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SUMMARY OF LOAD AND CUSTOMER/CONNECTION FORECAST

The purpose of this evidence is to present the process used by InnPower Corporation to prepare the weather normalized load and customer/connection forecast used to design the proposed 2017 to 2021 distribution rates.

In summary, InnPower Corporation used the same regression analysis methodology approved by the Ontario Energy Board (the "OEB") in its 2013 Cost of Service ("COS") application (EB-2012-0139) and updated the analysis for actual data to the end of the 2015. The updated regression analysis used the some variables as those in the 2013 COS application since these variables continued to provide very good statistical results.

With regards to the overall process of load forecasting, InnPower Corporation believes that conducting a regression analysis on historical electricity purchases to produce an equation that will predict purchases is appropriate. InnPower Corporation has the data for the amount of electricity (in kWh) purchased from the IESO for use by InnPower Corporation's customers. With a regression analysis, these purchases can be related to other monthly explanatory variables such as heating degree days and cooling degree days which occur in the same month. The results of the regression analysis produces an equation that predicts the purchases based on the explanatory variables. This prediction model is then used as the basis to forecast the total level of weather normalized purchases for the Bridge Year and the Test Years which is converted to billed kWh by rate class. A detailed explanation of the process is provided later in this evidence.

During the review process of previous COS applications, for other applicants, parties have expressed concerns with the load forecasting weather normalization process being used in this application. It has been suggested the weather normalization should be conducted on an individual rate class basis and the regression analysis would be based on monthly consumed kWh by rate class. As undertaken in the 2013 COS application (EB-2013-0139), InnPower Corporation conducted a regression analysis on an individual rate class basis. Consistent with the results in the 2013 COS application, the R square and Adjusted R square values for the rate class regression analysis were not acceptable compared to the results of the power purchased method. The R square and Adjusted R square values by rate class and power purchased method are shown in the following table. Based on these results, InnPower Corporation concluded using

the equation resulting from the power purchased method would be the appropriate approach to prepare the load forecast.

Table 3-1: R Square and Adjusted R Square Values

Class	R Square	Adjusted R Square
Residential	78%	77%
General Service < 50 kW	72%	71%
General Service 50 to 4,999 kW	3%	0%
Power Purchased	94%	94%

Based on the OEB's approval of this methodology in InnPower Corporation's last COS application along with the OEB's approval of this same method in recent COS applications for other applicants, InnPower Corporation submits the load forecasting methodology is reasonable at this time for the purposes of this Application.

The following provides the material to support the weather normalized load forecast used by InnPower Corporation in this Application.

Table 3-2, Table 3-3 and Table 3-4 below provide a summary of the weather normalized load and customer/connection forecast used in this Application.

Table 3-2 Summary of Load and Customer/Connection Forecast

Year	Billed (GWh)	Growth (GWh)	Percent Change	Customer/ Connection Count	Growth	Percent Change (%)
Billed Energy (GWh) and Customer Count / Connections						
2013 Board Approved	233.4			18,369		
2006 Actual	219.4			16,394		
2007 Actual	219.8	0.4	0.2%	16,645	251	1.5%
2008 Actual	226.8	7.1	3.2%	17,044	399	2.4%
2009 Actual	229.1	2.3	1.0%	17,361	317	1.9%
2010 Actual	231.9	2.7	1.2%	17,552	191	1.1%
2011 Actual	233.6	1.7	0.7%	17,776	224	1.3%
2012 Actual	229.8	(3.8)	(1.6%)	17,903	127	0.7%
2013 Actual	232.5	2.7	1.2%	18,286	383	2.1%
2014 Actual	237.9	5.3	2.3%	18,736	450	2.5%
2015 Actual	242.2	4.3	1.8%	19,073	337	1.8%
2016 Bridge - Normalized	238.9	(3.2)	(1.3%)	19,718	644	3.4%
2017 Test - Normalized	239.6	0.6	0.3%	20,319	601	3.0%
2018 Test - Normalized	242.8	3.2	1.3%	21,157	838	4.1%
2019 Test - Normalized	247.9	5.1	2.1%	22,400	1,243	5.9%
2020 Test - Normalized	252.9	5.0	2.0%	23,549	1,149	5.1%
2021 Test - Normalized	256.5	3.6	1.4%	24,624	1,075	4.6%

In the above Table 3-2, 2006 to 2015 are reflecting actual weather conditions in the year. The years 2016 to 2021 are weather normalized. It is InnPower Corporation's understanding that there is not an OEB approved method to weather normalize actual data. Consequently, InnPower Corporation does not have a process to adjust weather actual data to a weather normal basis. However, based on the process outlined in this Exhibit, a process to forecast energy on a weather normalized basis has been developed and used in this application.

On a rate class basis, the actual and forecasted billed amounts are shown in Table 3-3. Table 3-4 provides the actual and forecasted number of customers/connections. Customer/Connection values are on a 12 month average basis. The values for Sentinel Lighting, Street Lighting and Unmetered Scattered Load are measured as connections. The annual usage per customer/connection is shown in Table 3-5.

Table 3-3 Billed Energy by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Billed Energy (GWh)							
2013 Board Approved	148.1	31.8	51.3	0.1	1.5	0.5	233.4
2006 Actual	150.2	27.4	39.8	0.1	1.4	0.3	219.4
2007 Actual	149.6	28.7	39.3	0.1	1.5	0.5	219.8
2008 Actual	150.8	28.6	45.3	0.1	1.5	0.5	226.8
2009 Actual	151.2	28.3	47.5	0.1	1.6	0.5	229.1
2010 Actual	149.2	29.4	51.1	0.1	1.6	0.5	231.9
2011 Actual	150.9	30.7	49.9	0.1	1.5	0.5	233.6
2012 Actual	145.6	30.9	51.1	0.1	1.6	0.5	229.8
2013 Actual	148.6	31.0	50.9	0.1	1.5	0.5	232.5
2014 Actual	152.9	32.1	50.6	0.1	1.6	0.5	237.9
2015 Actual	151.5	34.3	54.6	0.1	1.1	0.5	242.2
2016 Bridge - Normalized	149.7	33.1	54.9	0.1	0.7	0.5	238.9
2017 Test - Normalized	149.9	32.4	56.0	0.1	0.7	0.5	239.6
2018 Test - Normalized	152.1	31.2	58.2	0.1	0.7	0.6	242.8
2019 Test - Normalized	156.8	29.6	60.2	0.1	0.7	0.6	247.9
2020 Test - Normalized	160.9	28.0	62.5	0.1	0.7	0.6	252.9
2021 Test - Normalized	163.6	26.6	64.9	0.1	0.7	0.7	256.5

Table 3-4 Customer/Connection by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Number of Customers/Connections							
2013 Board Approved	14,189	910	66	237	2,889	78	18,369
2006 Actual	12,867	797	80	189	2,371	90	16,394
2007 Actual	12,991	819	71	186	2,489	89	16,645
2008 Actual	13,277	836	73	186	2,588	84	17,044
2009 Actual	13,533	855	72	193	2,625	83	17,361
2010 Actual	13,651	865	68	201	2,685	82	17,552
2011 Actual	13,779	896	67	225	2,728	81	17,776
2012 Actual	13,943	914	68	172	2,728	79	17,903
2013 Actual	14,181	949	67	168	2,843	78	18,286
2014 Actual	14,509	991	67	169	2,923	76	18,736
2015 Actual	14,862	1,001	72	166	2,898	76	19,073
2016 Bridge - Normalized	15,419	1,026	72	163	2,963	75	19,718
2017 Test - Normalized	15,930	1,052	72	161	3,030	74	20,319
2018 Test - Normalized	16,676	1,079	72	159	3,098	73	21,157
2019 Test - Normalized	17,824	1,107	72	157	3,168	72	22,400
2020 Test - Normalized	18,877	1,135	72	155	3,239	71	23,549
2021 Test - Normalized	19,853	1,164	72	153	3,312	70	24,624

Table 3-5 Annual Usage per Customer/Connection by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Energy Usage per Customer/Connection (kWh per customer/connection)						
2013 Board Approved	10,441	34,924	777,717	443	525	6,085
2006 Actual	11,676	34,434	497,886	698	610	3,293
2007 Actual	11,517	35,006	553,811	679	601	5,881
2008 Actual	11,359	34,197	620,129	668	593	6,091
2009 Actual	11,171	33,090	659,351	632	601	5,987
2010 Actual	10,926	33,955	751,894	581	588	6,061
2011 Actual	10,950	34,288	745,100	490	534	6,080
2012 Actual	10,443	33,787	752,954	659	575	6,115
2013 Actual	10,477	32,635	760,026	606	518	6,100
2014 Actual	10,540	32,428	753,235	637	556	6,158
2015 Actual	10,196	34,307	764,144	625	382	6,119
2016 Bridge - Normalized	9,707	32,283	767,690	618	222	6,622
2017 Test - Normalized	9,412	30,768	783,060	611	221	7,167
2018 Test - Normalized	9,118	28,958	813,298	604	220	7,758
2019 Test - Normalized	8,796	26,733	841,720	597	219	8,397
2020 Test - Normalized	8,525	24,662	874,694	590	218	9,090
2021 Test - Normalized	8,238	22,841	907,427	584	217	9,841

FORECAST METHODOLOGY – MULTIVARIATE REGRESSION MODEL

InnPower Corporation's weather normalized load forecast is developed in a three-step process. First, a total system weather normalized purchased energy forecast is developed based on multivariate regression model that incorporates historical load, weather, and other variables that impact electricity usage. Second, the weather normalized purchased energy forecast is adjusted by a historical loss factor to produce a weather normalized billed energy forecast. Finally, the forecast of billed energy by rate class is developed based on a forecast of customer/connections numbers and historical usage patterns per customer/connection. For the rate classes that have weather sensitive load their forecasted billed energy is adjusted to ensure that the total billed energy forecast by rate class is equivalent to the total weather normalized billed energy forecast that has been determined from the regression analysis. For most classes, the forecast of customers by rate class is determined using a geometric mean analysis. However, for the Residential class this is based on growth forecasts developed utilizing the information from developers, growth plans from the City of Barrie, Town of Innisfil and Simcoe County.

Figure 3.1: Customer Growth Estimates

Customer Growth (Residential Only)									
	2014	2015	2016	2017	2018	2019	2020	2021	2022
Historical Residential	14699								
New Customers Residential - Barrie			0	0	714	750	606	600	550
New Customers Residential -TOI		435	674	348	430	401	349	397	391
Total New Customers		435	674	348	1144	1151	955	997	941
Total Residential Customers (EOY)		15134	15808	16156	17300	18451	19405	20403	21343
% Residential Growth		3.0%	4.5%	2.2%	7.1%	6.7%	5.2%	5.1%	4.6%

The billed energy forecast is also adjusted for expected Conservation and Demand Management ("CDM") results from 2016 to 2021. For those rate classes that use kW for the distribution volumetric billing determinant an adjustment factor is applied to the class energy forecast based on the historical relationship between kW and kWh. The following will explain the forecasting process in more detail.

Purchased KWh Load Forecast

An equation to predict total system purchased energy is developed using a multivariate regression model with the following independent variables: weather (heating and cooling degree days), calendar variables (days in month, seasonal) and number of customers in the Residential, General Service < 50 kW and General Service 50 to 4,999 kW rate classes. The regression model uses monthly kWh and monthly values of independent variables from January 2006 to December 2015 to determine the monthly regression coefficients.

With regards to weather normalization, InnPower Corporation submits that it is appropriate to review the impact of weather over the past ten years January 2006 to December 2015 since it is consistent with a time period outlined in the filing requirements and it is reflective of more recent weather conditions. The average weather conditions over this period are applied in the prediction formula to determine a weather normalized forecast for each year 2016 to 2021. In accordance with the filing requirement, InnPower Corporation has also provided sensitivity analysis showing the impact on the 2017 to 2021 forecast of purchases. This analysis assumes weather normal conditions are based on a 20 year trend of weather data.

The multivariate regression model has determined drivers of year-over-year changes in InnPower Corporation's load growth are weather, "calendar" factors and number of customers. These factors are captured within the multivariate regression model.

Weather impacts on load are apparent in both the winter heating season, and in the summer cooling season. For that reason, both Heating Degree Days (i.e. a measure of coldness in winter) and Cooling Degree Days (i.e. a measure of summer heat) are modeled.

The second main factor determining energy use in the monthly model can be classified as "calendar factors". For example, the number of days in a particular month will impact energy use. The modeling of purchased energy uses number of days in the month and a “flag” variable to capture the typically lower usage in the spring and fall months.

The third main factor is the total number of customers in the Residential, General Service < 50 kW and General Service 50 to 4,999 kW rate classes.

The following outlines the predication model used by InnPower Corporation to predict weather normal purchases for 2016 to 2021.

InnPower Corporation Monthly Predicted kWh Purchases:

= Heating Degree Days * 12,574
+ Cooling Degree Days * 30,393
+ Number of Days in the Month * 631,416
+ Spring Fall Flag * (1,168,175)
+ Number of Customers * 562
+ Constant of (11,152,354).

The monthly data used in the regression model and the resulting monthly prediction for the actual and forecasted years are provided in Appendix 3-A.

The sources of data for the various data points are:

a) Environment Canada website for monthly heating degree days and cooling degree days. Weather data form the Toronto Pearson International Airport weather station was used. 18° C is the base numbers from which heating degree days and cooling degree days are measured.
b) The calendar provided information related to number of days in the month and the spring/fall flag.
c) InnPower Corporation's billing system provided the historical number of customers.

The prediction formula has the following statistical results which generally indicate the formula has a good fit to the actual data set.

Table 3-6 Statistical Results

Statistic	Value
R Square	94.3%
Adjusted R Square	94.0%
F Test	375.6
MAPE (Monthly)	2.5%
T-stats by Coefficient	
Heating Degree Days	30.4
Cooling Degree Days	11.9
Number of Days in Month	7.8
Spring Fall Flag	(6.7)
Number of Customers - 3 Main Classes	5.8
Constant	(4.0)

The annual results of the above prediction formula compared to the actual annual purchases from 2006 to 2015 are shown in Figure 3-1 below along with the forecast of annual purchases for 2016 to 2021.

Figure 3-1 Actual vs Predicted Purchases (Millions of kWhs)

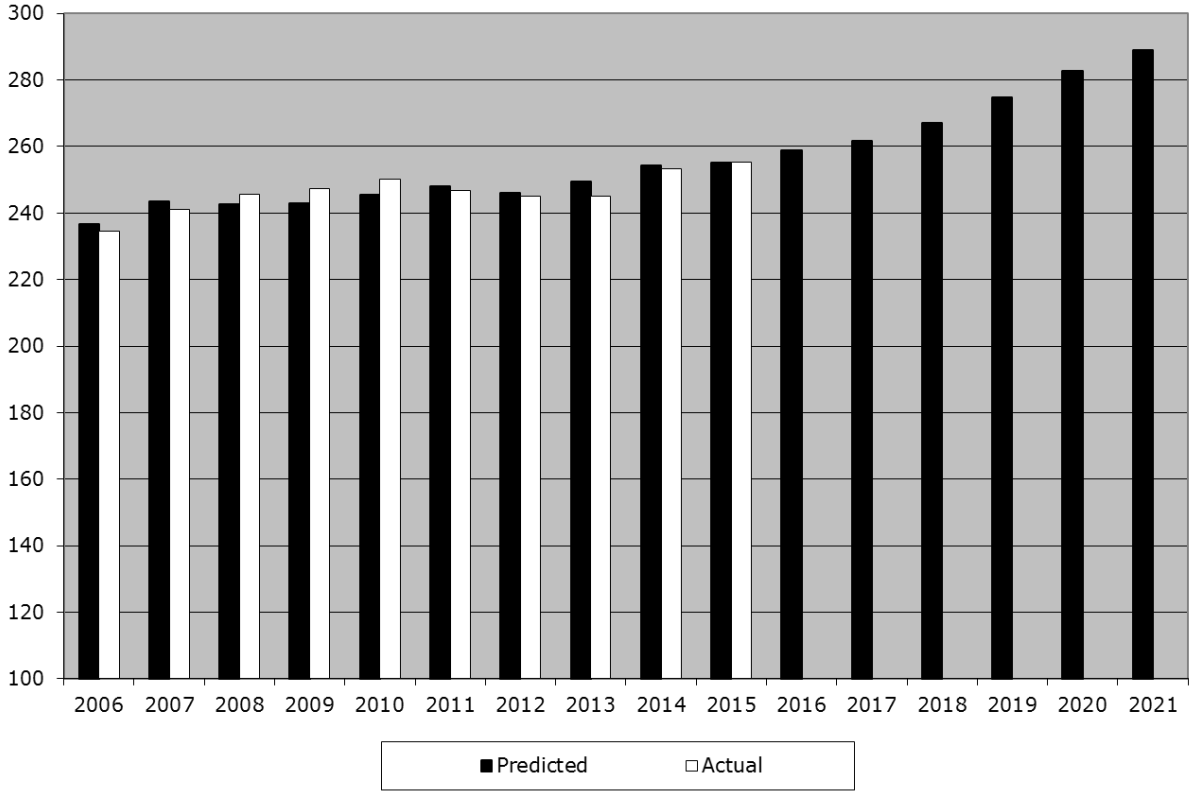

Table 3-7 below outlines the data that supports the above chart. In addition, the predicted total system purchases for InnPower Corporation are provided for 2016 to 2021 on a weather normal basis. In addition, values for 2017 to 2021 are provided on a 20 year trend assumption for weather normalization as per the filing requirements.

Table 3-7 Total System Purchase

Year	Actual	Predicted	% Difference
Purchased Energy (GWh)			
2006	234.4	236.7	1.0%
2007	241.2	243.5	1.0%
2008	245.6	242.7	(1.2%)
2009	247.2	242.9	(1.8%)
2010	250.2	245.5	(1.9%)
2011	246.8	248.0	0.5%
2012	245.1	246.0	0.4%
2013	245.1	249.5	1.8%
2014	253.3	254.2	0.4%
2015	255.2	255.1	(0.0%)
2016 Bridge - Normalized		258.8	
2017 Test - Normalized		261.8	
2018 Test - Normalized		267.0	
2019 Test - Normalized		274.9	
2020 Test - Normalized		282.8	
2021 Test - Normalized		289.0	
2017 Test - Normalized - 20 Year Trend		262.4	
2018 Test - Normalized - 20 Year Trend		267.7	
2019 Test - Normalized - 20 Year Trend		275.7	
2020 Test - Normalized - 20 Year Trend		283.6	
2021 Test - Normalized - 20 Year Trend		289.8	

The weather normalized amount for 2016 to 2021 is determined by using 2016 to 2021 dependent variables in the prediction formula on a monthly basis along with the average monthly heating degree days and cooling degree days which have occurred from January 2006 to December 2015 (i.e. 10 years). The 2017 to 2021 weather normal 20 year trend value reflects the trend in monthly heating degree days and cooling degree days which have occurred from January 1996 to December 2015.

Billed KWh Load Forecast

To determine the total weather normalized energy billed forecast, the total system weather normalized purchases forecast is adjusted by an average historical loss factor of 7.21%. The following table shows the conversion from total power purchases to total billed.

Table 3-8 Conversion of Total System Purchases to Total Billed

Year	Power Purchased	Loss Factor	Billed
2016 Bridge - Normalized	258.8	1.0721	241.4
2017 Test - Normalized	261.8	1.0721	244.2
2018 Test - Normalized	267.0	1.0721	249.0
2019 Test - Normalized	274.9	1.0721	256.4
2020 Test - Normalized	282.8	1.0721	263.8
2021 Test - Normalized	289.0	1.0721	269.5

Billed KWh Load Forecast and Customer/Connection Forecast by Rate Class

Since the total weather normalized billed energy amount is known this amount needs to be distributed by rate class for rate design purposes taking into consideration the customer/connection forecast and expected usage per customer by rate class.

The next step in the forecasting process is to determine a customer/connection forecast. The customer/connection forecast is based on reviewing historical customer/connection data that is available as shown in the following Table 3-9.

Table 3-9 Historical Customer/Connection Data

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Number of Customers/Connections							
2006	12,867	797	80	189	2,371	90	16,394
2007	12,991	819	71	186	2,489	89	16,645
2008	13,277	836	73	186	2,588	84	17,044
2009	13,533	855	72	193	2,625	83	17,361
2010	13,651	865	68	201	2,685	82	17,552
2011	13,779	896	67	225	2,728	81	17,776
2012	13,943	914	68	172	2,728	79	17,903
2013	14,181	949	67	168	2,843	78	18,286
2014	14,509	991	67	169	2,923	76	18,736
2015	14,862	1,001	72	166	2,898	76	19,073

From the historical customer/connection data the growth rate in customer/connection can be evaluated which is provided on the following Table 3-10.

Table 3-10 Growth Rate in Customer/Connections

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Growth Rate in Customers/Connections						
2006						
2007	1.0%	2.8%	(11.3%)	(1.6%)	5.0%	(1.1%)
2008	2.2%	2.1%	2.8%	0.0%	4.0%	(5.6%)
2009	1.9%	2.3%	(1.4%)	3.8%	1.4%	(1.2%)
2010	0.9%	1.2%	(5.6%)	4.1%	2.3%	(1.2%)
2011	0.9%	3.6%	(1.5%)	11.9%	1.6%	(1.2%)
2012	1.2%	2.0%	1.4%	(23.5%)	0.0%	(2.9%)
2013	1.7%	3.9%	(1.3%)	(2.4%)	4.2%	(1.4%)
2014	2.3%	4.4%	0.2%	0.8%	2.8%	(2.6%)
2015	2.4%	0.9%	6.5%	(2.2%)	(0.9%)	0.6%
Geo Mean - 2006 to 2015	1.6%	2.6%	(1.2%)	(1.4%)	2.3%	(1.9%)

For all classes, except the Residential and General Service 50 to 4,999 kW rate classes, the factor resulting from the geometric mean analysis from 2006 to 2015 is applied to the 2015 customer/connection numbers to determine the forecast of customer/connections in 2016. For 2017 to 2021, the geometric

mean factor is applied to the value in previous year to determine the current year forecast. For the Residential class the forecasted number of customer is based on growth forecasts developed utilizing the information from developers, growth plans from the City of Barrie, Town of Innisfil and Simcoe County (refer to Figure 3.1 on page 9). The 2016 to 2021 customer forecast for the General Service 50 to 4,999 kW rate class has been held constant at the 2015 level since InnPower Corporation does not expect to experience a decline in customers in class as suggested by the geometric mean analysis. Table 3-11 outlines the forecast of customers by rate class for 2016 to 2021

Table 3-11 Customer/Connection Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Forecast number of Customers/Connections							
2016	15,419	1,026	72	163	2,963	75	19,718
2017	15,930	1,052	72	161	3,030	74	20,319
2018	16,676	1,079	72	159	3,098	73	21,157
2019	17,824	1,107	72	157	3,168	72	22,400
2020	18,877	1,135	72	155	3,239	71	23,549
2021	19,853	1,164	72	153	3,312	70	24,624

The next step in the process is to review the historical customer/connection usage and to reflect this usage per customer in the forecast. Table 3-12 below provides the average annual usage per customer by rate class from 2006 to 2015 before the allocation of Hydro One load transfers.

