,120
November 212,759 212,759 AVG 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.

Exhibit 15 Page 3 of 4

# 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

1	lassena.	N	Y

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 unavilable

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.

Exhibit 15 Page 4 of 4

#### Town of Massena Electric Department Analysis of Sales Growth

PRESIDENTIAL   PRES						Average Yearly		
Actual kWh Sales (per annual report) AC 601 Residential sales (nor-apr) AC 601 Residential sales (nor-apr) AC 601 Residential sales (nor-apr) Total Residential sales (nor-apr) AC 601 Residential sales (nor-apr) Nov - Apr Deviation of Degree Days from 20 Year Average  ### ### ### ### ### ### ### ### ### #		<u>2012</u>	<u>2013</u>	<u>20</u>	<u>014</u>	,		
AC 601 Residential sales (nov-apr) AC 601 Residential sales (other) Total Residential  113,354,047  118,226,252  120,724,339  Nov - Apr Deviation of Degree Days from 20 Year Average  WEATHER NORMAL/ZED AC 611 Residential  117,758,694  117,758,694  118,531,663  118,								
AC 601 Residential sales (other) Total Residential  113,354,047  118,226,252  120,724,339  Nov - Apr Deviation of Degree Days from 20 Year Average  WEATHER NORMALIZED AC 601 Residential sales (nov-apr) AC 601 Residential sales (other) Total Residential sales (other) AC 601 Residential sales (other) Total Residential Residential Total Residential Residential Residential Total Residential								
Total Residential   113,354,047   118,226,252   120,724,339		-, - ,	,,-					
Nov - Apr Deviation of Degree Days from 20 Year Average	, ,							
From 20 Year Average	Total Residential	113,354,047	118,226,252	120,7	724,339			
From 20 Year Average								
From 20 Year Average	Nov - Apr Deviation of Degree Days							
AC 601 Residential sales (nov-apr) AC 601 Residential sales (nov-apr) AC 601 Residential sales (nov-apr) Total Residential AC 601 Residential sales (nov-apr) AC 602 Commercial		-13.80%	-0.76%		12.84%			
AC 601 Residential sales (nov-apr) AC 601 Residential sales (nov-apr) AC 601 Residential sales (nov-apr) Total Residential AC 601 Residential sales (nov-apr) AC 602 Commercial								
AC 601 Residential sales (other) Total Residential Residential Total Residential Residential Total Residential Residential Total Residential Total Residential Residential Total Residential Residential Residential Residential Total Residential Res								
Total Residential								
COMMERCIAL  Actual kWh Sales (per annual report)  AC 602 Commercial sales (nov-apr) AC 602 Commercial sales (nov-apr) AC 602 Commercial sales (other) 1.184.894 1.105.022 1.061.751  Nov - Apr Deviation of Degree Days from 10 Year Average  WEATHER NORMALIZED AC 602 Commercial sales (nov-apr) AC 602 Commercial sales (nov-apr) AC 602 Commercial sales (other) 1.184.894 1.105.022 1.061.751  Total Commercial  Two Lowest Months 6,475.961 Non-Weather Winter Sales 38.855.763 33,936,012 37,356,012 37,588,880 Weather Related Winter Sales 1.096,137 995,553 985,650 Weather Related Winter Sales 1.096,137 995,553 Residential  Two Lowest Months 182.690 165925.5 164.275 Non-Weather Winter Sales 1.096,137 995,553 985,650 Weather Related Winter Sales 1.096,137 995,553 Residential Commercial  Residential Commercial  Residential Res	, ,							
Actual kWh Sales (per annual report) AC 602 Commercial sales (other) 1,184,894 1,105,022 1,081,751 Total Commercial sales (other) 1,184,894 1,105,022 1,081,757  Nov - Apr Deviation of Degree Days from 10 Year Average  WEATHER NORMALIZED AC 602 Commercial sales (nov-apr) 1,184,694 1,1165,022 1,061,751 Total Commercial sales (nov-apr) AC 602 Commercial sales (nov-apr) 1,184,694 1,105,022 1,061,751 Total Commercial  Two Lowest Months Non-Weather Winter Sales 38,855,763 37,356,012 37,588,680 Weather Related Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 1,096,137 995,553 985,650 Residential Re	Total Residential	117,759,694	118,531,663	0.66% 115,2	272,558 -2.75%	-0.7%		