Table 3-12 Historical Annual Usage per Customer

Before Allocation of Hydro One Load Transfers

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Annual kWh Usage Per Customer/Connection						
2006	11,588	34,117	497,886	698	610	3,242
2007	11,446	34,754	553,811	679	601	5,839
2008	11,295	33,971	620,129	668	593	6,050
2009	11,112	32,881	659,351	632	601	5,948
2010	10,867	33,744	751,894	581	588	6,020
2011	10,893	34,095	745,100	490	534	6,041
2012	10,395	33,623	752,954	659	575	6,080
2013	10,434	32,492	760,026	606	518	6,068
2014	10,502	32,305	753,235	637	556	6,129
2015	10,163	34,199	764,144	625	382	6,093

As can been seen from the above table, usage per customer/connection generally declines in the Residential, General Service < 50 kW, Sentinel Lighting and Street Lighting classes. It is InnPower Corporation's view that this decline is partially due to the CDM programs initiated in 2005 and onwards. The increase usage per customer in the General Service 50 to 4,999 kW class is due to expansions of 8 of our key GS > 50 customers in terms of products. The usage per connection for the Unmetered Scattered Load has generally remained stable which is expected since this is typically a flat load class which reflects estimated usage.

From the historical usage per customer/connection data the growth rate in usage per customer/connection can be reviewed which is provided on the following table. The geometric mean growth rate from 2006 and 2015 has also been shown.

Table 3-13 Growth Rate in Usage per Customer/Connection

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Growth Rate in Usage Per Customer/Connection						
2006						
2007	(1.2%)	1.9%	11.2%	(2.6%)	(1.4%)	80.1%
2008	(1.3%)	(2.3%)	12.0%	(1.7%)	(1.4%)	3.6%
2009	(1.6%)	(3.2%)	6.3%	(5.3%)	1.4%	(1.7%)
2010	(2.2%)	2.6%	14.0%	(8.2%)	(2.0%)	1.2%
2011	0.2%	1.0%	(0.9%)	(15.6%)	(9.2%)	0.3%
2012	(4.6%)	(1.4%)	1.1%	34.4%	7.7%	0.7%
2013	0.4%	(3.4%)	0.9%	(8.0%)	(10.0%)	(0.2%)
2014	0.7%	(0.6%)	(0.9%)	5.1%	7.4%	1.0%
2015	(3.2%)	5.9%	1.4%	(2.0%)	(31.3%)	(0.6%)
Geo Mean - 2006 to 2015	(1.2%)	(0.7%)	5.3%	(1.1%)	(1.1%)	8.3%

The 2016 forecast of usage per customer/connection was determined by applying the historical geometric mean value from 2006 to 2015 to the actual 2015 usage per customer/connection. For 2017 to 2021, the geometric mean factor is applied to the value in previous year to determine the current year forecast of usage per customer/connection.

Table 3-14 Forecast Annual kWh Usage per Customer/Connection

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Forecast Annual kWh Usage per Customers/Connection						
2016	10,039	33,966	804,730	618	377	6,598
2017	9,916	33,735	847,471	611	373	7,145
2018	9,795	33,506	892,483	604	369	7,737
2019	9,675	33,278	939,886	597	365	8,378
2020	9,557	33,052	989,806	590	360	9,072
2021	9,440	32,827	1,042,378	584	356	9,824

The preceding information is used to determine the non-normalized weather billed energy forecast by applying the forecast number of customer/connection from Table 3-11 by the forecast of annual usage per customer/connection from Table 3-14. The resulting non-normalized weather billed energy forecast is shown in the following Table 3-15.

Table 3-15 Non-normalized Weather Billed Energy Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	TOTAL
NON-normalized Weather Billed Energy Forecast (GWh)							
2016 (Not Normalized)	154.8	34.8	57.5	0.1	1.1	0.5	248.9
2017 (Not Normalized)	158.0	35.5	60.6	0.1	1.1	0.5	255.8
2018 (Not Normalized)	163.3	36.2	63.8	0.1	1.1	0.6	265.1
2019 (Not Normalized)	172.5	36.8	67.2	0.1	1.2	0.6	278.3
2020 (Not Normalized)	180.4	37.5	70.8	0.1	1.2	0.6	290.6
2021 (Not Normalized)	187.4	38.2	74.5	0.1	1.2	0.7	302.1

The non-normalized weather billed energy forecast has been determined but this needs to be adjusted in order to be aligned with the total weather normalized billed energy forecast shown in Table 3-8

The difference between the non-normalized and normalized forecast is assumed to be the adjustment to move the forecast to a weather normal basis and this amount will be assigned to those rate classes that are weather sensitive. Based on the weather normalization work completed by Hydro One for InnPower Corporation for the cost allocation study, which has been used to support this Application, it was determined that the weather sensitivity by rate classes is as follows in Table 3-16.

Table 3-16 Weather Sensitivity by Rate Class

Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Weather Sensitivity					
83%	83%	65%	0%	0%	0%

For the General Service 50 to 4,999 kW class the weather sensitivity amount of 65% was provided in the weather normalization work completed by Hydro One. For the Residential and General Service < 50 kW classes, the weather sensitivity assumptions is consistent with that assumed in InnPower Corporation 2013 COS application.

The difference between the non-normalized and normalized forecast has been assigned on a pro rata basis to each rate class based on the above level of weather sensitivity.

Hydro One Load Transfers

InnPower Corporation has historically had load transfers with Hydro One. Hydro One provides power to customers that are in the InnPower Corporation service area but are connected to the Hydro One distribution system. These customers/connections are in the Residential, General Service < 50 kW and Unmetered Scattered Load rate classes. InnPower Corporation expects Hydro One load transfers to continue over the forecast period 2016 to 2021 but on a declining level. The follow table outlines the historical and forecasted kWh for Hydro One load transfers. Using the geometric mean analysis the average growth rate over the period 2006 to 2015 is (8.7%). In order to determine the 2016 to 2021 forecast, this declining growth rate is applied to the previous year to forecast the current year. For example, 2016 is the 2015 value reduced by 8.7%.

Table 3-17 Hydro One Load Transfers

Year	Hydro One Load Transfers (GWh)
2006 - Actual	1.4
2007 - Actual	1.1
2008 - Actual	1.0
2009 - Actual	1.0
2010 - Actual	1.0
2011 - Actual	1.0
2012 - Actual	0.8
2013 - Actual	0.7
2014 - Actual	0.7
2015 - Actual	0.6
2016 - Bridge Forecast	0.5
2017 - Test Year Forecast	0.5
2018 - Test Year Forecast	0.5
2019 - Test Year Forecast	0.4
2020 - Test Year Forecast	0.4
2021 - Test Year Forecast	0.3

It is assumed the Hydro One load transfers are allocated 81.5% to Residential, 18.2% to General Service < 50 kW and 0.3% to Unmetered Scattered Load rate classes. This allocation is based rate class specific data provided by Hydro One for the LTLT customers.

In order to determine the difference between the non-normalized and normalized billed forecast discussed above, the forecast in Table 3-17 is added to the results in Table 3-15 and subtracted from Table 3-8. The results are used to determine the amount to be assigned to each rate class based on the level of weather sensitivity. The following table outlines the difference between the non-normalized and normalized billed forecast.

Table 3-18 Difference Between Normalized and Non-normalized Bill Forecast

Year	Table 3-8 (A)	Table 3-15 (B)	Table 3-17 (C)	Difference = (A) - (B) - (C)
Billed Energy (GWh)				
2016 Bridge - Normalized	241.4	248.9	0.5	(8.1)
2017 Test - Normalized	244.2	255.8	0.5	(12.2)
2018 Test - Normalized	249.0	265.1	0.5	(16.6)
2019 Test - Normalized	256.4	278.3	0.4	(22.3)
2020 Test - Normalized	263.8	290.6	0.4	(27.2)
2021 Test - Normalized	269.5	302.1	0.3	(32.9)

CDM Adjustment and LRAMVA

A manual adjustment has been made to reflect the impact of 2015 to 2021 CDM programs on the load forecast. InnPower Corporation has made this adjustment to reflect the “net” impact of the CDM programs on the load forecast.

The following Table 3-19, outlines the expected full year savings from 2015 to 2021 CDM programs based on the 2015 to 2020 CDM Plan for InnPower Corporation. It assumed that the savings that occur in the first year of a program with persist at 100% for the years that follow. The value for 2021 has been set at the same level as 2015 as it is assumed this will be the results of the first year of a CDM Plan that is expected to follow the 2015 to 2020 CDM Plan.

Table 3-19 2015 to 2021 Expected Full Year Total kWh Savings

	2015	2016	2017	2018	2019	2020	2021
2015 Programs	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889
2016 Programs		3,143,714	3,143,714	3,143,714	3,143,714	3,143,714	3,143,714
2017 Programs			1,139,903	1,139,903	1,139,903	1,139,903	1,139,903
2018 Programs				2,174,129	2,174,129	2,174,129	2,174,129
2019 Programs					2,321,084	2,321,084	2,321,084
2020 Programs						2,527,406	2,527,406
2021 Programs							1,701,889
Total for 2015 to 2020 Target	1,701,889	3,143,714	1,139,903	2,174,129	2,321,084	2,527,406	n/a
Total Including Persistence	1,701,889	4,845,603	5,985,506	8,159,635	10,480,719	13,008,124	14,710,013

In order to assign the above savings to rate classes the following explains the allocation to each rate class. In 2015 there is CDM program to reduce the annual Street Lighting usage by 922,062 kWh and it is assumed these savings will persist at 100% until 2021. These are the only CDM savings assigned to the Street Lighting class over the forecast period. In 2016 it is assumed there is Co-generation project that will provide 2,042,000 kWh of CDM savings in the General Service 50 to 4,999 kW rates class which will persist at 100% until 2021.

For the Residential class, based on the expected results in the 2015 to 2020 CDM Plan for InnPower Corporation, the following outlines the percentage allocated to the Residential after the Street Lighting and Co-generation savings have been deducted from the total shown in Table 3-19.

Table 3-20 Residential Allocation

	2015	2016	2017	2018	2019	2020	2021
Residential Allocation	29.7%	23.0%	19.6%	22.5%	20.7%	24.7%	29.7%

The following outlines the 2015 to 2021 savings for the Residential class

Table 3-21 2015 to 2021 Expected Full Year Residential kWh Savings

	2015	2016	2017	2018	2019	2020	2021
2015 Programs	231,434	231,434	231,434	231,434	231,434	231,434	231,434
2016 Programs		253,000	253,000	253,000	253,000	253,000	253,000
2017 Programs			223,186	223,186	223,186	223,186	223,186
2018 Programs				488,612	488,612	488,612	488,612
2019 Programs					480,898	480,898	480,898
2020 Programs						623,249	623,249
2021 Programs							505,080
Total for 2015 to 2020 Target	231,434	253,000	223,186	488,612	480,898	623,249	n/a
Total Including Persistence	231,434	484,434	707,620	1,196,232	1,677,130	2,300,379	2,805,459

The remaining CDM savings are assigned to the General Service classes with 90% allocated to the General Service < 50 kW rate class and 10% allocated to the General Service 50 to 4,999 kW rate class. The following outlines the 2015 to 2021 savings for the General Service < 50 kW and the General Service 50 to 4,999 kW rate classes. The savings from the Co-generation are included in the General Service 50 to 4,999 kW rate class.

Table 3-22 2015 to 2021 Expected Full Year General Service < 50 kWh Savings

	2015	2016	2017	2018	2019	2020	2021
2015 Programs	493,553	493,553	493,553	493,553	493,553	493,553	493,553
2016 Programs		763,843	763,843	763,843	763,843	763,843	763,843
2017 Programs			825,045	825,045	825,045	825,045	825,045
2018 Programs				1,516,965	1,516,965	1,516,965	1,516,965
2019 Programs					1,656,167	1,656,167	1,656,167
2020 Programs						1,713,741	1,713,741
2021 Programs							1,077,128
Total for 2015 to 2020 Target	493,553	763,843	825,045	1,516,965	1,656,167	1,713,741	n/a
Total Including Persistence	493,553	1,257,397	2,082,442	3,599,407	5,255,574	6,969,315	8,046,443

Table 3-23 2015 to 2021 Expected Full Year General Service 50 to 4,999 kW kWh Savings

	2015	2016	2017	2018	2019	2020	2021
2015 Programs	54,839	54,839	54,839	54,839	54,839	54,839	54,839
2016 Programs		2,126,871	2,126,871	2,126,871	2,126,871	2,126,871	2,126,871
2017 Programs			91,672	91,672	91,672	91,672	91,672
2018 Programs				168,552	168,552	168,552	168,552
2019 Programs					184,019	184,019	184,019
2020 Programs						190,416	190,416
2021 Programs							119,681
Total for 2015 to 2020 Target	54,839	2,126,871	91,672	168,552	184,019	190,416	n/a
Total Including Persistence	54,839	2,181,711	2,273,382	2,441,934	2,625,953	2,816,368	2,936,049

Since the regression analysis is based on actual power purchased data up to and including 2015 actual data, it is assumed that any savings from programs initiated up to and including 2015 are reflected in the prediction equation resulting from the regression analysis. However, for 2015 it is assumed that for those programs that were initiated in 2015 only one half of the full year results actually occur since they were initiated throughout the year. This has been classified as the half year rule for CDM purposes. As a result, consistent with approach used in previous COS applications and using the rate class specific information mentioned above, the following equation is used to determine the rate class manual CDM adjustment for each year.

Rate class CDM adjustment (Year) = 2015 Programs rate class savings x 50% + For all years after 2015 to (Year – 1) full year Programs rate class savings (if applicable) + Year Programs rate class savings x 50%.

For example: Residential CDM adjustment (2018) = 231,434 kWh (2015 Programs rate class savings) x 50% + 253,000 kWh (2016 Program rate class savings) + 223,186 kWh (2017 Program rate class savings) + 488,612 kWh (2016 Program rate class savings) x 50% = 836,209.

In accordance with the Guidelines for Electricity Distributor Conservation and Demand Management (EB-2013-0003), issued April 26, 2013 ("CDM Guidelines"), it is InnPower Corporation's understanding that as part of this application expected CDM savings in 2017 to 2021 from 2016 to 2021 programs will need to be established for lost revenue adjustment mechanism ("LRAM") variance accounts purposes. InnPower Corporation also understands that the IESO will measure CDM results on a full year net basis. Consistent

with past practices, it is expected the full year net level of savings will be used for LRAM variance calculations. As a result, it is InnPower Corporation's view the units used for the LRAM variance account should also be on a full year net basis. Based on the evidence provided above in regards to the CDM manual adjustment the following equation is used to determine the rate class kWh assumed in the load forecast for LRAM variance account purposes.

Rate class LRAMVA Threshold (Year) = Rate class 2016 Program savings + Rate class Program savings for all years from 2016 up to and including (Year).

For example: Residential LRAMVA Threshold (2018) = 253,000 kWh (2016 Programs savings) + 223,186 kWh (2017 Programs savings) + 488,612 kWh (2018 Programs savings) = 964,797 kWh.

The following table provides expected CDM savings by rate class for LRAM variance account purposes The expected kW saving has also been provided for those classes billed distribution charges on a kW basis using the average kW/KWh ratios from Table 3-27.

Table 3-24 2016 Expected CDM Savings by Rate Class for LRAM Variance Account

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
2017 LRAMVA kWh	476,186	1,588,888	2,218,543	0	0	0	4,283,617
2018 LRAMVA kWh	964,797	3,105,854	2,387,095	0	0	0	6,457,746
2019 LRAMVA kWh	1,445,696	4,762,021	2,571,113	0	0	0	8,778,830
2020 LRAMVA kWh	2,068,945	6,475,762	2,761,529	0	0	0	11,306,235
2021 LRAMVA kWh	2,574,025	7,552,889	2,881,210	0	0	0	13,008,124
2017 LRAMVA kW - Annual	0	0	6,231	0	0	0	6,231
2018 LRAMVA kW - Annual	0	0	6,705	0	0	0	6,705
2019 LRAMVA kW - Annual	0	0	7,222	0	0	0	7,222
2020 LRAMVA kW - Annual	0	0	7,757	0	0	0	7,757
2021 LRAMVA kW - Annual	0	0	8,093	0	0	0	8,093
2017 LRAMVA kW - Monthly	0	0	519	0	0	0	519
2018 LRAMVA kW - Monthly	0	0	559	0	0	0	559
2019 LRAMVA kW - Monthly	0	0	602	0	0	0	602
2020 LRAMVA kW - Monthly	0	0	646	0	0	0	646
2021 LRAMVA kW - Monthly	0	0	674	0	0	0	674

The following Table 3-25 outlines how the classes have been adjusted to align the non-normalized forecast with the normalized forecast. This table also reflects the adjustments for Hydro One load transfers and manual CDM

Table 3-25 Alignment of Non-normal to Weather Normal Forecast and Other Adjustments

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Non-normalized Weather Billed Energy Forecast (GWh)							
2016 (Not Normalized)	154.8	34.8	57.5	0.1	1.1	0.5	248.9
2017 (Not Normalized)	158.0	35.5	60.6	0.1	1.1	0.5	255.8
2018 (Not Normalized)	163.3	36.2	63.8	0.1	1.1	0.6	265.1
2019 (Not Normalized)	172.5	36.8	67.2	0.1	1.2	0.6	278.3
2020 (Not Normalized)	180.4	37.5	70.8	0.1	1.2	0.6	290.6
2021 (Not Normalized)	187.4	38.2	74.5	0.1	1.2	0.7	302.1
Adjustment for Hydro One Load Transfer (GWh)							
2016	0.4	0.1	0.0	0.0	0.0	0.002	0.5
2017	0.4	0.1	0.0	0.0	0.0	0.002	0.5
2018	0.4	0.1	0.0	0.0	0.0	0.001	0.5
2019	0.3	0.1	0.0	0.0	0.0	0.001	0.4
2020	0.3	0.1	0.0	0.0	0.0	0.001	0.4
2021	0.3	0.1	0.0	0.0	0.0	0.001	0.3
Adjustment for Weather (GWh)							
2016	(5.3)	(1.2)	(1.6)	0.0	0.0	0.0	(8.1)
2017	(8.0)	(1.8)	(2.4)	0.0	0.0	0.0	(12.2)
2018	(10.8)	(2.4)	(3.3)	0.0	0.0	0.0	(16.6)
2019	(14.7)	(3.1)	(4.5)	0.0	0.0	0.0	(22.3)
2020	(17.9)	(3.7)	(5.5)	0.0	0.0	0.0	(27.2)
2021	(21.7)	(4.4)	(6.8)	0.0	0.0	0.0	(32.9)
Adjustment for CDM (GWh)							
2016	(0.2)	(0.6)	(1.1)	0.0	(0.5)	0.0	(2.4)
2017	(0.5)	(1.4)	(2.2)	0.0	(0.5)	0.0	(4.6)
2018	(0.8)	(2.6)	(2.3)	0.0	(0.5)	0.0	(6.2)
2019	(1.3)	(4.2)	(2.5)	0.0	(0.5)	0.0	(8.5)
2020	(1.9)	(5.9)	(2.7)	0.0	(0.5)	0.0	(10.9)
2021	(2.4)	(7.3)	(2.8)	0.0	(0.5)	0.0	(13.0)
Weather Normalized Billed Energy Forecast (GWh)							
2016 Bridge - Normalized	149.7	33.1	54.9	0.1	0.7	0.5	238.9
2017 Test - Normalized	149.9	32.4	56.0	0.1	0.7	0.5	239.6
2018 Test - Normalized	152.1	31.2	58.2	0.1	0.7	0.6	242.8
2019 Test - Normalized	156.8	29.6	60.2	0.1	0.7	0.6	247.9
2020 Test - Normalized	160.9	28.0	62.5	0.1	0.7	0.6	252.9
2021 Test - Normalized	163.6	26.6	64.9	0.1	0.7	0.7	256.5

Billed KW Load Forecast

Historically, there were three rate classes that charge volumetric distribution on per kW basis. These include General Service 50 to 4,999 kW, Sentinel Lighting and Street Lighting. As a result, the energy forecast for these classes needs to be converted to a kW basis for rate setting purposes. The forecast of kW for these classes is based on a review of the historical ratio of kW to kWh and applying the results of a trend analysis to the forecasted kWh to produce the required kW.

The following Table 3-26 outlines the annual demand units by applicable rate class.

Table 3-26 Historical Annual kW per Applicable Rate Class

Year	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Total
Billed Annual kW				
2006	118,310	367	4,014	122,691
2007	116,956	351	4,153	121,460
2008	134,693	345	4,261	139,299
2009	136,122	339	4,370	140,832
2010	144,502	324	4,389	149,215
2011	139,425	306	4,416	144,148
2012	144,982	315	4,424	149,721
2013	130,935	283	4,149	135,367
2014	135,394	300	4,581	140,275
2015	141,987	288	3,140	145,414

The following Table 3-27 shows the historical ratio of kW/kWh and the average ratio used to forecast kW for 2016 to 2021.

Table 3-27 Historical kW/KWh Ratio per Applicable Rate Class

Year	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting
Ratio of kW to kWh			
2006	0.2970%	0.2783%	0.2777%
2007	0.2974%	0.2778%	0.2776%
2008	0.2975%	0.2778%	0.2778%
2009	0.2867%	0.2778%	0.2771%
2010	0.2826%	0.2778%	0.2778%
2011	0.2793%	0.2779%	0.3030%
2012	0.2835%	0.2779%	0.2818%
2013	0.2571%	0.2779%	0.2818%
2014	0.2676%	0.2778%	0.2818%
2015	0.2599%	0.2778%	0.2838%
Average 2006 to 2015	0.2809%	0.2779%	0.2820%

For the three classes, the average factor was applied to the weather normalized billed energy forecast in Table 3-25 to provide the forecast of kW by rate class.

The following Table 3-28 outlines the forecast of kW for the applicable rate classes.

Table 3-28 kW Forecast by Applicable Rate Class

Year	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Total
Predicted Billed kW				
2016 Bridge - Normalized	154,174	280	1,854	156,308
2017 Test - Normalized	157,261	273	1,889	159,423
2018 Test - Normalized	163,334	267	1,923	165,523
2019 Test - Normalized	169,041	260	1,958	171,260
2020 Test - Normalized	175,664	254	1,993	177,911
2021 Test - Normalized	182,237	248	2,029	184,514

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Table 3-29 Summary of Total Load Forecast

	2013 Actual	2014 Actual	2015 Actual	2016 Weather Normal	2017 Weather Normal	2018 Weather Normal	2019 Weather Normal	2020 Weather Normal	2021 Weather Normal
Actual kWh Purchases	245,129,838	253,254,985	255,186,387						
Predicted kWh Purchases before CDM adjustment	249,473,504	254,225,266	255,095,714	258,773,135	261,762,895	266,975,500	274,905,672	282,826,642	288,972,286
% Difference between actual and predicted purchases	1.8%	0.4%	(0.0%)						
Loss Factor				1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
Total Billed Before Adjustments				241,363,660	244,152,278	249,014,194	256,410,848	263,798,919	269,531,103
CDM Adjustment				2,422,802	4,564,610	6,221,626	8,469,232	10,893,477	13,008,124
Total Billed After Adjustments				238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979

Table 3-30 provides a summary of the load forecast on a billing determinant basis by rate class. This table is also consistent with Appendix 2-IA which provides a variance analysis between each year and the last Board approved values.

Table 3-30 Summary of Billing Determinants and Variances of Actual and Forecast Data Consistent with Appendix 2-IA

	2013 Board Approved	2013 Actual	2014 Actual	2015 Actual	2016 Weather Normal	2017 Weather Normal	2018 Weather Normal	2019 Weather Normal	2020 Weather Normal	2021 Weather Normal
Residential										
Customers	14,189	14,181	14,509	14,862	15,419	15,930	16,676	17,824	18,877	19,853
kWh	148,148,873	148,570,811	152,923,212	151,526,915	149,674,174	149,932,101	152,052,309	156,772,519	160,929,748	163,557,480
Variance Analysis Compare to Board Approved										
Customers		(0.06%)	2.26%	4.74%	8.67%	12.27%	17.53%	25.62%	33.04%	39.92%
kWh		0.28%	3.22%	2.28%	1.03%	1.20%	2.63%	5.82%	8.63%	10.40%
General Service < 50 kW										
Customers	910	949	991	1,001	1,026	1,052	1,079	1,107	1,135	1,164
kWh	31,781,016	30,978,542	32,143,896	34,326,840	33,122,069	32,368,433	31,245,332	29,593,582	27,991,553	26,587,055
Variance Analysis Compare to Board Approved										
Customers		4.31%	8.93%	9.95%	12.75%	15.60%	18.57%	21.65%	24.73%	27.91%
kWh		(2.53%)	1.14%	8.01%	4.22%	1.85%	(1.69%)	(6.88%)	(11.92%)	(16.34%)
General Service 50 to 4,999 kW										
Customers	66	67	67	72	72	72	72	72	72	72
kWh	51,329,341	50,921,722	50,592,267	54,636,276	54,889,863	55,988,819	58,150,841	60,182,952	62,540,635	64,881,031
kW	147,666	130,935	135,394	141,987	154,174	157,261	163,334	169,041	175,664	182,237
Variance Analysis Compare to Board Approved										
Customers		1.52%	1.77%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%
kWh		(0.79%)	(1.44%)	6.44%	6.94%	9.08%	13.29%	17.25%	21.84%	26.40%
kW		(11.33%)	(8.31%)	(3.85%)	4.41%	6.50%	10.61%	14.48%	18.96%	23.41%
Sentinel Lighting										
Connections	237	168	169	166	163	161	159	157	155	153
kWh	104,942	101,844	107,980	103,536	100,673	98,320	96,006	93,733	91,498	89,302
kW	292	283	300	288	280	273	267	260	254	248
Variance Analysis Compare to Board Approved										
Connections		(29.11%)	(28.52%)	(30.06%)	(31.22%)	(32.07%)	(32.91%)	(33.76%)	(34.60%)	(35.44%)
kWh		(2.95%)	2.89%	(1.34%)	(4.07%)	(6.31%)	(8.51%)	(10.68%)	(12.81%)	(14.90%)
kW		(3.08%)	2.72%	(1.51%)	(4.20%)	(6.44%)	(8.64%)	(10.81%)	(12.93%)	(15.02%)
Street Lighting										
Connections	2,889	2,843	2,923	2,898	2,963	3,030	3,098	3,168	3,239	3,312
kWh	1,516,831	1,472,134	1,625,553	1,106,444	657,419	669,627	681,779	694,234	706,615	719,275
kW	4,432	4,149	4,581	3,140	1,854	1,889	1,923	1,958	1,993	2,029
Variance Analysis Compare to Board Approved										
Connections		(1.58%)	1.19%	0.30%	2.56%	4.88%	7.23%	9.66%	12.11%	14.64%
kWh		(2.95%)	7.17%	(27.06%)	(56.66%)	(55.85%)	(55.05%)	(54.23%)	(53.42%)	(52.58%)
kW		(6.39%)	3.37%	(29.16%)	(58.17%)	(57.39%)	(56.62%)	(55.82%)	(55.03%)	(54.23%)

Unmetered Scattered Load										
Connections	78	78	76	76	75	74	73	72	71	70
kWh	474,652	473,256	465,478	465,055	496,660	530,367	566,301	604,596	645,392	688,837
Variance Analysis Compare to Board Approved										
Connections		(0.53%)	(3.10%)	(2.56%)	(3.85%)	(5.13%)	(6.41%)	(7.69%)	(8.97%)	(10.26%)
kWh		(0.29%)	(1.93%)	(2.02%)	4.64%	11.74%	19.31%	27.38%	35.97%	45.12%
Total										
Customer/Connections	18,369	18,286	18,736	19,073	19,718	20,319	21,157	22,400	23,549	24,624
kWh	233,355,655	232,518,310	237,858,387	242,165,066	238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979
kW from applicable classes	152,390	135,367	140,275	145,414	156,308	159,423	165,523	171,260	177,911	184,514
Variance Analysis Compare to Board Approved										
Customer/Connections		(0.45%)	2.00%	3.83%	7.34%	10.61%	15.18%	21.94%	28.20%	34.05%
kWh		(0.36%)	1.93%	3.78%	2.39%	2.67%	4.04%	6.25%	8.38%	9.93%
kW from applicable classes		(11.17%)	(7.95%)	(4.58%)	2.57%	4.61%	8.62%	12.38%	16.75%	21.08%

ACCURACY OF LOAD FORECAST AND VARIANCE ANALYSIS

Variance Analysis of Distribution Revenue and Billing Determinants

The following discussion provides a year over year variance analysis on InnPower Corporation's distribution revenue and billing determinants. The variance analysis will compare 2013 Actual to 2013 Board Approved; 2014 Actual to 2013 Actual; 2015 Actual to 2014 Actual; 2016 Bridge to 2015 Actual and 2017 Test Year to 2016 Bridge Year. The distribution revenue variance analysis for 2013 is based on information provided in Table 3.31.The billing determinant variance analysis is based on data outlined in Table 3-32. The overall variance analysis has been provided based on InnPower Corporation's materiality of $50,000; the materiality calculation being noted earlier in Exhibit 1 of this Application.

2013 Actual vs 2013 Board Approved

Table 3-31 Distribution Revenue - 2013 Actual vs 2013 Board Approved

Distribution Revenue	2013 Board Approved	2013 Actuals	2013 Actuals vs 2013 BA
Residential	6,624,915	6,019,813	- 605,102
General Service <50 kW	579,590	613,448	33,858
General Service >50 kW	461,495	554,717	93,222
Sentinel Lights	48,921	44,732	- 4,189
Street Lighting	396,836	357,172	- 39,664
Umetered Scattered Load	15,862	17,504	1,642
Total	**8,127,619**	**7,607,386**	**- 520,233**

There are two significant drivers of the variance between 2013 Board Approved distribution revenue and 2013 Actual; volumetric and customer/connection count variances and the assumption of a full year of revenue at the Board Approved rates set in the 2013 COS. InnPower Corporation did not change to a fiscal year reporting until January 1, 2014. Therefore, the first four months of revenues were calculated at 2012 rates.

For the Residential class, variable and fixed revenues were down revenue by ($605,102) down compared to Board Approved as a result of four months of revenue at 2012 variable and fixed rates.

For the GS> 50 kW rate class revenues were up by $93,222 which is attributable to the 1st 4 months of 2012 rates for fixed service charges which were $320.64. Effective May 1, 2013 the fixed rate dropped to $144.98. Variable revenue for the GS > 50 to 2,999 kW class was down primarily as a result of kW at 2012 variable rates for four months of 2013.

The Street Lighting variance was a result of decreased demand as any replacements of street lights due to maintenance were replaced with LED bulbs.

The variances in the other classes are immaterial.

Table 3-32 Billing Determinants - 2013 Actual vs 2013 Board Approved

	Customer Connections			kWh		kW		
Class	2013 Board Approved	2013 Actual	Difference	2013 Board Approved	2013 Actual	2013 Board Approved	2013 Actual	Volumetric Difference
Residential	14,189	14,181	-8	148,148,873	148,570,811	0	0	421,938
GS< 50 kW	910	949	39	31,781,016	30,978,542	0	0	-802,474
GS > 50 kW	66	67	1	51,329,341	50,921,722	147,666	130,935	-16,731
Sentinel Lighting	237	168	-69	104,942	101,844	292	283	-9
Street Lighting	2,889	2,843	-46	1,516,831	1,472,134	4,432	4,149	-283
Unmetered Scattered Load	78	78	0	474,652	473,256	0	0	-1,396
Total	18,369	18,286	-83	233,355,655	232,518,309	152,390	135,367	-398,955

The GS > 50 rate class experienced a significant drop in demand in 2013 due to the re-structuring of one of InnPower Corporation's larger customers.

2014 Actual vs 2013 Actual

Table 3-33 Distribution Revenue - 2014 Actual vs 2013 Actual

Distribution Revenue	2013 Actuals	2014 Actuals	2014 Actuals to 2013 Actuals
Residential	6,019,813	6,122,233	102,420
General Service <50 kW	613,448	647,909	34,461
General Service >50 kW	554,717	521,306	- 33,411
Sentinel Lights	44,732	31,112	- 13,620
Street Lighting	357,172	351,542	- 5,630
Umetered Scattered Load	17,504	25,775	8,271
Total	**7,607,386**	**7,699,876**	**92,490**

For the Residential class 2014 distribution revenue was higher than 2013 due to increased variable revenue as a result of the full year effect of new variable/fixed rates and increased customer count. Increases to variable revenue were as a result of an extremely colder winter in 2013 - 2014

Table 3-34 Billing Determinants - 2014 Actual vs 2013 Actual

	Customer Connections			kWh		kW	
Class	2013 Actual	2014 Actual	Difference	2013 Actual	2014 Actual	2013 Actual	2014 Actual
Residential	14,181	14,509	328	148,570,811	152,923,212	0	0
GS< 50 kW	949	991	42	30,978,542	32,143,896	0	0
GS > 50 kW	67	67	0	50,921,722	50,921,722	130,935	135,394
Sentinel Lighting	168	169	1	101,844	107,980	283	300
Street Lighting	2,843	2,923	80	1,472,134	1,625,553	4,149	4,581
Unmetered Scattered Load	78	76	-2	473,256	465,478	0	0
Total	**18,286**	**18,735**	**449**	**232,518,309**	**238,187,841**	**135,367**	**140,275**

The increased Customer count in the Residential rate class accounts for the increase in kWh over the 2013 year end.

The GS.>50 kW rate class although showing an increase in demand by 3.4% over 2013 is still not back to full forecasted levels. This is a result of a slow-down experienced by the industrial customers in this class.

All other year over year changes are immaterial.

2015 Actual vs 2014 Actual

Table 3-35 Distribution Revenue - 2015 Actual vs 2014 Actual

Distribution Revenue	2014 Actuals	2015 Actuals	2015 Actuals to 2014 Actuals
Residential	6,122,233	7,013,019	890,786
General Service <50 kW	647,909	753,743	105,834
General Service >50 kW	521,306	616,408	95,102
Sentinel Lights	31,112	29,171	- 1,941
Street Lighting	351,542	346,860	- 4,682
Umetered Scattered Load	25,775	16,741	- 9,034
Total	**7,699,876**	**8,775,942**	**1,076,066**

Revenues in the 2015 year increased due to increased customer connections and ICM Capital rate riders (fixed and variable) effective January 1, 2015 for a two year period affecting increase in revenue for the Residential, GS<50 and the GS > 50 rate classes.

The change in year over year distribution revenue in each of the other classes is immaterial.

Table 3-36 Billing Determinants - 2015 Actual vs 2014 Actual

	Customer Connections			kWh		kW		
Class	2014 Actual	2015 Actual	Difference	2014 Actual	2015 Actual	2014 Actual	2015 Actual	Volumetric Difference
Residential	14,509	14,862	353	152,923,212	151,526,915	0	0	-1,396,297
GS< 50 kW	991	1,001	10	32,143,896	34,326,840	0	0	2,182,944
GS > 50 kW	67	72	5	50,921,722	54,636,276	135,394	141,987	6,593
Sentinel Lighting	169	166	-3	107,980	103,536	300	288	-12
Street Lighting	2,923	2,898	-25	1,625,553	1,106,444	4,581	3,140	-1,441
Unmetered Scattered Load	76	76	0	465,478	465,055	0	0	-423
Total	**18,735**	**19,075**	**340**	**238,187,841**	**242,165,066**	**140,275**	**145,415**	**791,364**

The Residential class consumption was down by .92% in 2015, which can be attributed to milder weather compared to the 2013 – 2014 timeframe although customer connections have increased by 353.

The GS < 50 rate class has seen a 6.8% increase in consumption in 2015 which is attribute to and an increase in customer connections.

The GS > 50 rate class has also seen an upswing of 4.9% in demand plus an additional 5 customers.

The Street Lighting rate class reflects a significant decrease in demand due to a LED conversion program undertaken by the TOI throughout the 2015 timeframe. The conversion program was completed in December 2015 and as such this rate class will see further reductions.

2016 Bridge vs 2015 Actual

Table 3-37 Distribution Revenue - 2016 Bridge vs 2015 Actual

Distribution Revenue	2015 Actuals	2016 Bridge (Forecasted)	2016 Bridge to 2015 Actuals
Residential	7,013,019	6,624,915	- 388,104
General Service <50 kW	753,743	579,590	- 174,153
General Service >50 kW	616,408	461,495	- 154,913
Sentinel Lights	29,171	48,921	19,750
Street Lighting	396,836	396,836	-
Umetered Scattered Load	15,862	15,862	-
Total	**8,825,039**	**8,127,619**	**- 697,420**

The 2016 Bridge Year (Forecast) is based on the 2013 Board Approved forecast. This is reflecting reductions in the Residential, GS< 50 and the GS>50 rate classes. With the increase year over year InnPower Corporation does not anticipate a huge variance in these rate classes at year end.

Table 3-38 Billing Determinants - 2016 Bridge vs 2015 Actual

	Customer Connections			kWh		kW		
Class	2015 Actual	2016 Bridge	Difference	2015 Actual	2016 Bridge	2015 Actual	2016 Bridge	Volumetric Difference
Residential	14,862	14,181	-681	151,526,915	149,674,174	0	0	-1,852,741
GS< 50 kW	1,001	949	-52	34,326,840	33,122,069	0	0	-1,204,771
GS > 50 kW	72	67	-5	54,636,276	54,889,863	141,987	154,174	12,187
Sentinel Lighting	166	168	2	103,536	100,673	288	280	-8
Street Lighting	2,898	2,843	-55	1,106,444	657,419	3,140	1,854	-1,286
Unmetered Scattered Load	76	78	2	465,055	496,660	0	0	31,605
Total	**19,075**	**18,286**	**-789**	**242,165,066**	**238,940,858**	**145,415**	**156,308**	**-3,015,014**

The 2016 Bridge Year Customer Connections is based on the 2013 Actuals, which is reflecting a significant decline as yearend numbers for 2016 are not available at this time. With the increase year over year InnPower Corporation does not anticipate a huge variance in these rate classes at year end.

Table 3-39 Distribution Revenue - 2017 Test vs 2016 Bridge

Distribution Revenue	2016 Bridge	2017 Test Year	2017 Test to 2016 Bridge
Residential	6,624,915	6,834,382	209,467
General Service <50 kW	579,590	702,040	122,450
General Service >50 kW	461,495	597,101	135,606
Sentinel Lights	48,921	35,576	- 13,345
Street Lighting	396,836	282,679	- 114,157
Umetered Scattered Load	15,862	18,774	2,912
Total	**8,127,619**	**8,470,552**	**342,933**

The proposed Test Year distribution revenue is a reflection of the 2017 COS application and the proposed base revenue requirement of InnPower Corporation. The variance in distribution revenue over the Bridge Year is a result of the proposed increases to fixed and variable distribution revenue in the Test Year.

Table 3-40 Billing Determinants - 2017 Test vs 2016 Bridge

	Customer Connections			kWh		kW		
Class	2016 Bridge	2017 Test	Difference	2016 Bridge	2017 Test	2016 Bridge	2017 Test	Volumetric Difference
Residential	14,181	15,930	1,749	149,674,174	149,932,587	0	0	258,413
GS< 50 kW	949	1,052	103	33,122,069	32,368,433	0	0	-753,636
GS > 50 kW	67	72	5	54,889,863	55,988,819	154,174	157,261	3,087
Sentinel Lighting	168	161	-7	100,673	98,320	280	273	-7
Street Lighting	2,843	3,030	187	657,419	669,627	1,854	1,889	35
Unmetered Scattered Load	78	74	-4	496,660	530,367	0	0	33,707
Total	**18,286**	**20,319**	**2,033**	**238,940,858**	**239,588,153**	**156,308**	**159,423**	**-458,401**

Year over year changes are a result of the inputs of the load forecast model which is explained in detail above.

Table 3.41: Appendix 2-IA Summary and Variances of Actual and Forecast Data

Appendix 2-IA Summary and Variances of Actual and Forecast Data

Appendix 2-IA
Summary and Variances of Actual and Forecast Data

Replace "Rate Class #" with the appropriate rate classification.

	2013 Board Approved	2013	2014	2015	2016 Bridge	2017 Test	2018 Test	2019 Test	2020 Test	2021 Test
Residential										
# of Customers	14,189	14,181	14,509	14,862	15,419	15,930	16,676	17,824	18,877	19,853
kWh	148,148,873	148,570,811	152,923,212	151,526,915	149,674,174	149,932,101	152,052,309	156,772,519	160,929,748	163,557,480
kW										
Variance Analysis										
# of Customers		-0.06%	2.26%	4.74%	8.67%	12.27%	17.53%	25.62%	33.04%	39.92%
kWh		0.28%	3.22%	2.28%	1.03%	1.20%	2.63%	5.82%	8.63%	10.40%
kW		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
GS< 50 kW										
# of Customers	910	949	991	1,001	1,026	1,052	1,079	1,107	1,135	1,164
kWh	31,781,016	30,978,542	32,143,896	34,326,840	33,122,069	32,368,433	31,245,332	29,593,582	27,991,553	26,587,055
kW										
Variance Analysis										
# of Customers		4.29%	8.90%	10.00%	12.75%	15.60%	18.57%	21.65%	24.73%	27.91%
kWh		-2.53%	1.14%	8.01%	4.22%	1.85%	-1.69%	-6.88%	-11.92%	-16.34%
kW		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
GS >50										
# of Customers	66	67	67	72	72	72	72	72	72	72
kWh	51,329,341	50,921,722	50,592,267	54,636,276	54,889,863	55,988,819	58,150,841	60,182,952	62,510,635	64,881,031
kW	147,666	130,935	135,394	141,987	154,174	157,261	163,334	169,041	175,664	182,237
Variance Analysis										
# of Customers		1.52%	1.77%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%
kWh		-0.79%	-1.44%	6.44%	6.94%	9.08%	13.29%	17.25%	21.78%	26.40%
kW		-11.33%	-8.31%	-3.85%	4.41%	6.50%	10.61%	14.48%	18.96%	23.41%
Streetlighting										
# of Customers	2,889	2,843	2,923	2,898	2,963	3,030	3,098	3,168	3,239	3,312
kWh	1,516,831	1,472,134	1,625,553	1,106,444	657,419	669,627	681,779	694,234	706,615	719,275
kW	4,432	4,149	4,581	3,140	1,854	1,889	1,923	1,958	1,993	2,029
Variance Analysis										
# of Customers		-1.58%	1.19%	0.30%	2.56%	4.88%	7.23%	9.66%	12.11%	14.64%
kWh		-2.95%	7.17%	-27.06%	-56.66%	-55.85%	-55.05%	-54.23%	-53.42%	-52.58%
kW		-6.39%	3.37%	-29.16%	-58.17%	-57.39%	-56.62%	-55.82%	-55.03%	-54.23%
Sentinel Lighting										
# of Customers	237	168	169	166	163	161	159	157	155	153
kWh	104,942	101,844	107,980	103,536	100,673	98,320	96,006	- 93,733	91,498	89,302
kW	292	282	300	288	280	273	267	260	254	248
Variance Analysis										
# of Customers		-29.11%	-28.52%	-30.06%	-31.22%	-32.07%	-32.91%	-33.76%	-34.60%	-35.44%
kWh		-2.95%	2.89%	-1.34%	-4.07%	-6.31%	-8.51%	-189.32%	-12.81%	-14.90%
kW		-3.42%	2.72%	-1.51%	-4.20%	-6.44%	-8.56%	-10.81%	-12.93%	-15.02%
USL										
# of Customers	78	78	76	76	75	74	73	72	71	70
kWh	474,652	473,256	465,478	465,055	496,660	530,367	566,301	604,596	645,392	688,837
kW										
Variance Analysis										
# of Customers		-0.53%	-3.10%	-2.56%	-3.85%	-5.13%	-6.41%	-7.69%	-8.97%	-10.26%
kWh		-0.29%	-1.93%	-2.02%	4.64%	11.74%	19.31%	27.38%	35.97%	45.12%
kW		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Totals

Customers / Connections	18,369	18,286	18,736	19,074	19,718	20,319	21,157	22,400	23,549	24,624
kWh	233,355,655	232,518,309	237,858,386	242,165,066	238,940,858	239,587,667	242,792,569	247,754,150	252,875,441	256,522,979
kW from applicable classes	152,390	135,366	140,275	145,414	156,308	159,423	165,524	171,260	177,911	184,514

Totals - Variance

Customers / Connections		-0.45%	2.00%	3.84%	7.34%	10.61%	15.18%	21.94%	28.20%	34.05%
kWh		-0.36%	1.93%	3.78%	2.39%	2.67%	4.04%	6.17%	8.36%	9.93%
kW from applicable classes		-11.17%	-7.95%	-4.58%	2.57%	4.61%	8.62%	12.38%	16.75%	21.08%

Other Revenue

Other Distribution Revenues are revenues that are distribution related but are sourced from means other than distribution rates. For this reason, other revenues are deducted from InnPower Corporation's proposed revenue requirement. Further details on the derivation of the Revenue Requirement are presented at Exhibit 6.