Actual kWh Sales (per annual report) AC 602 Commercial sales (other) 1,184,894 1,105,022 1,081,751 Total Commercial sales (other) 1,184,894 1,105,022 1,081,757  Nov - Apr Deviation of Degree Days from 10 Year Average  WEATHER NORMALIZED AC 602 Commercial sales (nov-apr) 1,184,694 1,1165,022 1,061,751 Total Commercial sales (nov-apr) AC 602 Commercial sales (nov-apr) 1,184,694 1,105,022 1,061,751 Total Commercial  Two Lowest Months Non-Weather Winter Sales 38,855,763 37,356,012 37,588,680 Weather Related Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 1,096,137 995,553 985,650 Residential Re								
Actual kWh Sales (per annual report) AC 602 Commercial sales (other) 1,184,894 1,105,022 1,081,751 Total Commercial sales (other) 1,184,894 1,105,022 1,081,757  Nov - Apr Deviation of Degree Days from 10 Year Average  WEATHER NORMALIZED AC 602 Commercial sales (nov-apr) 1,184,694 1,1165,022 1,061,751 Total Commercial sales (nov-apr) AC 602 Commercial sales (nov-apr) 1,184,694 1,105,022 1,061,751 Total Commercial  Two Lowest Months Non-Weather Winter Sales 38,855,763 37,356,012 37,588,680 Weather Related Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 1,096,137 995,553 985,650 Residential Re	COMMERCIAL							
AC 602 Commercial sales (nov-apr) AC 602 Commercial sales (other) 1184.894 1105.022 1.061.751 Total Commercial 3,135,033 3,186,993 3,167,573  Nov - Apr Deviation of Degree Days from 10 Year Average  WEATHER NORMALIZED AC 602 Commercial sales (other) AC 602 Commercial sales (other) 1,184.894 1,105.022 1,061.751 Total Commercial sales (other) Total Commercial sales (other) 1,184.894 1,105.022 1,1061.751 Total Commercial sales (other) Total Commercial sales (other) Non-Weather Winter Sales 3,855,763 3,736,012 37,586,880 Weather Related Winter Sales Non-Weather Winter Sales 1,096,137 995,553 Weather Related Winter Sales Weather Related Winter Sales Non-Weather Winter Sales 1,096,137 995,553 Weather Related Winter Sales Non-Weather Winter Sales 854,002 Residential Residential Two Lowest Months 182,690 165925,5 164,275 Non-Weather Winter Sales Non-Weather Winter Sales 1,096,137 995,553 885,650 Weather Related Winter Sales 854,002 Residential Residential Commercial (804,610) 0,03678 \$ (29,594) (5)								
Total Commercial   3,135,033   3,186,993   3,167,573		1,950,139	2,081,971	2,1	105,822			
Nov - Apr Deviation of Degree Days from 10 Year Average		1,184,894	1,105,022	<u>1,0</u>	061,751			
Tron 10 Year Average   -13.80%   -0.76%   12.84%	Total Commercial	3,135,033	3,186,993	3,1	167,573			
Total Commercial Fig.								
WEATHER NORMALIZED								
A/C 602 Commercial sales (nov-apr)	from 10 Year Average	-13.80%	-0.76%		12.84%			
A/C 602 Commercial sales (nov-apr)	WEATHER MORMALIZER							
AC 602 Commercial sales (other) 1,184,894 1,105,022 1,061,751 Total Commercial 3,252,880 3,195,302 -1.77% 3,023,702 -5.37% -2.4%  Residential Two Lowest Months 6,475,961 6226002 37,588,680 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 165925.5 164,275 Non-Weather Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 854,002 1,086,418 1,120,172  Residential (804,610) 0.03678 \$ (29,594) (5) (5) (5) (5) (6) (71,969) 0.04309 \$ (31,011)		2.067.096	2 000 200	1.0	064.054			
Total Commercial   3,252,880   3,195,302   -1.77%   3,023,702   -5.37%   -2.4%		, ,		,	,			
Residential   Two Lowest Months   6,475,961   6226002   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   42,447,	•					-2 1%		