Other Distribution Revenues includes items such as:

- Specific Service Charges
- Late Payment Charges
- Other Distribution Revenues
- Other Income and Expenses

The following table reflects InnPower Corporations Other Operating Revenues for the historical and 2017 – 2018 Test Years:

Table 3.42: Appendix 2-H Other Operating Revenue

Appendix 2-H
Other Operating Revenue

USoA #	USoA Description	2013 Actual	2014 Actual	2015 Actual	Bridge Year[2]	Test Year	Test Year	Test Year	Test Year	Test Year
		2013	2013	2015	2016	2017	2018	2019	2020	2021
	Reporting Basis									
4235	Specific Service Charges	$ 116,157	$ 139,676	$ 156,170	$ 192,331	$ 170,000	$ 173,300	$ 176,700	$ 180,200	$ 183,800
4225	Late Payment Charges	$ 73,904	$ 84,703	$ 96,925	$ 108,150	$ 78,000	$ 80,300	$ 82,700	$ 85,200	$ 87,800
4210	Rent from Electric Property	$ 153,289	$ 169,620	$ 161,207	$ 155,000	$ 326,649	$ 326,600	$ 329,900	$ 329,900	$ 329,900
4245	Deferred Revenues - Contributions	$ -	$ -	$ 313,330	$ 485,884	$ 667,849	$ 942,892	$ 1,275,688	$ 1,615,091	$ 1,971,565
4355	Gain on Dispositions	$ -	-$ 4,450	-$ 440,397	-$ 166,450	-$ 183,094	-$ 192,249	-$ 201,861	-$ 211,954	-$ 223,690
4375	Revenues from Non Utility Operations	$ 682,460	$ 801,855	$ 775,120	$ 1,077,311	$ 1,087,311	$ 1,120,000	$ 1,153,700	$ 1,188,300	$ 1,223,900
4380	Expenses of Non Utility Operations	-$ 627,785	-$ 718,395	-$ 689,823	-$ 980,311	-$ 983,861	-$ 1,013,300	-$ 1,043,700	-$ 1,075,000	-$ 1,107,300
4390	Misc Non Operating Expense	$ 11,015	$ 10,882	$ 30,116	$ 210,000	$ 160,000	$ 164,800	$ 169,700	$ 174,800	$ 180,000
etc.										
Specific Service Charges (4235)		$ 116,157	$ 139,676	$ 156,170	$ 192,331	$ 170,000	$ 173,300	$ 176,700	$ 180,200	$ 183,800
Late Payment Charges (4225)		$ 73,904	$ 84,703	$ 96,925	$ 108,150	$ 78,000	$ 80,300	$ 82,700	$ 85,200	$ 87,800
Other Operating Revenues (4210 & 4245)		$ 153,289	$ 169,620	$ 474,537	$ 640,884	$ 994,498	$ 1,269,492	$ 1,605,588	$ 1,944,991	$ 2,301,465
Other Income or Deductions (4380 & 4390)		$ 65,690	$ 89,892	-$ 324,985	$ 140,550	$ 80,356	$ 79,251	$ 77,839	$ 76,146	$ 72,910
Total		$ 409,040	$ 483,891	$ 402,646	$ 1,081,916	$ 1,322,854	$ 1,602,344	$ 1,942,827	$ 2,286,537	$ 2,645,975

Appendix 3-A Monthly Data Used for Regression Analysis

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	Spring Fall Flag	Number of Customers - 3 Main Classes	Predicted Purchases
Jan-06	23,275,097	551.8	0.0	31	0	13,803	23,116,209
Feb-06	21,949,173	604.3	0.0	28	0	13,808	21,884,888
Mar-06	22,008,625	516.6	0.0	31	1	13,817	21,513,310
Apr-06	17,506,649	293.3	0.0	30	1	13,833	18,083,189
May-06	16,720,482	136.9	26.0	31	1	13,832	17,537,736
Jun-06	17,643,645	19.5	73.6	30	0	13,744	17,995,593
Jul-06	20,377,985	0.0	167.3	31	0	13,764	21,240,865
Aug-06	18,444,801	4.2	101.6	31	0	13,786	19,309,232
Sep-06	15,835,529	80.9	12.9	30	1	13,796	15,783,821
Oct-06	18,304,414	288.3	1.1	31	1	13,814	18,674,492
Nov-06	19,538,671	382.2	0.0	30	1	13,635	19,089,721
Dec-06	22,793,828	500.5	0.0	31	0	13,832	22,487,478
Jan-07	24,279,310	647.1	0.0	31	0	13,849	24,340,328
Feb-07	23,881,688	740.1	0.0	28	0	13,861	23,622,173
Mar-07	22,297,190	546.7	0.0	31	1	13,865	21,918,750
Apr-07	18,569,417	356.4	0.0	30	1	13,869	18,896,816
May-07	16,382,762	136.4	22.4	31	1	13,873	17,445,075
Jun-07	17,880,105	16.5	99.2	30	0	13,881	18,812,914
Jul-07	18,476,520	3.2	106.1	31	0	13,905	19,500,297
Aug-07	19,239,334	5.2	141.0	31	0	13,925	20,597,391
Sep-07	16,489,843	36.9	47.5	30	1	13,949	16,368,148
Oct-07	17,241,375	137.7	19.8	31	1	13,987	17,446,462
Nov-07	20,822,608	462.5	0.0	30	1	14,001	20,305,057
Dec-07	25,594,484	630.7	0.0	31	0	14,035	24,238,642
Jan-08	25,337,708	623.5	0.0	31	0	14,052	24,157,664
Feb-08	23,919,251	674.7	0.0	29	0	14,069	23,548,157
Mar-08	23,324,392	610.2	0.0	31	1	14,091	22,844,176
Apr-08	17,845,473	253.9	0.0	30	1	14,109	17,742,884
May-08	17,203,595	193.5	2.5	31	1	14,151	17,714,435
Jun-08	17,657,148	22.7	71.5	30	0	14,186	18,220,384
Jul-08	19,399,006	1.0	111.0	31	0	14,218	19,797,449
Aug-08	18,496,935	12.7	64.0	31	0	14,260	18,539,702
Sep-08	16,944,225	59.0	26.7	30	1	14,297	16,209,413
Oct-08	18,736,114	278.6	0.0	31	1	14,337	18,812,993
Nov-08	20,914,296	451.6	0.0	30	1	14,348	20,362,999
Dec-08	25,844,885	654.6	0.0	31	0	14,388	24,737,519
Jan-09	27,698,758	830.2	0.0	31	0	14,411	26,958,376
Feb-09	22,854,687	606.4	0.0	28	0	14,426	22,258,575
Mar-09	22,750,704	533.8	0.0	31	1	14,438	22,078,544
Apr-09	18,949,042	305.8	1.2	30	1	14,448	18,622,427
May-09	17,348,781	158.8	6.9	31	1	14,455	17,582,689
Jun-09	17,392,957	49.3	34.2	30	0	14,460	17,575,166
Jul-09	18,006,297	6.2	43.7	31	0	14,710	18,093,875
Aug-09	20,135,392	9.8	91.0	31	0	14,976	19,726,196
Sep-09	17,368,091	55.2	20.9	30	1	15,073	16,421,424
Oct-09	19,458,169	287.8	0.0	31	1	15,110	19,363,054
Nov-09	19,998,430	361.2	0.0	30	1	15,107	19,652,858
Dec-09	25,277,881	631.3	0.0	31	0	14,563	24,542,893

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	Spring Fall Flag	Number of Customers - 3 Main Classes	Predicted Purchases
Jan-10	26,451,956	720.0	0.0	31	0	14,554	25,653,118
Feb-10	22,355,018	598.3	0.0	28	0	14,553	22,228,095
Mar-10	21,335,193	422.8	0.0	31	1	14,566	20,754,798
Apr-10	17,366,211	225.1	0.0	30	1	14,576	17,643,191
May-10	18,594,842	107.9	45.7	31	1	14,570	18,186,554
Jun-10	18,232,281	21.7	58.7	30	0	14,584	18,042,437
Jul-10	22,225,962	1.8	164.9	31	0	14,599	21,659,779
Aug-10	21,301,865	2.1	138.8	31	0	14,633	20,889,406
Sep-10	17,785,838	78.1	31.5	30	1	14,646	16,791,574
Oct-10	18,734,173	241.6	0.0	31	1	14,664	18,531,524
Nov-10	20,451,455	405.3	0.0	30	1	14,688	19,971,901
Dec-10	25,404,585	676.2	0.0	31	0	14,707	25,188,370
Jan-11	26,274,474	775.3	0.0	31	0	14,713	26,437,790
Feb-11	22,971,970	654.2	0.0	28	0	14,716	23,022,559
Mar-11	22,951,605	572.8	0.0	31	1	14,728	22,731,881
Apr-11	18,914,567	332.3	0.0	30	1	14,729	19,077,064
May-11	17,615,740	134.1	13.0	31	1	14,733	17,613,737
Jun-11	17,571,916	19.0	52.2	30	0	14,742	17,899,723
Jul-11	22,292,830	0.0	198.5	31	0	14,759	22,748,255
Aug-11	19,354,570	0.0	122.2	31	0	14,772	20,436,592
Sep-11	17,323,768	48.2	39.7	30	1	14,772	16,735,647
Oct-11	18,576,164	235.5	2.4	31	1	14,794	18,600,820
Nov-11	19,598,868	342.1	0.0	30	1	14,809	19,245,242
Dec-11	23,311,694	534.0	0.0	31	0	14,818	23,462,492
Jan-12	24,487,281	611.1	0.0	31	0	14,826	24,436,697
Feb-12	21,711,327	531.7	0.0	29	0	14,835	22,180,575
Mar-12	20,140,444	349.4	0.2	31	1	14,856	20,000,935
Apr-12	18,335,839	321.7	0.0	30	1	14,867	19,021,332
May-12	17,673,429	80.7	36.7	31	1	14,877	17,743,533
Jun-12	19,474,755	23.2	101.6	30	0	14,882	19,532,607
Jul-12	22,780,193	0.0	195.4	31	0	14,921	22,745,073
Aug-12	20,627,757	2.0	112.1	31	0	14,953	20,256,484
Sep-12	17,795,946	85.0	35.6	30	1	14,968	17,183,888
Oct-12	17,475,407	242.5	1.1	31	1	15,012	18,771,829
Nov-12	20,981,769	434.0	0.0	30	1	15,036	20,528,322
Dec-12	23,645,692	533.5	0.0	31	0	15,062	23,593,601
Jan-13	24,487,281	624.4	0.0	31	0	15,076	24,744,413
Feb-13	21,711,327	631.5	0.0	28	0	15,088	22,946,181
Mar-13	20,140,444	554.8	0.0	31	1	15,100	22,714,599
Apr-13	18,335,839	358.6	0.0	30	1	15,107	19,620,167
May-13	17,673,429	109.1	23.1	31	1	15,139	17,834,512
Jun-13	19,474,755	33.0	59.6	30	0	15,172	18,542,297
Jul-13	22,780,193	1.3	120.8	31	0	15,207	20,654,834
Aug-13	20,627,757	4.4	93.8	31	0	15,244	19,893,999
Sep-13	17,795,946	83.0	28.1	30	1	15,260	17,094,883
Oct-13	17,475,407	208.5	0.4	31	1	15,288	18,478,147
Nov-13	20,981,769	478.2	0.0	30	1	15,334	21,251,537
Dec-13	23,645,692	687.9	0.0	31	0	15,352	25,697,936

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	Spring Fall Flag	Number of Customers - 3 Main Classes	Predicted Purchases
Jan-14	27,344,318	825.9	0.0	31	0	15,406	27,463,445
Feb-14	23,698,938	737.1	0.0	28	0	15,425	24,463,334
Mar-14	24,427,815	690.6	0.0	31	1	15,444	24,615,409
Apr-14	19,352,181	356.9	0.0	30	1	15,478	19,807,273
May-14	17,549,445	132.1	11.9	31	1	15,497	17,984,484
Jun-14	18,258,424	14.1	68.1	30	0	15,515	18,755,741
Jul-14	19,452,973	4.0	71.0	31	0	15,587	19,388,762
Aug-14	19,828,414	8.8	81.8	31	0	15,628	19,800,397
Sep-14	17,976,813	69.7	30.1	30	1	15,648	17,206,474
Oct-14	19,058,731	224.3	1.3	31	1	15,688	18,928,942
Nov-14	22,053,999	482.1	0.0	30	1	15,720	21,517,485
Dec-14	24,252,934	557.3	0.0	31	0	15,775	24,293,521
Jan-15	26,951,654	792.4	0.0	31	0	15,793	27,259,700
Feb-15	25,657,093	856.8	0.0	28	0	15,802	26,180,253
Mar-15	23,477,412	615.5	0.0	31	1	15,826	23,885,792
Apr-15	18,850,232	313.7	0.0	30	1	15,843	19,469,201
May-15	18,121,126	89.3	34.1	31	1	15,856	18,322,789
Jun-15	18,217,550	33.8	32.3	30	0	15,883	18,122,176
Jul-15	21,783,994	4.0	114.3	31	0	15,881	20,869,981
Aug-15	20,830,602	4.4	88.6	31	0	15,970	20,143,929
Sep-15	19,861,337	31.1	81.9	30	1	16,005	18,496,092
Oct-15	18,777,773	249.8	0.0	31	1	16,050	19,413,484
Nov-15	20,148,030	345.0	0.0	30	1	16,127	20,022,349
Dec-15	22,509,584	429.7	0.0	31	0	16,168	22,909,967
Jan-16		700.2	0.0	31	0	16,222	26,340,934
Feb-16		663.5	0.0	29	0	16,275	24,647,325
Mar-16		541.3	0.0	31	1	16,329	23,236,388
Apr-16		311.8	0.1	30	1	16,383	19,751,902
May-16		127.9	22.2	31	1	16,436	18,773,306
Jun-16		25.3	65.1	30	0	16,490	19,353,119
Jul-16		2.2	129.3	31	0	16,544	21,675,094
Aug-16		5.4	103.5	31	0	16,598	20,961,190
Sep-16		62.7	35.5	30	1	16,651	17,846,162
Oct-16		239.5	2.6	31	1	16,705	19,730,828
Nov-16		414.4	0.0	30	1	16,759	21,250,145
Dec-16		583.6	0.0	31	0	16,812	25,206,741
Jan-17		700.2	0.0	31	0	16,849	26,693,723
Feb-17		663.5	0.0	28	0	16,887	24,359,420
Mar-17		541.3	0.0	31	1	16,924	23,570,622
Apr-17		311.8	0.1	30	1	16,961	20,076,860
May-17		127.9	22.2	31	1	16,998	19,088,986
Jun-17		25.3	65.1	30	0	17,035	19,659,522
Jul-17		2.2	129.3	31	0	17,073	21,972,221
Aug-17		5.4	103.5	31	0	17,110	21,249,039
Sep-17		62.7	35.5	30	1	17,147	18,124,734
Oct-17		239.5	2.6	31	1	17,184	20,000,123
Nov-17		414.4	0.0	30	1	17,221	21,510,163
Dec-17		583.6	0.0	31	0	17,259	25,457,481

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	Spring Fall Flag	Number of Customers - 3 Main Classes	Predicted Purchases
Jan-18		700.2	0.0	31	0	17,346	26,972,716
Feb-18		663.5	0.0	28	0	17,433	24,666,667
Mar-18		541.3	0.0	31	1	17,521	23,906,121
Apr-18		311.8	0.1	30	1	17,608	20,440,611
May-18		127.9	22.2	31	1	17,696	19,480,991
Jun-18		25.3	65.1	30	0	17,783	20,079,779
Jul-18		2.2	129.3	31	0	17,871	22,420,731
Aug-18		5.4	103.5	31	0	17,958	21,725,802
Sep-18		62.7	35.5	30	1	18,046	18,629,750
Oct-18		239.5	2.6	31	1	18,133	20,533,392
Nov-18		414.4	0.0	30	1	18,221	22,071,684
Dec-18		583.6	0.0	31	0	18,308	26,047,255
Jan-19		700.2	0.0	31	0	18,415	27,573,425
Feb-19		663.5	0.0	28	0	18,522	25,278,309
Mar-19		541.3	0.0	31	1	18,629	24,528,698
Apr-19		311.8	0.1	30	1	18,736	21,074,123
May-19		127.9	22.2	31	1	18,843	20,125,437
Jun-19		25.3	65.1	30	0	18,950	20,735,160
Jul-19		2.2	129.3	31	0	19,056	23,087,045
Aug-19		5.4	103.5	31	0	19,163	22,403,052
Sep-19		62.7	35.5	30	1	19,270	19,317,934
Oct-19		239.5	2.6	31	1	19,377	21,232,510
Nov-19		414.4	0.0	30	1	19,484	22,781,737
Dec-19		583.6	0.0	31	0	19,591	26,768,242
Jan-20		700.2	0.0	31	0	19,667	28,276,947
Feb-20		663.5	0.0	29	0	19,743	26,595,782
Mar-20		541.3	0.0	31	1	19,819	25,197,290
Apr-20		311.8	0.1	30	1	19,894	21,725,249
May-20		127.9	22.2	31	1	19,970	20,759,098
Jun-20		25.3	65.1	30	0	20,046	21,351,355
Jul-20		2.2	129.3	31	0	20,122	23,685,776
Aug-20		5.4	103.5	31	0	20,198	22,984,317
Sep-20		62.7	35.5	30	1	20,274	19,881,733
Oct-20		239.5	2.6	31	1	20,349	21,778,844
Nov-20		414.4	0.0	30	1	20,425	23,310,606
Dec-20		583.6	0.0	31	0	20,501	27,279,646
Jan-21		700.2	0.0	31	0	20,592	28,796,558
Feb-21		663.5	0.0	28	0	20,682	26,492,186
Mar-21		541.3	0.0	31	1	20,772	25,733,317
Apr-21		311.8	0.1	30	1	20,863	22,269,484
May-21		127.9	22.2	31	1	20,953	21,311,541
Jun-21		25.3	65.1	30	0	21,044	21,912,006
Jul-21		2.2	129.3	31	0	21,134	24,254,635
Aug-21		5.4	103.5	31	0	21,225	23,561,383
Sep-21		62.7	35.5	30	1	21,315	20,467,008
Oct-21		239.5	2.6	31	1	21,406	22,372,327
Nov-21		414.4	0.0	30	1	21,496	23,912,296
Dec-21		583.6	0.0	31	0	21,586	27,889,544

LIST OF APPENDICES

A	**2017 - 2021 Load Forecast**

APPENDIX A: 2017 – 2021 LOAD FORECAST

Table 1: R Square and Adjusted R Square Values

Class	R Square	Adjusted R Square
Residential	78%	77%
General Service < 50 kW	72%	71%
General Service 50 to 4,999 kW	3%	0%
Power Purchased	94%	94%

Table 2: Summary of Load and Customer/Connection Forecast

Year	Billed (GWh)	Growth (GWh)	Percent Change	Customer/ Connection Count	Growth	Percent Change (%)
Billed Energy (GWh) and Customer Count / Connections						
2013 Board Approved	233.4			18,369		
2006 Actual	219.4			16,394		
2007 Actual	219.8	0.4	0.2%	16,645	251	1.5%
2008 Actual	226.8	7.1	3.2%	17,044	399	2.4%
2009 Actual	229.1	2.3	1.0%	17,361	317	1.9%
2010 Actual	231.9	2.7	1.2%	17,552	191	1.1%
2011 Actual	233.6	1.7	0.7%	17,776	224	1.3%
2012 Actual	229.8	(3.8)	(1.6%)	17,903	127	0.7%
2013 Actual	232.5	2.7	1.2%	18,286	383	2.1%
2014 Actual	237.9	5.3	2.3%	18,736	450	2.5%
2015 Actual	242.2	4.3	1.8%	19,073	337	1.8%
2016 Bridge - Normalized	238.9	(3.2)	(1.3%)	19,718	644	3.4%
2017 Test - Normalized	239.6	0.6	0.3%	20,319	601	3.0%
2018 Test - Normalized	242.8	3.2	1.3%	21,157	838	4.1%
2019 Test - Normalized	247.9	5.1	2.1%	22,400	1,243	5.9%
2020 Test - Normalized	252.9	5.0	2.0%	23,549	1,149	5.1%
2021 Test - Normalized	256.5	3.6	1.4%	24,624	1,075	4.6%

Table 3: Billed Energy by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Billed Energy (GWh)							
2013 Board Approved	148.1	31.8	51.3	0.1	1.5	0.5	233.4
2006 Actual	150.2	27.4	39.8	0.1	1.4	0.3	219.4
2007 Actual	149.6	28.7	39.3	0.1	1.5	0.5	219.8
2008 Actual	150.8	28.6	45.3	0.1	1.5	0.5	226.8
2009 Actual	151.2	28.3	47.5	0.1	1.6	0.5	229.1
2010 Actual	149.2	29.4	51.1	0.1	1.6	0.5	231.9
2011 Actual	150.9	30.7	49.9	0.1	1.5	0.5	233.6
2012 Actual	145.6	30.9	51.1	0.1	1.6	0.5	229.8
2013 Actual	148.6	31.0	50.9	0.1	1.5	0.5	232.5
2014 Actual	152.9	32.1	50.6	0.1	1.6	0.5	237.9
2015 Actual	151.5	34.3	54.6	0.1	1.1	0.5	242.2
2016 Bridge - Normalized	149.7	33.1	54.9	0.1	0.7	0.5	238.9
2017 Test - Normalized	149.9	32.4	56.0	0.1	0.7	0.5	239.6
2018 Test - Normalized	152.1	31.2	58.2	0.1	0.7	0.6	242.8
2019 Test - Normalized	156.8	29.6	60.2	0.1	0.7	0.6	247.9
2020 Test - Normalized	160.9	28.0	62.5	0.1	0.7	0.6	252.9
2021 Test - Normalized	163.6	26.6	64.9	0.1	0.7	0.7	256.5

Table 4: Number of Customers / Connections by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Number of Customers/Connections							
2013 Board Approved	14,189	910	66	237	2,889	78	18,369
2006 Actual	12,867	797	80	189	2,371	90	16,394
2007 Actual	12,991	819	71	186	2,489	89	16,645
2008 Actual	13,277	836	73	186	2,588	84	17,044
2009 Actual	13,533	855	72	193	2,625	83	17,361
2010 Actual	13,651	865	68	201	2,685	82	17,552
2011 Actual	13,779	896	67	225	2,728	81	17,776
2012 Actual	13,943	914	68	172	2,728	79	17,903
2013 Actual	14,181	949	67	168	2,843	78	18,286
2014 Actual	14,509	991	67	169	2,923	76	18,736
2015 Actual	14,862	1,001	72	166	2,898	76	19,073
2016 Bridge - Normalized	15,419	1,026	72	163	2,963	75	19,718
2017 Test - Normalized	15,930	1,052	72	161	3,030	74	20,319
2018 Test - Normalized	16,676	1,079	72	159	3,098	73	21,157
2019 Test - Normalized	17,824	1,107	72	157	3,168	72	22,400
2020 Test - Normalized	18,877	1,135	72	155	3,239	71	23,549
2021 Test - Normalized	19,853	1,164	72	153	3,312	70	24,624

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Table 5: Annual Usage per Customer/Connection by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Energy Usage per Customer/Connection (kWh per customer/connection)						
2013 Board Approved	10,441	34,924	777,717	443	525	6,085
2006 Actual	11,676	34,434	497,886	698	610	3,293
2007 Actual	11,517	35,006	553,811	679	601	5,881
2008 Actual	11,359	34,197	620,129	668	593	6,091
2009 Actual	11,171	33,090	659,351	632	601	5,987
2010 Actual	10,926	33,955	751,894	581	588	6,061
2011 Actual	10,950	34,288	745,100	490	534	6,080
2012 Actual	10,443	33,787	752,954	659	575	6,115
2013 Actual	10,477	32,635	760,026	606	518	6,100
2014 Actual	10,540	32,428	753,235	637	556	6,158
2015 Actual	10,196	34,307	764,144	625	382	6,119
2016 Bridge - Normalized	9,707	32,283	767,690	618	222	6,622
2017 Test - Normalized	9,412	30,768	783,060	611	221	7,167
2018 Test - Normalized	9,118	28,958	813,298	604	220	7,758
2019 Test - Normalized	8,796	26,733	841,720	597	219	8,397
2020 Test - Normalized	8,525	24,662	874,694	590	218	9,090
2021 Test - Normalized	8,238	22,841	907,427	584	217	9,841

Table 6: Statistcial Results

Statistic	Value
R Square	94.3%
Adjusted R Square	94.0%
F Test	375.6
MAPE (Monthly)	2.5%
T-stats by Coefficient	
Heating Degree Days	30.4
Cooling Degree Days	11.9
Number of Days in Month	7.8
Spring Fall Flag	(6.7)
Number of Customers - 3 Main Classes	5.8
Constant	(4.0)

Table 7: Total System Purchases

Year	Actual	Predicted	% Difference
Purchased Energy (GWh)			
2006	234.4	236.7	1.0%
2007	241.2	243.5	1.0%
2008	245.6	242.7	(1.2%)
2009	247.2	242.9	(1.8%)
2010	250.2	245.5	(1.9%)
2011	246.8	248.0	0.5%
2012	245.1	246.0	0.4%
2013	245.1	249.5	1.8%
2014	253.3	254.2	0.4%
2015	255.2	255.1	(0.0%)
2016 Bridge - Normalized		258.8	
2017 Test - Normalized		261.8	
2018 Test - Normalized		267.0	
2019 Test - Normalized		274.9	
2020 Test - Normalized		282.8	
2021 Test - Normalized		289.0	
2017 Test - Normalized - 20 Year Trend		262.4	
2018 Test - Normalized - 20 Year Trend		267.7	
2019 Test - Normalized - 20 Year Trend		275.7	
2020 Test - Normalized - 20 Year Trend		283.6	
2021 Test - Normalized - 20 Year Trend		289.8	

Table 8: Conversion of Total System Purchases to Total Billed

Year	Power Purchased	Loss Factor	Billed
2016 Bridge - Normalized	258.8	1.0721	241.4
2017 Test - Normalized	261.8	1.0721	244.2
2018 Test - Normalized	267.0	1.0721	249.0
2019 Test - Normalized	274.9	1.0721	256.4
2020 Test - Normalized	282.8	1.0721	263.8
2021 Test - Normalized	289.0	1.0721	269.5

Table 9: Historical Customer/Connection Data

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Number of Customers/Connections							
2006	12,867	797	80	189	2,371	90	16,394
2007	12,991	819	71	186	2,489	89	16,645
2008	13,277	836	73	186	2,588	84	17,044
2009	13,533	855	72	193	2,625	83	17,361
2010	13,651	865	68	201	2,685	82	17,552
2011	13,779	896	67	225	2,728	81	17,776
2012	13,943	914	68	172	2,728	79	17,903
2013	14,181	949	67	168	2,843	78	18,286
2014	14,509	991	67	169	2,923	76	18,736
2015	14,862	1,001	72	166	2,898	76	19,073

Table 10: Growth Rate in Customer/Connections

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Growth Rate in Customers/Connections						
2006						
2007	1.0%	2.8%	(11.3%)	(1.6%)	5.0%	(1.1%)
2008	2.2%	2.1%	2.8%	0.0%	4.0%	(5.6%)
2009	1.9%	2.3%	(1.4%)	3.8%	1.4%	(1.2%)
2010	0.9%	1.2%	(5.6%)	4.1%	2.3%	(1.2%)
2011	0.9%	3.6%	(1.5%)	11.9%	1.6%	(1.2%)
2012	1.2%	2.0%	1.4%	(23.5%)	0.0%	(2.9%)
2013	1.7%	3.9%	(1.3%)	(2.4%)	4.2%	(1.4%)
2014	2.3%	4.4%	0.2%	0.8%	2.8%	(2.6%)
2015	2.4%	0.9%	6.5%	(2.2%)	(0.9%)	0.6%
Geo Mean - 2006 to 2015	1.6%	2.6%	(1.2%)	(1.4%)	2.3%	(1.9%)

Table11: Customer/Connection Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Forecast number of Customers/Connections							
2016	15,419	1,026	72	163	2,963	75	19,718
2017	15,930	1,052	72	161	3,030	74	20,319
2018	16,676	1,079	72	159	3,098	73	21,157
2019	17,824	1,107	72	157	3,168	72	22,400
2020	18,877	1,135	72	155	3,239	71	23,549
2021	19,853	1,164	72	153	3,312	70	24,624

Table 12: Historical Annual Usage per Customer Before Allocation of Hydro One Load Transfers

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Annual kWh Usage Per Customer/Connection						
2006	11,588	34,117	497,886	698	610	3,242
2007	11,446	34,754	553,811	679	601	5,839
2008	11,295	33,971	620,129	668	593	6,050
2009	11,112	32,881	659,351	632	601	5,948
2010	10,867	33,744	751,894	581	588	6,020
2011	10,893	34,095	745,100	490	534	6,041
2012	10,395	33,623	752,954	659	575	6,080
2013	10,434	32,492	760,026	606	518	6,068
2014	10,502	32,305	753,235	637	556	6,129
2015	10,163	34,199	764,144	625	382	6,093

Table 13: Growth Rate in Usage Per Customer/Connection

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Growth Rate in Usage Per Customer/Connection						
2006						
2007	(1.2%)	1.9%	11.2%	(2.6%)	(1.4%)	80.1%
2008	(1.3%)	(2.3%)	12.0%	(1.7%)	(1.4%)	3.6%
2009	(1.6%)	(3.2%)	6.3%	(5.3%)	1.4%	(1.7%)
2010	(2.2%)	2.6%	14.0%	(8.2%)	(2.0%)	1.2%
2011	0.2%	1.0%	(0.9%)	(15.6%)	(9.2%)	0.3%
2012	(4.6%)	(1.4%)	1.1%	34.4%	7.7%	0.7%
2013	0.4%	(3.4%)	0.9%	(8.0%)	(10.0%)	(0.2%)
2014	0.7%	(0.6%)	(0.9%)	5.1%	7.4%	1.0%
2015	(3.2%)	5.9%	1.4%	(2.0%)	(31.3%)	(0.6%)
Geo Mean - 2006 to 2015	(1.2%)	(0.7%)	5.3%	(1.1%)	(1.1%)	8.3%

Table 14: Forecast Annual kWh Usage per Customer/Connection

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Forecast Annual kWh Usage per Customers/Connection						
2016	10,039	33,966	804,730	618	377	6,598
2017	9,916	33,735	847,471	611	373	7,145
2018	9,795	33,506	892,483	604	369	7,737
2019	9,675	33,278	939,886	597	365	8,378
2020	9,557	33,052	989,806	590	360	9,072
2021	9,440	32,827	1,042,378	584	356	9,824

Table 15: Non-normalized Weather Billed Energy Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	TOTAL
NON-normalized Weather Billed Energy Forecast (GWh)							
2016 (Not Normalized)	154.8	34.8	57.5	0.1	1.1	0.5	248.9
2017 (Not Normalized)	158.0	35.5	60.6	0.1	1.1	0.5	255.8
2018 (Not Normalized)	163.3	36.2	63.8	0.1	1.1	0.6	265.1
2019 (Not Normalized)	172.5	36.8	67.2	0.1	1.2	0.6	278.3
2020 (Not Normalized)	180.4	37.5	70.8	0.1	1.2	0.6	290.6
2021 (Not Normalized)	187.4	38.2	74.5	0.1	1.2	0.7	302.1

Table 16: Weather Sensitivity by Rate Class

Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load
Weather Sensitivity					
83%	83%	65%	0%	0%	0%

Table 17: Hydro One Load Transfers

Year	Hydro One Load Transfers (GWh)
2006 - Actual	1.4
2007 - Actual	1.1
2008 - Actual	1.0
2009 - Actual	1.0
2010 - Actual	1.0
2011 - Actual	1.0
2012 - Actual	0.8
2013 - Actual	0.7
2014 - Actual	0.7
2015 - Actual	0.6
2016 - Bridge Forecast	0.5
2017 - Test Year Forecast	0.5
2018 - Test Year Forecast	0.5
2019 - Test Year Forecast	0.4
2020 - Test Year Forecast	0.4
2021 - Test Year Forecast	0.3

Table 18: Difference Between Normalized and Non-normalized Bill Forecast

Year	Table 3-8 (A)	Table 3-15 (B)	Table 3-17 (C)	Difference = (A) - (B) - (C)
Billed Energy (GWh)				
2016 Bridge - Normalized	241.4	248.9	0.5	(8.1)
2017 Test - Normalized	244.2	255.8	0.5	(12.2)
2018 Test - Normalized	249.0	265.1	0.5	(16.6)
2019 Test - Normalized	256.4	278.3	0.4	(22.3)
2020 Test - Normalized	263.8	290.6	0.4	(27.2)
2021 Test - Normalized	269.5	302.1	0.3	(32.9)

2015-2021 Expected kWh Savings							
	2015	2016	2017	2018	2019	2020	2021
2015 Programs	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889
2016 Programs		3,143,714	3,143,714	3,143,714	3,143,714	3,143,714	3,143,714
2017 Programs			1,139,903	1,139,903	1,139,903	1,139,903	1,139,903
2018 Programs				2,174,129	2,174,129	2,174,129	2,174,129
2019 Programs					2,321,084	2,321,084	2,321,084
2020 Programs						2,527,406	2,527,406
2021 Programs							1,701,889
Total for 2015 to 2020 Target	1,701,889	3,143,714	1,139,903	2,174,129	2,321,084	2,527,406	n/a
Total Including Persistence	1,701,889	4,845,603	5,985,506	8,159,635	10,480,719	13,008,124	14,710,013

	2015	2016	2017	2018	2019	2020	2021
Residential Allocation	29.7%	23.0%	19.6%	22.5%	20.7%	24.7%	29.7%

2015-2021 Expected Residential kWh Savings							
	2015	2016	2017	2018	2019	2020	2021
2015 Programs	231,434	231,434	231,434	231,434	231,434	231,434	231,434
2016 Programs		253,000	253,000	253,000	253,000	253,000	253,000
2017 Programs			223,186	223,186	223,186	223,186	223,186
2018 Programs				488,612	488,612	488,612	488,612
2019 Programs					480,898	480,898	480,898
2020 Programs						623,249	623,249
2021 Programs							505,080
Total for 2015 to 2020 Target	231,434	253,000	223,186	488,612	480,898	623,249	n/a
Total Including Persistence	231,434	484,434	707,620	1,196,232	1,677,130	2,300,379	2,805,459

2015-2021 Expected General Service < 50 kW kWh Savings							
	2015	2016	2017	2018	2019	2020	2021
2015 Programs	493,553	493,553	493,553	493,553	493,553	493,553	493,553
2016 Programs		763,843	763,843	763,843	763,843	763,843	763,843
2017 Programs			825,045	825,045	825,045	825,045	825,045
2018 Programs				1,516,965	1,516,965	1,516,965	1,516,965
2019 Programs					1,656,167	1,656,167	1,656,167
2020 Programs						1,713,741	1,713,741
2021 Programs							1,077,128
Total for 2015 to 2020 Target	493,553	763,843	825,045	1,516,965	1,656,167	1,713,741	n/a
Total Including Persistence	493,553	1,257,397	2,082,442	3,599,407	5,255,574	6,969,315	8,046,443

2015-2021 Expected General Service 50 to 4,999 kW kWh Savings							
	2015	2016	2017	2018	2019	2020	2021
2015 Programs	54,839	54,839	54,839	54,839	54,839	54,839	54,839
2016 Programs		2,126,871	2,126,871	2,126,871	2,126,871	2,126,871	2,126,871
2017 Programs			91,672	91,672	91,672	91,672	91,672
2018 Programs				168,552	168,552	168,552	168,552
2019 Programs					184,019	184,019	184,019
2020 Programs						190,416	190,416
2021 Programs							119,681
Total for 2015 to 2020 Target	54,839	2,126,871	91,672	168,552	184,019	190,416	n/a
Total Including Persistence	54,839	2,181,711	2,273,382	2,441,934	2,625,953	2,816,368	2,936,049

Table 24: Expected CDM Savings by Rate Class for LRAM Variance Account

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
2017 LRAMVA kWh	476,186	1,588,888	2,218,543	0	0	0	4,283,617
2018 LRAMVA kWh	964,797	3,105,854	2,387,095	0	0	0	6,457,746
2019 LRAMVA kWh	1,445,696	4,762,021	2,571,113	0	0	0	8,778,830
2020 LRAMVA kWh	2,068,945	6,475,762	2,761,529	0	0	0	11,306,235
2021 LRAMVA kWh	2,574,025	7,552,889	2,881,210	0	0	0	13,008,124
2017 LRAMVA kW - Annual	0	0	6,231	0	0	0	6,231
2018 LRAMVA kW - Annual	0	0	6,705	0	0	0	6,705
2019 LRAMVA kW - Annual	0	0	7,222	0	0	0	7,222
2020 LRAMVA kW - Annual	0	0	7,757	0	0	0	7,757
2021 LRAMVA kW - Annual	0	0	8,093	0	0	0	8,093
2017 LRAMVA kW - Monthly	0	0	519	0	0	0	519
2018 LRAMVA kW - Monthly	0	0	559	0	0	0	559
2019 LRAMVA kW - Monthly	0	0	602	0	0	0	602
2020 LRAMVA kW - Monthly	0	0	646	0	0	0	646
2021 LRAMVA kW - Monthly	0	0	674	0	0	0	674

Table 25: Alignment of Non-normal to Weather Normal Forecast and Other Adjustments

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Unmetered Scattered Load	Total
Non-normalized Weather Billed Energy Forecast (GWh)							
2016 (Not Normalized)	154.8	34.8	57.5	0.1	1.1	0.5	248.9
2017 (Not Normalized)	158.0	35.5	60.6	0.1	1.1	0.5	255.8
2018 (Not Normalized)	163.3	36.2	63.8	0.1	1.1	0.6	265.1
2019 (Not Normalized)	172.5	36.8	67.2	0.1	1.2	0.6	278.3
2020 (Not Normalized)	180.4	37.5	70.8	0.1	1.2	0.6	290.6
2021 (Not Normalized)	187.4	38.2	74.5	0.1	1.2	0.7	302.1
Adjustment for Hydro One Load Transfer (GWh)							
2016	0.4	0.1	0.0	0.0	0.0	0.002	0.5
2017	0.4	0.1	0.0	0.0	0.0	0.002	0.5
2018	0.4	0.1	0.0	0.0	0.0	0.001	0.5
2019	0.3	0.1	0.0	0.0	0.0	0.001	0.4
2020	0.3	0.1	0.0	0.0	0.0	0.001	0.4
2021	0.3	0.1	0.0	0.0	0.0	0.001	0.3
Adjustment for Weather (GWh)							
2016	(5.3)	(1.2)	(1.6)	0.0	0.0	0.0	(8.1)
2017	(8.0)	(1.8)	(2.4)	0.0	0.0	0.0	(12.2)
2018	(10.8)	(2.4)	(3.3)	0.0	0.0	0.0	(16.6)
2019	(14.7)	(3.1)	(4.5)	0.0	0.0	0.0	(22.3)
2020	(17.9)	(3.7)	(5.5)	0.0	0.0	0.0	(27.2)
2021	(21.7)	(4.4)	(6.8)	0.0	0.0	0.0	(32.9)
Adjustment for CDM (GWh)							
2016	(0.2)	(0.6)	(1.1)	0.0	(0.5)	0.0	(2.4)
2017	(0.5)	(1.4)	(2.2)	0.0	(0.5)	0.0	(4.6)
2018	(0.8)	(2.6)	(2.3)	0.0	(0.5)	0.0	(6.2)
2019	(1.3)	(4.2)	(2.5)	0.0	(0.5)	0.0	(8.5)
2020	(1.9)	(5.9)	(2.7)	0.0	(0.5)	0.0	(10.9)
2021	(2.4)	(7.3)	(2.8)	0.0	(0.5)	0.0	(13.0)
Weather Normalized Billed Energy Forecast (GWh)							
2016 Bridge - Normalized	149.7	33.1	54.9	0.1	0.7	0.5	238.9
2017 Test - Normalized	149.9	32.4	56.0	0.1	0.7	0.5	239.6
2018 Test - Normalized	152.1	31.2	58.2	0.1	0.7	0.6	242.8
2019 Test - Normalized	156.8	29.6	60.2	0.1	0.7	0.6	247.9
2020 Test - Normalized	160.9	28.0	62.5	0.1	0.7	0.6	252.9
2021 Test - Normalized	163.6	26.6	64.9	0.1	0.7	0.7	256.5

Table 26: Historical Annual kW per Applicable Rate Class

Year	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Total
Billed Annual kW				
2006	118,310	367	4,014	122,691
2007	116,956	351	4,153	121,460
2008	134,693	345	4,261	139,299
2009	136,122	339	4,370	140,832
2010	144,502	324	4,389	149,215
2011	139,425	306	4,416	144,148
2012	144,982	315	4,424	149,721
2013	130,935	283	4,149	135,367
2014	135,394	300	4,581	140,275
2015	141,987	288	3,140	145,414

Table 27: Historical kW/KWh Ratio per Applicable Rate Class

Year	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting
Ratio of kW to kWh			
2006	0.2970%	0.2783%	0.2777%
2007	0.2974%	0.2778%	0.2776%
2008	0.2975%	0.2778%	0.2778%
2009	0.2867%	0.2778%	0.2771%
2010	0.2826%	0.2778%	0.2778%
2011	0.2793%	0.2779%	0.3030%
2012	0.2835%	0.2779%	0.2818%
2013	0.2571%	0.2779%	0.2818%
2014	0.2676%	0.2778%	0.2818%
2015	0.2599%	0.2778%	0.2838%
Average 2006 to 2015	0.2809%	0.2779%	0.2820%

Table 28: kW Forecast by Applicable Rate Class

Year	General Service 50 to 4,999 kW	Sentinel Lighting	Street Lighting	Total
Predicted Billed kW				
2016 Bridge - Normalized	154,174	280	1,854	156,308
2017 Test - Normalized	157,261	273	1,889	159,423
2018 Test - Normalized	163,334	267	1,923	165,523
2019 Test - Normalized	169,041	260	1,958	171,260
2020 Test - Normalized	175,664	254	1,993	177,911
2021 Test - Normalized	182,237	248	2,029	184,514

Table 29: Summary of Total Forecast

	2013 Actual	2014 Actual	2015 Actual	2016 Weather Normal	2017 Weather Normal	2018 Weather Normal	2019 Weather Normal	2020 Weather Normal	2021 Weather Normal
Actual kWh Purchases	245,129,838	253,254,985	255,186,387						
Predicted kWh Purchases before CDM adjustment	249,473,504	254,225,266	255,095,714	258,773,135	261,762,895	266,975,500	274,905,672	282,826,642	288,972,286
% Difference between actual and predicted purchases	1.8%	0.4%	(0.0%)						
Loss Factor				1.0721	1.0721	1.0721	1.0721	1.0721	1.0721
Total Billed Before Adjustments				241,363,660	244,152,278	249,014,194	256,410,848	263,798,919	269,531,103
CDM Adjustment				2,422,802	4,564,610	6,221,626	8,469,232	10,893,477	13,008,124
Total Billed After Adjustments				238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979

Table 30: Summary of Billing Determinants and Variances of Actual and Forecast Data