Two Lowest Months	rotal commercial	3,232,000	3,133,302	-1.7770 3,0	020,102 -0.0170	-2.470		
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	Residential							
Weather Related Winter Sales         31,926,440         39,930,801         42,447,170           Commercial         Two Lowest Months         182,690         165925.5         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)         Rate (s/kWh)         Revenues           (kWh)         (s/kWh)         (s/kWh)           (s/kWh)         (s/kWh)         (s/kWh)           Total         (876,579)         0.04309         \$ (32,695)	Two Lowest Months	6,475,961	6226002	6,2	264,780			
Commercial Two Lowest Months Non-Weather Winter Sales Non-Weather Related Winter Sales Weather Related Winter Sales  Two Lowest Months 182,690 165925.5 164,275 1,096,137 995,553 985,650 1,120,172  Sales Change (kWh) (\$/kWh) (\$/s)  Residential Commercial (804,610) 0.03678 (\$(29,594) Commercial (71,969) 0.04309 (32,695)		38,855,763	37,356,012	37,5	588,680			
Two Lowest Months 182,690 165925.5 164,275 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) (\$\frac{\text{Sales}}{\text{Change}} \frac{\text{Residential}}{\text{(kWh)}} \frac{\text{Commercial}}{\text{(\$\frac{\text{Change}}{\text{Change}}{\text{(\$\frac{\text{Change}}{\text{Change}}}}}}}}}}}}}}}}}}}}} \rmathreaching 1,00,03678} \rm{\text{(\$\frac{\text{Change}}{\text{Change}}}}}}}{\text{(\$\frac{\text{Change}}{\text{Change}}}}}}}{\text{(\$\frac{\text{Change}}{\text{Change}}}}}}}}}}}})}}}}}}}}} \text{(\$\frac{\text		31,926,440	39,930,801	42,4	447,170			
Non-Weather Winter Sales 1,096,137 995,553 985,650 Weather Related Winter Sales 854,002 1,086,418 1,120,172  Sales Energy Base Change (kWh) (\$\\$/kWh) (\$\\$)  Residential (804,610) 0.03678 \$ (29,594) Commercial (71,969) 0.04309 \$ (3,101)  Total (876,579) (32,695)		400.000	405005 -		404075			
Weather Related Winter Sales         854,002         1,086,418         1,120,172         Sales Change (kWh)         Energy (\$\frac{1}{5}\kWh)         Base Revenues (\$\frac{1}{5}\kWh)         Residential (\$04,610)         0.03678         \$ (29,594)           Commercial         (71,969)         0.04309         \$ (31,01)           Total         (876,579)         (32,695)								
Sales   Energy   Rate   Revenues								
Change (kWh)         Rate (\$\(\text{kWh}\))         Revenues (\$\(\text{s}\))           Residential Commercial         (804,610)         0.03678         \$ (29,594)           Commercial         (71,969)         0.04309         \$ (3,101)           Total         (876,579)         (32,695)	Weather Related Willter Sales	654,002	1,000,410	1,	120,172	Sales	Energy	Rase
Residential Commercial       (804,610)       0.03678       \$ (29,594)         Commercial       (71,969)       0.04309       \$ (31,01)         Total       (876,579)       (32,695)								
Residential       (804,610)       0.03678       \$ (29,594)         Commercial       (71,969)       0.04309       \$ (3,101)         Total       (876,579)       (32,695)								
Commercial       (71,969)       0.04309       (3,101)         Total       (876,579)       (32,695)						,,	,,	(*)
Total (876,579) (32,695)				Resider	ntial	(804,610)		
				Comme	ercial	(71,969)	0.04309	\$ (3,101)
				Tot-1		(070 570)		(33,605)
Purchased Power (Base & FOA) (876,579) 0.017108 \$ (14,997)				ıotal		(8/6,5/9)		(32,695)
. 313,2323 . 313, [2333 3 . 3 . 3 ]				Purchas	sed Power (Base & FOA)	(876,579)	0.017108	\$ (14.997)
				. 270710	(==================================	(=: =,5: 0)		. (,)
Net Increase/(Decrease) \$ (17,698)				Net Inci	rease/(Decrease)		:	\$ (17,698)