	2013 Board Approved	2013 Actual	2014 Actual	2015 Actual	2016 Weather Normal	2017 Weather Normal	2018 Weather Normal	2019 Weather Normal	2020 Weather Normal	2021 Weather Normal
Residential										
Customers	14,189	14,181	14,509	14,862	15,419	15,930	16,676	17,824	18,877	19,853
kWh	148,148,873	148,570,811	152,923,212	151,526,915	149,674,174	149,932,101	152,052,309	156,772,519	160,929,748	163,557,480
Variance Analysis Compare to Board Approved										
Customers		(0.06%)	2.26%	4.74%	8.67%	12.27%	17.53%	25.62%	33.04%	39.92%
kWh		0.28%	3.22%	2.28%	1.03%	1.20%	2.63%	5.82%	8.63%	10.40%
General Service < 50 kW										
Customers	910	949	991	1,001	1,026	1,052	1,079	1,107	1,135	1,164
kWh	31,781,016	30,978,542	32,143,896	34,326,840	33,122,069	32,368,433	31,245,332	29,593,582	27,991,553	26,587,055
Variance Analysis Compare to Board Approved										
Customers		4.31%	8.93%	9.95%	12.75%	15.60%	18.57%	21.65%	24.73%	27.91%
kWh		(2.53%)	1.14%	8.01%	4.22%	1.85%	(1.69%)	(6.88%)	(11.92%)	(16.34%)
General Service 50 to 4,999 kW										
Customers	66	67	67	72	72	72	72	72	72	72
kWh	51,329,341	50,921,722	50,592,267	54,636,276	54,889,863	55,988,819	58,150,841	60,182,952	62,540,635	64,881,031
kW	147,666	130,935	135,394	141,987	154,174	157,261	163,334	169,041	175,664	182,237
Variance Analysis Compare to Board Approved										
Customers		1.52%	1.77%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%	8.33%
kWh		(0.79%)	(1.44%)	6.44%	6.94%	9.08%	13.29%	17.25%	21.84%	26.40%
kW		(11.33%)	(8.31%)	(3.85%)	4.41%	6.50%	10.61%	14.48%	18.96%	23.41%
Sentinel Lighting										
Connections	237	168	169	166	163	161	159	157	155	153
kWh	104,942	101,844	107,980	103,536	100,673	98,320	96,006	93,733	91,498	89,302
kW	292	283	300	288	280	273	267	260	254	248
Variance Analysis Compare to Board Approved										
Connections		(29.11%)	(28.52%)	(30.06%)	(31.22%)	(32.07%)	(32.91%)	(33.76%)	(34.60%)	(35.44%)
kWh		(2.95%)	2.89%	(1.34%)	(4.07%)	(6.31%)	(8.51%)	(10.68%)	(12.81%)	(14.90%)
kW		(3.08%)	2.72%	(1.51%)	(4.20%)	(6.44%)	(8.64%)	(10.81%)	(12.93%)	(15.02%)
Street Lighting										
Connections	2,889	2,843	2,923	2,898	2,963	3,030	3,098	3,168	3,239	3,312
kWh	1,516,831	1,472,134	1,625,553	1,106,444	657,419	669,627	681,779	694,234	706,615	719,275
kW	4,432	4,149	4,581	3,140	1,854	1,889	1,923	1,958	1,993	2,029
Variance Analysis Compare to Board Approved										
Connections		(1.58%)	1.19%	0.30%	2.56%	4.88%	7.23%	9.66%	12.11%	14.64%
kWh		(2.95%)	7.17%	(27.06%)	(56.66%)	(55.85%)	(55.05%)	(54.23%)	(53.42%)	(52.58%)
kW		(6.39%)	3.37%	(29.16%)	(58.17%)	(57.39%)	(56.62%)	(55.82%)	(55.03%)	(54.23%)
Unmetered Scattered Load										
Connections	78	78	76	76	75	74	73	72	71	70
kWh	474,652	473,256	465,478	465,055	496,660	530,367	566,301	604,596	645,392	688,837
Variance Analysis Compare to Board Approved										
Connections		(0.53%)	(3.10%)	(2.56%)	(3.85%)	(5.13%)	(6.41%)	(7.69%)	(8.97%)	(10.26%)
kWh		(0.29%)	(1.93%)	(2.02%)	4.64%	11.74%	19.31%	27.38%	35.97%	45.12%
Total										
Customer/Connections	18,369	18,286	18,736	19,073	19,718	20,319	21,157	22,400	23,549	24,624
kWh	233,355,655	232,518,310	237,858,387	242,165,066	238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979
kW from applicable classes	152,390	135,367	140,275	145,414	156,308	159,423	165,523	171,260	177,911	184,514
Variance Analysis Compare to Board Approved										
Customer/Connections		(0.45%)	2.00%	3.83%	7.34%	10.61%	15.18%	21.94%	28.20%	34.05%
kWh		(0.36%)	1.93%	3.78%	2.39%	2.67%	4.04%	6.25%	8.38%	9.93%
kW from applicable classes		(11.17%)	(7.95%)	(4.58%)	2.57%	4.61%	8.62%	12.38%	16.75%	21.08%

Table 32 Billing Determinants - 2013 Actual vs 2013 Board Approved

	Customer/Connections			kWh		kW		
Billing Determinants	2013 Board Approved	2013 Actual	Difference	2013 Board Approved	2013 Actual	2013 Board Approved	2013 Actual	Volumeteric Difference
Residential	14,189	14,181	(8)	148,148,873	148,570,811			421,938
General Service < 50 kW	910	949	39	31,781,016	30,978,542			(802,474)
General Service 50 to 4,999 kW	66	67	1			147,666	130,935	(16,731)
Sentinel Lighting	237	168	(69)			292	283	(9)
Street Lighting	2,889	2,843	(46)			4,432	4,149	(283)
Unmetered Scattered Load	78	78	(0)	474,652	473,256			(1,396)
Total	18,369	18,286	-83	180,404,541	180,022,610	152,390	135,367	

Table 34 Billing Determinants - 2014 Actual vs 2013 Actual

	Customer/Connections			kWh		kW		
Billing Determinants	2013 Actual	2014 Actual	Difference	2013 Actual	2014 Actual	2013 Actual	2014 Actual	Volumeteric Difference
Residential	14,181	14,509	328	148,570,811	152,923,212			4,352,401
General Service < 50 kW	949	991	42	30,978,542	32,143,896			1,165,354
General Service 50 to 4,999 kW	67	67	0			130,935	135,394	4,459
Sentinel Lighting	168	169	1			283	300	17
Street Lighting	2,843	2,923	80			4,149	4,581	432
Unmetered Scattered Load	78	76	(2)	473,256	465,478			(7,778)
Total	18,286	18,736	450	180,022,610	185,532,586	135,367	140,275	

Table 36 Billing Determinants - 2015 Actual vs 2014 Actual

	Customer/Connections			kWh		kW		
Billing Determinants	2014 Actual	2015 Actual	Difference	2014 Actual	2015 Actual	2014 Actual	2015 Actual	Volumeteric Difference
Residential	14,509	14,862	352	152,923,212	151,526,915			(1,396,297)
General Service < 50 kW	991	1,001	9	32,143,896	34,326,840			2,182,944
General Service 50 to 4,999 kW	67	72	4			135,394	141,987	6,593
Sentinel Lighting	169	166	(4)			300	288	(12)
Street Lighting	2,923	2,898	(26)			4,581	3,140	(1,442)
Unmetered Scattered Load	76	76	0	465,478	465,055			(423)
Total	18,736	19,073	337	185,532,586	186,318,810	140,275	145,414	

Table 38 Billing Determinants - 2016 Bridge vs 2015 Actual

	Customer/Connections			kWh		kW		
Billing Determinants	2015 Actual	2016 Bridge	Difference	2015 Actual	2016 Bridge	2015 Actual	2016 Bridge	Volumeteric Difference
Residential	14,862	15,419	557	151,526,915	149,674,174			(1,852,741)
General Service < 50 kW	1,001	1,026	25	34,326,840	33,122,069			(1,204,771)
General Service 50 to 4,999 kW	72	72	0			141,987	154,174	12,187
Sentinel Lighting	166	163	(3)			288	280	(8)
Street Lighting	2,898	2,963	65			3,140	1,854	(1,286)
Unmetered Scattered Load	76	75	(1)	465,055	496,660			0
Total	19,073	19,718	644	186,318,810	183,292,903	145,414	156,308	

Table 40 Billing Determinants - 2017 Test vs 2016 Bridge

	Customer/Connections			kWh		kW		
Billing Determinants	2016 Bridge	2017 Test	Difference	2016 Bridge	2017 Test	2016 Bridge	2017 Test	Volumeteric Difference
Residential	15,419	15,930	511	149,674,174	149,932,101			257,928
General Service < 50 kW	1,026	1,052	26	33,122,069	32,368,433			(753,636)
General Service 50 to 4,999 kW	72	72	0			154,174	157,261	3,087
Sentinel Lighting	163	161	(2)			280	273	(7)
Street Lighting	2,963	3,030	67			1,854	1,889	34
Unmetered Scattered Load	75	74	(1)	496,660	530,367			0
Total	19,718	20,319	601	183,292,903	182,830,901	156,308	159,423	

InnPower Forecast for 2017 to 2021 Rate Application

	2006 Actual	2007 Actual	2008 Actual	2009 Actual	2010 Actual	2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Weather Normal	2017 Weather Normal	2018 Weather Normal	2019 Weather Normal	2020 Weather Normal	2021 Weather Normal
Actual kWh Purchases	234,398,899	241,154,636	245,623,028	247,239,189	250,239,379	246,758,167	245,129,838	245,129,838	253,254,985	255,186,387						
Predicted kWh Purchases Before CDM	236,716,534	243,492,052	242,687,774	242,876,077	245,540,747	248,011,802	245,994,875	249,473,504	254,225,266	255,095,714	258,773,135	261,762,895	266,975,500	274,905,672	282,826,642	288,972,286
% Difference	1.0%	1.0%	-1.2%	-1.8%	-1.9%	0.5%	0.4%	1.8%	0.4%	0.0%						
CDM Adjustment - Purchased											(2,597,557)	(4,893,854)	(6,670,390)	(9,080,115)	(11,679,220)	(13,946,396)
Predicted kWh Purchases After CDM											256,175,578	256,869,041	260,305,110	265,825,557	271,147,422	275,025,891
Billed kWh	219,381,471	219,752,747	226,836,186	229,135,056	231,850,249	233,577,129	229,785,721	232,518,310	237,858,387	242,165,066	238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979
By Class																
Residential																
Customers	12,867	12,991	13,277	13,533	13,651	13,779	13,943	14,181	14,509	14,862	15,419	15,930	16,676	17,824	18,877	19,853
kWh	150,233,092	149,616,200	150,807,968	151,173,730	149,156,465	150,873,413	145,610,872	148,570,811	152,923,212	151,526,915	149,674,174	149,932,101	152,052,309	156,772,519	160,929,748	163,557,480
GS<50																
Customers	797	819	836	855	865	896	914	949	991	1,001	1,026	1,052	1,079	1,107	1,135	1,164
kWh	27,443,721	28,670,213	28,589,051	28,292,211	29,371,262	30,721,964	30,872,636	30,978,542	32,143,896	34,326,840	33,122,069	32,368,433	31,245,332	29,593,582	27,991,553	26,587,055
GS>50																
Customers	80	71	73	72	68	67	68	67	67	72	72	72	72	72	72	72
kWh	39,830,915	39,320,570	45,269,406	47,473,258	51,128,771	49,921,685	51,138,110	50,921,722	50,592,267	54,636,276	54,889,863	55,988,819	58,150,841	60,182,952	62,540,635	64,881,031
kW	118,310	116,956	134,693	136,122	144,502	139,425	144,982	130,935	135,394	141,987	154,174	157,261	163,334	169,041	175,664	182,237
Sentinels																
Connections	189	186	186	193	201	225	172	168	169	166	163	161	159	157	155	153
kWh	131,869	126,371	124,212	122,021	116,703	110,241	113,360	101,844	107,980	103,536	100,673	98,320	96,006	93,733	91,498	89,302
kW	367	351	345	339	324	306	315	283	300	288	280	273	267	260	254	248
Streetlights																
Connections	2,371	2,489	2,588	2,625	2,685	2,728	2,728	2,843	2,923	2,898	2,963	3,030	3,098	3,168	3,239	3,312
kWh	1,445,518	1,495,947	1,533,899	1,576,912	1,580,058	1,457,369	1,569,709	1,472,134	1,625,553	1,106,444	657,419	669,627	681,779	694,234	706,615	719,275
kW	4,014	4,153	4,261	4,370	4,389	4,416	4,424	4,149	4,581	3,140	1,854	1,889	1,923	1,958	1,993	2,029
USL																
Connections	90	89	84	83	82	81	79	78	76	76	75	74	73	72	71	70
kWh	296,356	523,447	511,651	496,924	496,990	492,456	481,035	473,256	465,478	465,055	496,660	530,367	566,301	604,596	645,392	688,837
Total of Above																
Customer/Connections	16,394	16,645	17,044	17,361	17,552	17,776	17,903	18,286	18,736	19,073	19,718	20,319	21,157	22,400	23,549	24,624
kWh	219,381,471	219,752,747	226,836,186	229,135,056	231,850,249	233,577,129	229,785,721	232,518,310	237,858,387	242,165,066	238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979
kW from applicable classes	122,691	121,460	139,299	140,832	149,215	144,148	149,721	135,367	140,275	145,414	156,308	159,423	165,523	171,260	177,911	184,514
Total from Model																
Customer/Connections	16,394	16,645	17,044	17,361	17,552	17,776	17,903	18,286	18,736	19,073	19,718	20,319	21,157	22,400	23,549	24,624
kWh	219,381,471	219,752,747	226,836,186	229,135,056	231,850,249	233,577,129	229,785,721	232,518,310	237,858,387	242,165,066	238,940,858	239,587,667	242,792,568	247,941,616	252,905,442	256,522,979
kW from applicable classes	122,691	121,460	139,299	140,832	149,215	144,148	149,721	135,367	140,275	145,414	156,308	159,423	165,523	171,260	177,911	184,514
Check should all be zero																
Customer/Connections	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kWh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
kW from applicable classes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hydro One Load Transfers																
kWh	1,386,067	1,135,841	1,040,153	981,975	1,001,807	951,716	819,723	744,522	669,321	594,120	542,445	495,264	452,187	412,857	376,947	344,161
% Allocated to Residential	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%	81.5%
% Allocated to GS < 50 kW	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%	18.2%
% Allocated to USL	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Rate Class	kWh
GSE	195,189.0
R2	873,386.0
3Flat rate services	3,542.0
Total	1,072,117.0

InnPower Forecast for 2017 to 2021 Rate Application

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	Spring Fall Flag	Number of Customers - 3 Main Classes	Predicted Purchases	Variances (kWh)	% Variance
Jan-06	23,275,097	551.8	0.0	31	0	13,803	23,116,209		
Feb-06	21,949,173	604.3	0.0	28	0	13,808	21,884,888		
Mar-06	22,008,625	516.6	0.0	31	1	13,817	21,513,310		
Apr-06	17,506,649	293.3	0.0	30	1	13,833	18,083,189		
May-06	16,720,482	136.9	26.0	31	1	13,832	17,537,736		
Jun-06	17,643,645	19.5	73.6	30	0	13,744	17,995,593		
Jul-06	20,377,985	0.0	167.3	31	0	13,764	21,240,865		
Aug-06	18,444,801	4.2	101.6	31	0	13,786	19,309,232		
Sep-06	15,835,529	80.9	12.9	30	1	13,796	15,783,821		
Oct-06	18,304,414	288.3	1.1	31	1	13,814	18,674,492		
Nov-06	19,538,671	382.2	0.0	30	1	13,635	19,089,721		
Dec-06	22,793,828	500.5	0.0	31	0	13,832	22,487,478		
Jan-07	24,279,310	647.1	0.0	31	0	13,849	24,340,328		
Feb-07	23,881,688	740.1	0.0	28	0	13,861	23,622,173		
Mar-07	22,297,190	546.7	0.0	31	1	13,865	21,918,750		
Apr-07	18,569,417	356.4	0.0	30	1	13,869	18,896,816		
May-07	16,382,762	136.4	22.4	31	1	13,873	17,445,075		
Jun-07	17,880,105	16.5	99.2	30	0	13,881	18,812,914		
Jul-07	18,476,520	3.2	106.1	31	0	13,905	19,500,297		
Aug-07	19,239,334	5.2	141.0	31	0	13,925	20,597,391		
Sep-07	16,489,843	36.9	47.5	30	1	13,949	16,368,148		
Oct-07	17,241,375	137.7	19.8	31	1	13,987	17,446,462		
Nov-07	20,822,608	462.5	0.0	30	1	14,001	20,305,057		
Dec-07	25,594,484	630.7	0.0	31	0	14,035	24,238,642		
Jan-08	25,337,708	623.5	0.0	31	0	14,052	24,157,664		
Feb-08	23,919,251	674.7	0.0	29	0	14,069	23,548,157		
Mar-08	23,324,392	610.2	0.0	31	1	14,091	22,844,176		
Apr-08	17,845,473	253.9	0.0	30	1	14,109	17,742,884		
May-08	17,203,595	193.5	2.5	31	1	14,151	17,714,435		
Jun-08	17,657,148	22.7	71.5	30	0	14,186	18,220,384		
Jul-08	19,399,006	1.0	111.0	31	0	14,218	19,797,449		
Aug-08	18,496,935	12.7	64.0	31	0	14,260	18,539,702		
Sep-08	16,944,225	59.0	26.7	30	1	14,297	16,209,413		
Oct-08	18,736,114	278.6	0.0	31	1	14,337	18,812,993		
Nov-08	20,914,296	451.6	0.0	30	1	14,348	20,362,999		
Dec-08	25,844,885	654.6	0.0	31	0	14,388	24,737,519		
Jan-09	27,698,758	830.2	0.0	31	0	14,411	26,958,376		
Feb-09	22,854,687	606.4	0.0	28	0	14,426	22,258,575		
Mar-09	22,750,704	533.8	0.0	31	1	14,438	22,078,544		
Apr-09	18,949,042	305.8	1.2	30	1	14,448	18,622,427		
May-09	17,348,781	158.8	6.9	31	1	14,455	17,582,689		
Jun-09	17,392,957	49.3	34.2	30	0	14,460	17,575,166		
Jul-09	18,006,297	6.2	43.7	31	0	14,710	18,093,875		
Aug-09	20,135,392	9.8	91.0	31	0	14,976	19,726,196		
Sep-09	17,368,091	55.2	20.9	30	1	15,073	16,421,424		
Oct-09	19,458,169	287.8	0.0	31	1	15,110	19,363,054		
Nov-09	19,998,430	361.2	0.0	30	1	15,107	19,652,858		
Dec-09	25,277,881	631.3	0.0	31	0	14,563	24,542,893		
Jan-10	26,451,956	720.0	0.0	31	0	14,554	25,653,118		
Feb-10	22,355,018	598.3	0.0	28	0	14,553	22,228,095		
Mar-10	21,335,193	422.8	0.0	31	1	14,566	20,754,798		
Apr-10	17,366,211	225.1	0.0	30	1	14,576	17,643,191		
May-10	18,594,842	107.9	45.7	31	1	14,570	18,186,554		
Jun-10	18,232,281	21.7	58.7	30	0	14,584	18,042,437		
Jul-10	22,225,962	1.8	164.9	31	0	14,599	21,659,779		
Aug-10	21,301,865	2.1	138.8	31	0	14,633	20,889,406		
Sep-10	17,785,838	78.1	31.5	30	1	14,646	16,791,574		
Oct-10	18,734,173	241.6	0.0	31	1	14,664	18,531,524		
Nov-10	20,451,455	405.3	0.0	30	1	14,688	19,971,901		
Dec-10	25,404,585	676.2	0.0	31	0	14,707	25,188,370		
Jan-11	26,274,474	775.3	0.0	31	0	14,713	26,437,790		
Feb-11	22,971,970	654.2	0.0	28	0	14,716	23,022,559		
Mar-11	22,951,605	572.8	0.0	31	1	14,728	22,731,881		
Apr-11	18,914,567	332.3	0.0	30	1	14,729	19,077,064		
May-11	17,615,740	134.1	13.0	31	1	14,733	17,613,737		
Jun-11	17,571,916	19.0	52.2	30	0	14,742	17,899,723		
Jul-11	22,292,830	0.0	198.5	31	0	14,759	22,748,255		
Aug-11	19,354,570	0.0	122.2	31	0	14,772	20,436,592		
Sep-11	17,323,768	48.2	39.7	30	1	14,772	16,735,647		
Oct-11	18,576,164	235.5	2.4	31	1	14,794	18,600,820		
Nov-11	19,598,868	342.1	0.0	30	1	14,809	19,245,242		
Dec-11	23,311,694	534.0	0.0	31	0	14,818	23,462,492		

Purchased Power Model

SUMMARY OUTPUT

Regression Statistics	
Multiple R	97%
R Square	94%
Adjusted R Square	94%
Standard Error	696812.727
Observations	120

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	9.1174E+14	1.82348E+14	375.5507809	4.71766E-69
Residual	114	5.53525E+13	4.85548E+11		
Total	119	9.67092E+14			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	(11,152,354)	2795758.649	(3.99)	0.000117592	-16690730.22	-5613977.513
Heating Degree Days	12,574	413.7450041	30.39	1.69268E-56	11754.02343	13393.27477
Cooling Degree Days	30,393	2560.999307	11.87	1.21558E-21	25319.45408	35466.09388
Number of Days in Month	631,416	80720.42628	7.82	2.87148E-12	471509.3524	791322.4379
Spring Fall Flag	(1,168,175)	174483.1642	(6.70)	8.50302E-10	-1513824.418	-822524.809
Number of Customers - 3 Main Classes	562	96.23054386	5.84	5.0296E-08	371.3133298	752.5772622

Jan-12	24,487,281	611.1	0.0	31	0	14,826	24,436,697
Feb-12	21,711,327	531.7	0.0	29	0	14,835	22,180,575
Mar-12	20,140,444	349.4	0.2	31	1	14,856	20,000,935
Apr-12	18,335,839	321.7	0.0	30	1	14,867	19,021,332
May-12	17,673,429	80.7	36.7	31	1	14,877	17,743,533
Jun-12	19,474,755	23.2	101.6	30	0	14,882	19,532,607
Jul-12	22,780,193	0.0	195.4	31	0	14,921	22,745,073
Aug-12	20,627,757	2.0	112.1	31	0	14,953	20,256,484
Sep-12	17,795,946	85.0	35.6	30	1	14,968	17,183,888
Oct-12	17,475,407	242.5	1.1	31	1	15,012	18,771,829
Nov-12	20,981,769	434.0	0.0	30	1	15,036	20,528,322
Dec-12	23,645,692	533.5	0.0	31	0	15,062	23,593,601
Jan-13	24,487,281	624.4	0.0	31	0	15,076	24,744,413
Feb-13	21,711,327	631.5	0.0	28	0	15,088	22,946,181
Mar-13	20,140,444	554.8	0.0	31	1	15,100	22,714,599
Apr-13	18,335,839	358.6	0.0	30	1	15,107	19,620,167
May-13	17,673,429	109.1	23.1	31	1	15,139	17,834,512
Jun-13	19,474,755	33.0	59.6	30	0	15,172	18,542,297
Jul-13	22,780,193	1.3	120.8	31	0	15,207	20,654,834
Aug-13	20,627,757	4.4	93.8	31	0	15,244	19,893,999
Sep-13	17,795,946	83.0	28.1	30	1	15,260	17,094,883
Oct-13	17,475,407	208.5	0.4	31	1	15,288	18,478,147
Nov-13	20,981,769	478.2	0.0	30	1	15,334	21,251,537
Dec-13	23,645,692	687.9	0.0	31	0	15,352	25,697,936
Jan-14	27,344,318	825.9	0.0	31	0	15,406	27,463,445
Feb-14	23,698,938	737.1	0.0	28	0	15,425	24,463,334
Mar-14	24,427,815	690.6	0.0	31	1	15,444	24,615,409
Apr-14	19,352,181	356.9	0.0	30	1	15,478	19,807,273
May-14	17,549,445	132.1	11.9	31	1	15,497	17,984,484
Jun-14	18,258,424	14.1	68.1	30	0	15,515	18,755,741
Jul-14	19,452,973	4.0	71.0	31	0	15,587	19,388,762
Aug-14	19,828,414	8.8	81.8	31	0	15,628	19,800,397
Sep-14	17,976,813	69.7	30.1	30	1	15,648	17,206,474
Oct-14	19,058,731	224.3	1.3	31	1	15,688	18,928,942
Nov-14	22,053,999	482.1	0.0	30	1	15,720	21,517,485
Dec-14	24,252,934	557.3	0.0	31	0	15,775	24,293,521
Jan-15	26,951,654	792.4	0.0	31	0	15,793	27,259,700
Feb-15	25,657,093	856.8	0.0	28	0	15,802	26,180,253
Mar-15	23,477,412	615.5	0.0	31	1	15,826	23,885,792
Apr-15	18,850,232	313.7	0.0	30	1	15,843	19,469,201
May-15	18,121,126	89.3	34.1	31	1	15,856	18,322,789
Jun-15	18,217,550	33.8	32.3	30	0	15,883	18,122,176
Jul-15	21,783,994	4.0	114.3	31	0	15,881	20,869,981
Aug-15	20,830,602	4.4	88.6	31	0	15,970	20,143,929
Sep-15	19,861,337	31.1	81.9	30	1	16,005	18,496,092
Oct-15	18,777,773	249.8	0.0	31	1	16,050	19,413,484
Nov-15	20,148,030	345.0	0.0	30	1	16,127	20,022,349
Dec-15	22,509,584	429.7	0.0	31	0	16,168	22,909,967
Jan-16		700.2	0.0	31	0	16,222	26,340,934
Feb-16		663.5	0.0	29	0	16,275	24,647,325
Mar-16		541.3	0.0	31	1	16,329	23,236,388
Apr-16		311.8	0.1	30	1	16,383	19,751,902
May-16		127.9	22.2	31	1	16,436	18,773,306
Jun-16		25.3	65.1	30	0	16,490	19,353,119
Jul-16		2.2	129.3	31	0	16,544	21,675,094
Aug-16		5.4	103.5	31	0	16,598	20,961,190
Sep-16		62.7	35.5	30	1	16,651	17,846,162
Oct-16		239.5	2.6	31	1	16,705	19,730,828
Nov-16		414.4	0.0	30	1	16,759	21,250,145
Dec-16		583.6	0.0	31	0	16,812	25,206,741
Jan-17		700.2	0.0	31	0	16,849	26,693,723
Feb-17		663.5	0.0	28	0	16,887	24,359,420
Mar-17		541.3	0.0	31	1	16,924	23,570,622
Apr-17		311.8	0.1	30	1	16,961	20,076,860
May-17		127.9	22.2	31	1	16,998	19,088,986
Jun-17		25.3	65.1	30	0	17,035	19,659,522
Jul-17		2.2	129.3	31	0	17,073	21,972,221
Aug-17		5.4	103.5	31	0	17,110	21,249,039
Sep-17		62.7	35.5	30	1	17,147	18,124,734
Oct-17		239.5	2.6	31	1	17,184	20,000,123
Nov-17		414.4	0.0	30	1	17,221	21,510,163
Dec-17		583.6	0.0	31	0	17,259	25,457,481
Jan-18		700.2	0.0	31	0	17,346	26,972,716
Feb-18		663.5	0.0	28	0	17,433	24,666,667
Mar-18		541.3	0.0	31	1	17,521	23,906,121
Apr-18		311.8	0.1	30	1	17,608	20,440,611
May-18		127.9	22.2	31	1	17,696	19,480,991

Purchased Power Model

Jun-18		25.3	65.1	30	0	17,783	20,079,779	
Jul-18		2.2	129.3	31	0	17,871	22,420,731	
Aug-18		5.4	103.5	31	0	17,958	21,725,802	
Sep-18		62.7	35.5	30	1	18,046	18,629,750	
Oct-18		239.5	2.6	31	1	18,133	20,533,392	
Nov-18		414.4	0.0	30	1	18,221	22,071,684	
Dec-18		583.6	0.0	31	0	18,308	26,047,255	
Jan-19		700.2	0.0	31	0	18,415	27,573,425	
Feb-19		663.5	0.0	28	0	18,522	25,278,309	
Mar-19		541.3	0.0	31	1	18,629	24,528,698	
Apr-19		311.8	0.1	30	1	18,736	21,074,123	
May-19		127.9	22.2	31	1	18,843	20,125,437	
Jun-19		25.3	65.1	30	0	18,950	20,735,160	
Jul-19		2.2	129.3	31	0	19,056	23,087,045	
Aug-19		5.4	103.5	31	0	19,163	22,403,052	
Sep-19		62.7	35.5	30	1	19,270	19,317,934	
Oct-19		239.5	2.6	31	1	19,377	21,232,510	
Nov-19		414.4	0.0	30	1	19,484	22,781,737	
Dec-19		583.6	0.0	31	0	19,591	26,768,242	
Jan-20		700.2	0.0	31	0	19,667	28,276,947	
Feb-20		663.5	0.0	29	0	19,743	26,595,782	
Mar-20		541.3	0.0	31	1	19,819	25,197,290	
Apr-20		311.8	0.1	30	1	19,894	21,725,249	
May-20		127.9	22.2	31	1	19,970	20,759,098	
Jun-20		25.3	65.1	30	0	20,046	21,351,355	
Jul-20		2.2	129.3	31	0	20,122	23,685,776	
Aug-20		5.4	103.5	31	0	20,198	22,984,317	
Sep-20		62.7	35.5	30	1	20,274	19,881,733	
Oct-20		239.5	2.6	31	1	20,349	21,778,844	
Nov-20		414.4	0.0	30	1	20,425	23,310,606	
Dec-20		583.6	0.0	31	0	20,501	27,279,646	
Jan-21		700.2	0.0	31	0	20,592	28,796,558	
Feb-21		663.5	0.0	28	0	20,682	26,492,186	
Mar-21		541.3	0.0	31	1	20,772	25,733,317	
Apr-21		311.8	0.1	30	1	20,863	22,269,484	
May-21		127.9	22.2	31	1	20,953	21,311,541	
Jun-21		25.3	65.1	30	0	21,044	21,912,006	
Jul-21		2.2	129.3	31	0	21,134	24,254,635	
Aug-21		5.4	103.5	31	0	21,225	23,561,383	
Sep-21		62.7	35.5	30	1	21,315	20,467,008	
Oct-21		239.5	2.6	31	1	21,406	22,372,327	
Nov-21		414.4	0.0	30	1	21,496	23,912,296	
Dec-21		583.6	0.0	31	0	21,586	27,889,544	
			Weather Normal				4,098,330,476	
2006	234,398,899						236,716,534	
2007	241,154,636						243,492,052	
2008	245,623,028						242,687,774	Forecast of power purchased for the next 5 years
2009	247,239,189						242,876,077	
2010	250,239,379						245,540,747	
2011	246,758,167						248,011,802	
2012	245,129,838						245,994,875	
2013	245,129,838						249,473,504	
2014	253,254,985						254,225,266	
2015	255,186,387						255,095,714	
2016							258,773,135	
2017							261,762,895	
2018							266,975,500	
2019							274,905,672	
2020							282,826,642	
2021							288,972,286	
Total to 2015 ·	2,464,114,346						2,464,114,346	0.0
							4,098,330,476	0.0
	20 Year Trend							
Jan-17		721.8	0.0	31	0	16,849	26,965,978	
Feb-17		706.0	0.0	28	0	16,887	24,893,428	
Mar-17		544.1	0.0	31	1	16,924	23,605,991	
Apr-17		306.0	0.0	30	1	16,961	20,000,904	
May-17		106.6	26.0	31	1	16,998	18,935,251	

Purchased Power Model

Jun-17	23.9	63.2	30	0	17,035	19,585,355	
Jul-17	0.0	140.3	31	0	17,073	22,280,253	
Aug-17	0.0	107.5	31	0	17,110	21,303,767	
Sep-17	57.6	42.2	30	1	17,147	18,264,676	
Oct-17	230.4	2.3	31	1	17,184	19,876,944	
Nov-17	403.0	0.0	30	1	17,221	21,366,227	
Dec-17	574.1	0.0	31	0	17,259	25,338,873	262,417,646.6
Jan-18	722.3	0.0	31	0	17,346	27,250,917	
Feb-18	712.3	0.0	28	0	17,433	25,280,151	
Mar-18	544.0	0.0	31	1	17,521	23,940,049	
Apr-18	304.5	0.0	30	1	17,608	20,345,168	
May-18	103.2	26.8	31	1	17,696	19,309,693	
Jun-18	23.5	62.8	30	0	17,783	19,987,593	
Jul-18	-0.1	141.6	31	0	17,871	22,766,907	
Aug-18	3.9	107.8	31	0	17,958	21,837,819	
Sep-18	57.5	42.5	30	1	18,046	18,778,987	
Oct-18	229.2	2.3	31	1	18,133	20,394,369	
Nov-18	402.1	0.0	30	1	18,221	21,917,238	
Dec-18	572.4	0.0	31	0	18,308	25,906,776	267,715,668.5
Jan-19	722.8	0.0	31	0	18,415	27,857,571	
Feb-19	718.6	0.0	28	0	18,522	25,971,271	
Mar-19	543.9	0.0	31	1	18,629	24,561,186	
Apr-19	303.1	-0.1	30	1	18,736	20,959,193	
May-19	99.8	27.6	31	1	18,843	19,936,576	
Jun-19	23.0	62.4	30	0	18,950	20,624,954	
Jul-19	-0.3	142.9	31	0	19,056	23,468,823	
Aug-19	3.8	108.0	31	0	19,163	22,521,462	
Sep-19	57.4	42.9	30	1	19,270	19,476,466	
Oct-19	228.0	2.2	31	1	19,377	21,077,644	
Nov-19	401.3	0.0	30	1	19,484	22,616,781	
Dec-19	570.7	0.0	31	0	19,591	26,605,893	275,677,819.0
Jan-20	723.2	0.0	31	0	19,667	28,567,039	
Feb-20	724.9	0.0	29	0	19,743	27,368,220	
Mar-20	543.7	0.0	31	1	19,819	25,228,336	
Apr-20	301.7	-0.1	30	1	19,894	21,590,831	
May-20	96.5	28.4	31	1	19,970	20,552,675	
Jun-20	22.6	62.0	30	0	20,046	21,223,131	
Jul-20	-0.6	144.2	31	0	20,122	24,103,154	
Aug-20	3.6	108.3	31	0	20,198	23,109,121	
Sep-20	57.3	43.2	30	1	20,274	20,049,561	
Oct-20	226.8	2.2	31	1	20,349	21,608,135	
Nov-20	400.5	0.0	30	1	20,425	23,135,140	
Dec-20	568.9	0.0	31	0	20,501	27,095,426	283,630,767.7
Jan-21	723.7	0.0	31	0	20,592	29,092,596	
Feb-21	731.3	0.0	28	0	20,682	27,344,100	
Mar-21	543.6	0.0	31	1	20,772	25,762,923	
Apr-21	300.3	-0.2	30	1	20,863	22,115,580	
May-21	93.1	29.3	31	1	20,953	21,087,555	
Jun-21	22.2	61.5	30	0	21,044	21,765,762	
Jul-21	-0.9	145.4	31	0	21,134	24,707,614	
Aug-21	3.5	108.6	31	0	21,225	23,692,581	
Sep-21	57.2	43.6	30	1	21,315	20,644,131	
Oct-21	225.6	2.2	31	1	21,406	22,185,774	
Nov-21	399.6	0.0	30	1	21,496	23,726,321	
Dec-21	567.2	0.0	31	0	21,586	27,683,454	289,808,390.5

	Consumed	Heating Degree Days	Cooling Degree Days	Spring Fall Flag	Number of Days in Month (Not Used)	Number of Customers	Predicted Consumption	Variances (kWh)	% Variance
Jan-06	15,656,721	551.8	0	0	31	12,828	14,257,018		
Feb-06	14,305,197	604.3	0	0	28	12,835	14,740,250		
Mar-06	14,164,560	516.6	0	1	31	12,843	13,568,446		
Apr-06	10,773,864	293.3	0	1	30	12,856	11,513,102		
May-06	9,989,674	136.9	26	1	31	12,861	10,590,419		
Jun-06	10,480,487	19.5	73.6	0	30	12,867	10,820,699		
Jul-06	12,380,113	0	167.3	0	31	12,888	12,503,991		
Aug-06	11,213,160	4.2	101.6	0	31	12,905	11,236,518		
Sep-06	9,420,147	80.9	12.9	1	30	12,911	9,814,541		
Oct-06	11,103,931	288.3	1.1	1	31	12,926	11,488,948		
Nov-06	12,426,249	382.2	0	1	30	12,757	12,331,374		
Dec-06	14,468,915	500.5	0	0	31	12,949	13,784,832		
Jan-07	16,249,963	647.1	0	0	31	12,963	15,134,198		
Feb-07	15,687,569	740.1	0	0	28	12,973	15,990,208		
Mar-07	14,688,141	546.7	0	1	31	12,975	13,845,498		
Apr-07	11,526,759	356.4	0	1	30	12,979	12,093,900		
May-07	9,949,931	136.4	22.4	1	31	12,984	10,514,248		
Jun-07	10,346,267	16.5	99.2	0	30	12,991	11,302,020		
Jul-07	11,498,005	3.2	106.1	0	31	13,011	11,316,775		
Aug-07	11,423,707	5.2	141	0	31	13,034	12,029,004		
Sep-07	9,689,281	36.9	47.5	1	30	13,055	10,097,404		
Oct-07	10,253,643	137.7	19.8	1	31	13,090	10,474,525		
Nov-07	12,917,037	462.5	0	1	30	13,090	13,070,487		
Dec-07	16,029,153	630.7	0	0	31	13,132	14,983,246		
Jan-08	16,108,836	623.5	0	0	31	13,149	14,916,974		
Feb-08	15,111,865	674.7	0	0	29	13,164	15,388,240		
Mar-08	14,824,395	610.2	0	1	31	13,185	14,429,978		
Apr-08	10,995,224	253.9	0	1	30	13,202	11,150,448		
May-08	10,238,538	193.5	2.5	1	31	13,240	10,644,203		
Jun-08	10,371,805	22.7	71.5	0	30	13,277	10,808,404		
Jul-08	11,432,740	1	111	0	31	13,308	11,393,938		
Aug-08	10,970,422	12.7	64	0	31	13,349	10,567,258		
Sep-08	9,784,362	59	26.7	1	30	13,384	9,887,312		
Oct-08	10,926,030	278.6	0	1	31	13,423	11,377,797		
Nov-08	13,094,794	451.6	0	1	30	13,431	12,970,159		
Dec-08	16,764,512	654.6	0	0	31	13,472	15,203,231		
Jan-09	17,810,584	830.2	0	0	31	13,491	16,819,525		
Feb-09	14,875,943	606.4	0	0	28	13,506	14,759,579		
Mar-09	14,168,411	533.8	0	1	31	13,518	13,726,762		
Apr-09	11,457,915	305.8	1.2	1	30	13,525	11,652,013		
May-09	10,081,810	158.8	6.9	1	31	13,530	10,412,283		
Jun-09	9,854,813	49.3	34.2	0	30	13,533	10,311,709		
Jul-09	10,889,246	6.2	43.7	0	31	13,781	10,103,861		
Aug-09	11,628,804	9.8	91	0	31	14,047	11,077,332		
Sep-09	9,993,074	55.2	20.9	1	30	14,145	9,737,030		
Oct-09	11,313,182	287.8	0	1	31	14,177	11,462,478		
Nov-09	12,003,176	361.2	0	1	30	14,179	12,138,081		
Dec-09	15,992,024	631.3	0	0	31	13,636	14,988,769		
Jan-10	16,758,847	720	0	0	31	13,627	15,805,200		
Feb-10	14,108,588	598.3	0	0	28	13,628	14,685,023		
Mar-10	12,565,986	422.8	0	1	31	13,641	12,705,073		
Apr-10	10,254,608	225.1	0	1	30	13,641	10,885,361		
May-10	10,319,214	107.9	45.7	1	31	13,637	10,715,132		
Jun-10	10,886,710	21.7	58.7	0	30	13,651	10,544,733		
Jul-10	12,945,230	1.8	164.9	0	31	13,662	12,472,846		
Aug-10	12,216,023	2.1	138.8	0	31	13,688	11,956,734		
Sep-10	10,068,692	78.1	31.5	1	30	13,700	10,158,541		
Oct-10	10,537,708	241.6	0	1	31	13,713	11,037,234		
Nov-10	12,377,930	405.3	0	1	30	13,730	12,543,995		
Dec-10	15,852,526	676.2	0	0	31	13,747	15,402,047		
Jan-11	16,696,145	775.3	0	0	31	13,752	16,314,203		
Feb-11	14,407,275	654.2	0	0	28	13,757	15,199,550		
Mar-11	14,015,514	572.8	0	1	31	13,766	14,085,733		
Apr-11	11,306,265	332.3	0	1	30	13,767	11,872,074		
May-11	9,737,594	134.1	13	1	31	13,771	10,306,204		
Jun-11	9,716,476	19	52.2	0	30	13,779	10,390,659		
Jul-11	13,535,935	0	198.5	0	31	13,793	13,124,255		

Residential

SUMMARY OUTPUT

Regression Statistics	
Multiple R	88%
R Square	78%
Adjusted R Square	77%
Standard Error	1,066,427
Observations	120

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	4.58424E+14	1.52808E+14	134.3643968	1.37224E-37
Residual	116	1.31923E+14	1.13727E+12		
Total	119	5.90347E+14			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	9,178,027	404,861.40	22.67	1.96159E-44	8,376,148.12	9,979,906.16
Heating Degree Days	9,204	632.81	14.55	6.50133E-28	7,951.05	10,457.77
Cooling Degree Days	19,880	3,858.95	5.15	1.06944E-06	12,237.09	27,523.38
Spring Fall Flag	(364,578)	263,558.87	(1.38)	0.169233405	(886,589.12)	157,433.98

Aug-11	11,675,437	0	122.2	0	31	13,804	11,607,392
Sep-11	9,553,832	48.2	39.7	1	30	13,800	10,046,347
Oct-11	10,426,163	235.5	2.4	1	31	13,820	11,028,800
Nov-11	11,200,470	342.1	0	1	30	13,839	11,962,277
Dec-11	14,406,250	534	0	0	31	13,854	14,093,180
Jan-12	14,419,203	611.1	0	0	31	13,859	14,802,840
Feb-12	15,186,723	531.7	0	0	29	13,863	14,072,010
Mar-12	13,290,184	349.4	0.2	1	31	13,884	12,033,445
Apr-12	11,753,568	321.7	0	1	30	13,893	11,774,507
May-12	10,732,730	80.7	36.7	1	31	13,898	10,285,850
Jun-12	9,647,919	23.2	101.6	0	30	13,903	11,411,402
Jul-12	11,182,332	0	195.4	0	31	13,944	13,062,626
Aug-12	13,798,406	2	112.1	0	31	13,974	11,425,011
Sep-12	11,993,115	85	35.6	1	30	13,980	10,303,561
Oct-12	9,968,055	242.5	1.1	1	31	14,024	11,067,386
Nov-12	10,745,430	434	0	1	30	14,037	12,808,162
Dec-12	12,225,430	533.5	0	0	31	14,061	14,088,578
Jan-13	14,692,174	624.4	0	0	31	14,074	14,925,258
Feb-13	15,269,953	631.5	0	0	28	14,084	14,990,610
Mar-13	14,126,587	554.8	0	1	31	14,097	13,920,054
Apr-13	13,656,289	358.6	0	1	30	14,105	12,114,150
May-13	11,414,254	109.1	23.1	1	31	14,135	10,276,884
Jun-13	9,912,417	33	59.6	0	30	14,157	10,666,635
Jul-13	10,710,649	1.3	120.8	0	31	14,183	11,591,526
Aug-13	13,234,184	4.4	93.8	0	31	14,221	11,083,293
Sep-13	11,544,524	83	28.1	1	30	14,235	10,136,050
Oct-13	10,038,352	208.5	0.4	1	31	14,261	10,740,520
Nov-13	10,529,891	478.2	0	1	30	14,303	13,214,997
Dec-13	12,835,022	687.9	0	0	31	14,317	15,509,738
Jan-14	16,379,015	825.9	0	0	31	14,372	16,779,946
Feb-14	17,466,985	737.1	0	0	28	14,388	15,962,595
Mar-14	14,955,218	690.6	0	1	31	14,406	15,170,012
Apr-14	15,294,723	356.9	0	1	30	14,439	12,098,502
May-14	11,587,580	132.1	11.9	1	31	14,461	10,265,926
Jun-14	9,833,122	14.1	68.1	0	30	14,474	10,661,654
Jul-14	10,541,057	4	71	0	31	14,507	10,626,342
Aug-14	11,450,190	8.8	81.8	0	31	14,539	10,885,229
Sep-14	11,521,628	69.7	30.1	1	30	14,566	10,053,392
Oct-14	9,968,060	224.3	1.3	1	31	14,612	10,903,842
Nov-14	10,531,538	482.1	0	1	30	14,647	13,250,894
Dec-14	12,848,843	557.3	0	0	31	14,699	14,307,643
Jan-15	14,844,381	792.4	0	0	31	14,727	16,471,599
Feb-15	16,906,264	856.8	0	0	28	14,735	17,064,362
Mar-15	16,266,030	615.5	0	1	31	14,759	14,478,762
Apr-15	14,274,594	313.7	0	1	30	14,776	11,700,872
May-15	10,939,645	89.3	34.1	1	31	14,789	10,313,319
Jun-15	10,005,424	33.8	32.3	0	30	14,816	10,131,268
Jul-15	9,913,946	4	114.3	0	31	14,814	11,487,156
Aug-15	12,836,683	4.4	88.6	0	31	14,895	10,979,916
Sep-15	12,007,590	31.1	81.9	1	30	14,926	10,727,898
Oct-15	11,180,147	249.8	0	1	31	14,975	11,112,710
Nov-15	10,611,038	345	0	1	30	15,045	11,988,970
Dec-15	11,257,182	429.7	0	0	31	15,082	13,133,160
			Weatther Normal				1,489,232,669

2006	146,383,018	146,650,138	267,120	0.2%
2007	150,259,456	150,851,513	592,057	0.4%
2008	150,623,523	148,737,944	(1,885,579)	-1.3%
2009	150,068,982	147,189,421	(2,879,561)	-1.9%
2010	148,892,062	148,911,919	19,857	0.0%
2011	146,677,356	150,030,674	3,353,318	2.3%
2012	144,943,095	147,135,377	2,192,282	1.5%
2013	147,964,296	149,169,714	1,205,418	0.8%
2014	152,377,958	150,965,978	(1,411,981)	-0.9%
2015	151,042,923	149,589,992	(1,452,931)	-1.0%
Total to 2011	1,489,232,669	1,489,232,669	0	

Check totals above sould be zero

Residential

	Consumed	Heating Degree Days	Cooling Degree Days	Number of Customers	Spring Fall Flag (Not Used)	Number of Days in Month	Predicted Consumption	Variances (kWh)	% Variance
Jan-06	2,405,185	551.8	0	894	0	31	2,609,172		
Feb-06	2,220,986	604.3	0	893	0	28	2,652,496		
Mar-06	2,311,304	516.6	0	894	1	31	2,578,636		
Apr-06	1,970,759	293.3	0	897	1	30	2,391,584		
May-06	1,991,763	136.9	26	891	1	31	2,325,993		
Jun-06	2,203,302	19.5	73.6	797	0	30	2,168,198		
Jul-06	2,484,696	0	167.3	811	0	31	2,482,931		
Aug-06	2,359,413	4.2	101.6	815	0	31	2,284,698		
Sep-06	2,127,231	80.9	12.9	818	1	30	2,073,359		
Oct-06	2,278,439	288.3	1.1	821	1	31	2,222,083		
Nov-06	2,340,246	382.2	0	811	1	30	2,277,816		
Dec-06	2,439,858	500.5	0	816	0	31	2,391,539		
Jan-07	2,566,158	647.1	0	816	0	31	2,518,714		
Feb-07	2,449,930	740.1	0	818	0	28	2,603,830		
Mar-07	2,503,057	546.7	0	820	1	31	2,440,496		
Apr-07	2,150,206	356.4	0	819	1	30	2,273,192		
May-07	2,173,559	136.4	22.4	818	1	31	2,151,979		
Jun-07	2,286,735	16.5	99.2	819	0	30	2,296,548		
Jul-07	2,434,031	3.2	106.1	824	0	31	2,318,242		
Aug-07	2,419,591	5.2	141	821	0	31	2,425,272		
Sep-07	2,195,496	36.9	47.5	824	1	30	2,159,498		
Oct-07	2,297,711	137.7	19.8	826	1	31	2,162,523		
Nov-07	2,455,130	462.5	0	826	1	30	2,380,771		
Dec-07	2,654,818	630.7	0	831	0	31	2,537,781		
Jan-08	2,708,152	623.5	0	831	0	31	2,531,535		
Feb-08	2,543,856	674.7	0	832	0	29	2,578,171		
Mar-08	2,579,260	610.2	0	833	1	31	2,524,437		
Apr-08	2,176,154	253.9	0	834	1	30	2,217,568		
May-08	2,168,104	193.5	2.5	838	1	31	2,182,069		
Jun-08	2,214,082	22.7	71.5	836	0	30	2,250,803		
Jul-08	2,343,602	1	111	836	0	31	2,358,688		
Aug-08	2,300,528	12.7	64	837	0	31	2,220,289		
Sep-08	2,111,286	59	26.7	839	1	30	2,145,241		
Oct-08	2,222,937	278.6	0	840	1	31	2,252,313		
Nov-08	2,396,744	451.6	0	843	1	30	2,409,048		
Dec-08	2,623,822	654.6	0	842	0	31	2,582,930		
Jan-09	2,722,823	830.2	0	846	0	31	2,744,141		
Feb-09	2,424,700	606.4	0	846	0	28	2,549,995		
Mar-09	2,427,300	533.8	0	846	1	31	2,487,015		
Apr-09	2,234,311	305.8	1.2	849	1	30	2,299,735		
May-09	2,126,121	158.8	6.9	850	1	31	2,192,717		
Jun-09	2,169,041	49.3	34.2	855	0	30	2,196,399		
Jul-09	2,310,652	6.2	43.7	857	0	31	2,193,923		
Aug-09	2,378,057	9.8	91	857	0	31	2,348,777		
Sep-09	2,164,587	55.2	20.9	856	1	30	2,161,072		
Oct-09	2,341,208	287.8	0	861	1	31	2,306,906		
Nov-09	2,351,792	361.2	0	856	1	30	2,359,482		
Dec-09	2,667,735	631.3	0	855	0	31	2,591,573		
Jan-10	2,750,890	720	0	854	0	31	2,666,300		
Feb-10	2,436,943	598.3	0	852	0	28	2,556,287		
Mar-10	2,344,061	422.8	0	852	1	31	2,404,041		
Apr-10	2,116,368	225.1	0	852	1	30	2,232,537		
May-10	2,317,663	107.9	45.7	862	1	31	2,299,661		
Jun-10	2,346,316	21.7	58.7	865	0	30	2,273,244		
Jul-10	2,633,804	1.8	164.9	870	0	31	2,607,751		
Aug-10	2,573,532	2.1	138.8	877	0	31	2,539,824		
Sep-10	2,297,240	78.1	31.5	878	1	30	2,263,773		
Oct-10	2,376,983	241.6	0	883	1	31	2,315,659		
Nov-10	2,420,856	405.3	0	890	1	30	2,473,206		
Dec-10	2,808,483	676.2	0	892	0	31	2,712,649		
Jan-11	2,916,087	775.3	0	893	0	31	2,800,838		
Feb-11	2,595,862	654.2	0	891	0	28	2,691,345		
Mar-11	2,660,869	572.8	0	894	1	31	2,627,390		
Apr-11	2,340,953	332.3	0	894	1	30	2,418,757		
May-11	2,315,445	134.1	13	894	1	31	2,288,521		
Jun-11	2,399,956	19	52.2	896	0	30	2,318,859		

SUMMARY OUTPUT

Regression Statistics	
Multiple R	85%
R Square	72%
Adjusted R Square	71%
Standard Error	135,890
Observations	120

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	5.55059E+12	1.8502E+12	100.1938259	4.60757E-32
Residual	116	2.14208E+12	18466176034		
Total	119	7.69267E+12			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	146,146	179,909.55	0.81	0.418264896	(210,187.18)	502,479.88
Heating Degree Days	867	65.63	13.22	6.82174E-25	737.51	997.48
Cooling Degree Days	3,208	364.93	8.79	1.59801E-14	2,485.05	3,930.63
Number of Customers	2,220	196.72	11.28	2.22612E-20	1,829.99	2,609.25

Jul-11	2,786,776	0	198.5	899	0	31	2,778,342
Aug-11	2,615,109	0	122.2	900	0	31	2,535,804
Sep-11	2,322,637	48.2	39.7	905	1	30	2,324,069
Oct-11	2,383,183	235.5	2.4	907	1	31	2,371,337
Nov-11	2,441,092	342.1	0	902	1	30	2,445,015
Dec-11	2,685,737	534	0	904	0	31	2,615,927
Jan-12	2,729,350	611.1	0	904	0	31	2,682,811
Feb-12	2,753,257	531.7	0	904	0	29	2,613,932
Mar-12	2,566,239	349.4	0.2	904	1	31	2,456,429
Apr-12	2,561,628	321.7	0	905	1	30	2,433,977
May-12	2,292,791	80.7	36.7	910	1	31	2,353,737
Jun-12	2,451,988	23.2	101.6	910	0	30	2,512,045
Jul-12	2,572,287	0	195.4	909	0	31	2,790,594
Aug-12	2,763,653	2	112.1	911	0	31	2,529,556
Sep-12	2,699,405	85	35.6	920	1	30	2,376,135
Oct-12	2,275,245	242.5	1.1	926	1	31	2,415,412
Nov-12	2,473,946	434	0	930	1	30	2,586,888
Dec-12	2,583,609	533.5	0	932	0	31	2,677,643
Jan-13	2,679,143	624.4	0	933	0	31	2,758,718
Feb-13	2,864,870	631.5	0	935	0	28	2,769,316
Mar-13	2,609,208	554.8	0	935	1	31	2,702,779
Apr-13	2,632,742	358.6	0	934	1	30	2,530,357
May-13	2,375,993	109.1	23.1	936	1	31	2,392,457
Jun-13	2,375,528	33	59.6	946	0	30	2,465,723
Jul-13	2,403,641	1.3	120.8	958	0	31	2,661,179
Aug-13	2,699,207	4.4	93.8	957	0	31	2,575,037
Sep-13	2,574,379	83	28.1	959	1	30	2,436,906
Oct-13	2,365,919	208.5	0.4	962	1	31	2,463,579
Nov-13	2,579,534	478.2	0	966	1	30	2,705,137
Dec-13	2,682,831	687.9	0	970	0	31	2,895,929
Jan-14	2,952,055	825.9	0	968	0	31	3,011,205
Feb-14	3,157,353	737.1	0	971	0	28	2,940,830
Mar-14	2,822,324	690.6	0	972	1	31	2,902,711
Apr-14	2,913,100	356.9	0	973	1	30	2,615,448
May-14	2,373,330	132.1	11.9	970	1	31	2,451,949
Jun-14	2,336,278	14.1	68.1	974	0	30	2,538,744
Jul-14	2,440,130	4	71	1,012	0	31	2,623,630
Aug-14	2,548,929	8.8	81.8	1,021	0	31	2,682,416
Sep-14	2,416,998	69.7	30.1	1,014	1	30	2,553,863
Oct-14	2,501,281	224.3	1.3	1,009	1	31	2,584,494
Nov-14	2,737,984	482.1	0	1,004	1	30	2,792,866
Dec-14	2,822,277	557.3	0	1,007	0	31	2,864,761
Jan-15	3,269,236	792.4	0	997	0	31	3,046,512
Feb-15	3,304,585	856.8	0	998	0	28	3,104,599
Mar-15	3,108,557	615.5	0	998	1	31	2,895,272
Apr-15	3,021,846	313.7	0	997	1	30	2,631,243
May-15	2,605,051	89.3	34.1	997	1	31	2,545,964
Jun-15	2,697,597	33.8	32.3	997	0	30	2,492,044
Jul-15	2,621,303	4	114.3	996	0	31	2,727,016
Aug-15	2,896,317	4.4	88.6	1,003	0	31	2,660,459
Sep-15	2,724,978	31.1	81.9	1,004	1	30	2,664,348
Oct-15	2,670,877	249.8	0	1,000	1	31	2,582,469
Nov-15	2,674,255	345	0	1,008	1	30	2,682,811
Dec-15	2,624,072	429.7	0	1,012	0	31	2,765,166
			Weatther Normal				300,120,411

2006	27,133,182	28,458,506	1,325,324	4.9%
2007	28,586,422	28,268,846	(317,576)	-1.1%
2008	28,388,527	28,253,092	(135,435)	-0.5%
2009	28,318,327	28,431,736	113,409	0.4%
2010	29,423,139	29,344,933	(78,206)	-0.3%
2011	30,463,706	30,216,204	(247,502)	-0.8%
2012	30,723,398	30,429,157	(294,241)	-1.0%
2013	30,842,995	31,357,117	514,122	1.7%
2014	32,022,040	32,562,916	540,875	1.7%
2015	34,218,675	32,797,902	(1,420,772)	-4.2%
Total to 2011	300,120,411	300,120,411	0	

Check totals above sould be zero

GS< 50 kW

Not used

	Consumed	Heating Degree Days	Cooling Degree Days	Number of Days in Month	Spring Fall Flag	Number of Customers	Predicted Consumption	Variances (kWh)	% Variance
Jan-06	3,504,488	551.8	0	31	0	81	4,089,172		
Feb-06	3,222,615	604.3	0	28	0	80	4,041,887		
Mar-06	3,449,527	516.6	0	31	1	80	4,075,868		
Apr-06	3,144,707	293.3	0	30	1	80	3,969,099		
May-06	3,320,523	136.9	26	31	1	80	3,955,595		
Jun-06	3,217,349	19.5	73.6	30	0	80	3,931,378		
Jul-06	3,320,788	0	167.3	31	0	65	4,030,099		
Aug-06	3,261,074	4.2	101.6	31	0	66	3,972,987		
Sep-06	3,173,965	80.9	12.9	30	1	67	3,900,351		
Oct-06	3,391,458	288.3	1.1	31	1	67	3,990,568		
Nov-06	3,386,870	382.2	0	30	1	67	4,002,698		
Dec-06	3,333,891	500.5	0	31	0	67	4,069,783		
Jan-07	3,416,075	647.1	0	31	0	70	4,125,189		
Feb-07	3,153,475	740.1	0	28	0	70	4,093,211		
Mar-07	3,314,545	546.7	0	31	1	70	4,087,244		
Apr-07	3,030,956	356.4	0	30	1	71	3,992,947		
May-07	3,141,479	136.4	22.4	31	1	71	3,952,190		
Jun-07	3,194,900	16.5	99.2	30	0	71	3,953,116		
Jul-07	3,204,487	3.2	106.1	31	0	70	3,976,630		
Aug-07	3,218,318	5.2	141	31	0	70	4,008,567		
Sep-07	3,271,925	36.9	47.5	30	1	70	3,914,635		
Oct-07	3,588,707	137.7	19.8	31	1	71	3,950,358		
Nov-07	3,761,009	462.5	0	30	1	71	4,033,046		
Dec-07	3,870,949	630.7	0	31	0	72	4,118,991		
Jan-08	3,952,667	623.5	0	31	0	72	4,116,270		
Feb-08	3,721,999	674.7	0	29	0	73	4,090,869		
Mar-08	3,767,626	610.2	0	31	1	73	4,111,243		
Apr-08	3,502,956	253.9	0	30	1	73	3,954,209		
May-08	3,563,732	193.5	2.5	31	1	73	3,955,990		
Jun-08	3,531,127	22.7	71.5	30	0	73	3,930,711		
Jul-08	3,652,158	1	111	31	0	74	3,980,176		
Aug-08	3,705,140	12.7	64	31	0	74	3,942,606		
Sep-08	3,825,164	59	26.7	30	1	74	3,904,404		
Oct-08	4,010,251	278.6	0	31	1	74	3,985,919		
Nov-08	4,029,874	451.6	0	30	1	74	4,028,927		
Dec-08	4,253,129	654.6	0	31	0	74	4,128,024		
Jan-09	4,093,327	830.2	0	31	0	74	4,194,389		
Feb-09	3,845,597	606.4	0	28	0	74	4,042,681		
Mar-09	4,098,357	533.8	0	31	1	74	4,082,369		
Apr-09	3,726,593	305.8	1.2	30	1	74	3,974,896		
May-09	3,697,247	158.8	6.9	31	1	75	3,946,807		
Jun-09	3,539,269	49.3	34.2	30	0	72	3,907,438		
Jul-09	3,698,838	6.2	43.7	31	0	72	3,922,012		
Aug-09	4,067,503	9.8	91	31	0	72	3,965,633		
Sep-09	4,020,681	55.2	20.9	30	1	72	3,897,785		
Oct-09	4,114,121	287.8	0	31	1	72	3,989,396		
Nov-09	4,196,370	361.2	0	30	1	72	3,994,761		
Dec-09	4,346,550	631.3	0	31	0	72	4,119,218		
Jan-10	4,467,755	720	0	31	0	73	4,152,741		
Feb-10	4,091,689	598.3	0	28	0	73	4,039,619		
Mar-10	4,408,918	422.8	0	31	1	73	4,040,418		
Apr-10	3,956,850	225.1	0	30	1	73	3,943,324		
May-10	4,178,542	107.9	45.7	31	1	71	3,962,236		
Jun-10	4,295,870	21.7	58.7	30	0	68	3,918,897		
Jul-10	4,296,963	1.8	164.9	31	0	67	4,028,635		
Aug-10	4,422,302	2.1	138.8	31	0	68	4,005,430		
Sep-10	4,190,730	78.1	31.5	30	1	68	3,915,911		
Oct-10	4,346,909	241.6	0	31	1	68	3,971,935		
Nov-10	4,206,995	405.3	0	30	1	68	4,011,428		
Dec-10	4,242,518	676.2	0	31	0	68	4,136,187		
Jan-11	4,294,433	775.3	0	31	0	68	4,173,641		
Feb-11	3,932,436	654.2	0	28	0	68	4,060,746		
Mar-11	4,256,728	572.8	0	31	1	68	4,097,108		
Apr-11	3,978,925	332.3	0	30	1	68	3,983,839		
May-11	4,091,845	134.1	13	31	1	68	3,942,922		
Jun-11	4,026,185	19	52.2	30	0	67	3,912,069		
Jul-11	4,195,592	0	198.5	31	0	67	4,057,975		
Aug-11	4,267,059	0	122.2	31	0	68	3,989,805		

SUMMARY OUTPUT

Regression Statistics	
Multiple R	17%
R Square	3%
Adjusted R Square	0%
Standard Error	437,099.54
Observations	120

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	6.76695E+11	2.25565E+11	1.180622245	0.320267398
Residual	116	2.21625E+13	1.91056E+11		
Total	119	2.28392E+13			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	3,186,986	1528131.224	2.09	0.039212717	160329.9502	6213642.825
Heating Degree Days	378	212.4543795	1.78	0.077873622	-42.85523552	798.7301013
Cooling Degree Days	893	1177.388886	0.76	0.44948958	-1438.521499	3225.412587
Number of Days in Month	22,375	49958.81405	0.45	0.655076472	-76574.26474	121325.1876

GS > 50 kW

Sep-11	4,093,999	48.2	39.7	30	1	67	3,911,937
Oct-11	4,238,340	235.5	2.4	31	1	67	3,971,774
Nov-11	4,324,842	342.1	0	30	1	68	3,987,543
Dec-11	4,305,174	534	0	31	0	68	4,082,444
Jan-12	4,408,677	611.1	0	31	0	68	4,111,583
Feb-12	4,391,689	531.7	0	29	0	68	4,036,824
Mar-12	4,119,900	349.4	0.2	31	1	68	4,012,856
Apr-12	4,274,757	321.7	0	30	1	69	3,979,833
May-12	3,790,260	80.7	36.7	31	1	69	3,943,915
Jun-12	4,258,545	23.2	101.6	30	0	69	3,957,792
Jul-12	4,305,966	0	195.4	31	0	68	4,055,205
Aug-12	4,273,773	2	112.1	31	0	68	3,981,537
Sep-12	4,455,584	85	35.6	30	1	68	3,922,182
Oct-12	3,873,871	242.5	1.1	31	1	62	3,973,258
Nov-12	4,175,824	434	0	30	1	69	4,022,275
Dec-12	4,809,264	533.5	0	31	0	69	4,082,255
Jan-13	4,310,080	624.4	0	31	0	69	4,116,610
Feb-13	4,557,931	631.5	0	28	0	69	4,052,167
Mar-13	4,026,120	554.8	0	31	1	68	4,090,305
Apr-13	4,223,484	358.6	0	30	1	68	3,993,779
May-13	4,095,207	109.1	23.1	31	1	68	3,942,497
Jun-13	4,235,433	33	59.6	30	0	69	3,923,972
Jul-13	4,170,619	1.3	120.8	31	0	66	3,989,045
Aug-13	4,290,304	4.4	93.8	31	0	66	3,966,094
Sep-13	4,398,606	83	28.1	30	1	66	3,914,725
Oct-13	4,043,829	208.5	0.4	31	1	65	3,959,783
Nov-13	4,404,977	478.2	0	30	1	65	4,038,980
Dec-13	4,165,132	687.9	0	31	0	65	4,140,609
Jan-14	4,211,268	825.9	0	31	0	66	4,192,764
Feb-14	4,507,639	737.1	0	28	0	66	4,092,077
Mar-14	4,043,999	690.6	0	31	1	66	4,141,629
Apr-14	4,288,138	356.9	0	30	1	66	3,993,136
May-14	4,013,117	132.1	11.9	31	1	66	3,941,183
Jun-14	4,219,053	14.1	68.1	30	0	67	3,924,423
Jul-14	4,080,609	4	71	31	0	68	3,945,572
Aug-14	4,135,126	8.8	81.8	31	0	68	3,957,035
Sep-14	4,211,480	69.7	30.1	30	1	68	3,911,485
Oct-14	4,339,620	224.3	1.3	31	1	67	3,966,559
Nov-14	4,225,073	482.1	0	30	1	69	4,040,454
Dec-14	4,317,146	557.3	0	31	0	69	4,091,250
Jan-15	4,254,903	792.4	0	31	0	69	4,180,103
Feb-15	4,899,443	856.8	0	28	0	69	4,137,316
Mar-15	4,402,986	615.5	0	31	1	69	4,113,246
Apr-15	4,672,620	313.7	0	30	1	70	3,976,809
May-15	4,059,115	89.3	34.1	31	1	70	3,944,842
Jun-15	4,270,098	33.8	32.3	30	0	70	3,899,883
Jul-15	4,471,002	4	114.3	31	0	71	3,984,258
Aug-15	4,635,023	4.4	88.6	31	0	72	3,961,448
Sep-15	4,812,114	31.1	81.9	30	1	75	3,943,177
Oct-15	4,707,296	249.8	0	31	1	75	3,975,034
Nov-15	4,627,640	345	0	30	1	74	3,988,639
Dec-15	4,824,037	429.7	0	31	0	74	4,043,025
			Weatther Normal				481,254,330

2006	39,727,255	48,029,485	8,302,230	20.9%
2007	40,166,825	48,206,123	8,039,298	20.0%
2008	45,515,823	48,129,346	2,613,523	5.7%
2009	47,444,453	48,037,385	592,932	1.2%
2010	51,106,041	48,126,760	(2,979,281)	-5.8%
2011	50,005,558	48,171,802	(1,833,756)	-3.7%
2012	51,138,110	48,079,515	(3,058,595)	-6.0%
2013	50,921,722	48,128,565	(2,793,157)	-5.5%
2014	50,592,267	48,197,568	(2,394,699)	-4.7%
2015	54,636,276	48,147,782	(6,488,495)	-11.9%
Total to 2011	481,254,330	481,254,330	0	

Check totals above sould be zero

	Purchases	Modeled Purchases	Difference	% Difference	Loss Factor	Total Billed	Residential	GS<50	GS>50	Sentinels	Streetlights	USL	Hydro One Load Transfers
Weatther Normal Projection													
2006	234,398,899	236,716,534	2,317,635	1.0%	1.0685	219,381,471	149,103,951	27,191,374	39,830,915	131,869	1,445,518	291,777	1,386,067
2007	241,154,636	243,492,052	2,337,416	1.0%	1.0974	219,752,747	148,690,902	28,463,422	39,320,570	126,371	1,495,947	519,694	1,135,841
2008	245,623,028	242,687,774	(2,935,254)	-1.2%	1.0828	226,836,186	149,960,621	28,399,681	45,269,406	124,212	1,533,899	508,215	1,040,153
2009	247,239,189	242,876,077	(4,363,112)	-1.8%	1.0790	229,135,056	150,373,777	28,113,433	47,473,258	122,021	1,576,912	493,680	981,975
2010	250,239,379	245,540,747	(4,698,631)	-1.9%	1.0793	231,850,249	148,340,356	29,188,874	51,128,771	116,703	1,580,058	493,680	1,001,807
2011	246,758,167	248,011,802	1,253,635	0.5%	1.0564	233,577,129	150,098,110	30,548,695	49,921,685	110,241	1,457,369	489,312	951,716
2012	245,129,838	245,994,875	865,037	0.4%	1.0668	229,785,721	144,943,095	30,723,398	51,138,110	113,360	1,569,709	478,327	819,723
2013	245,129,838	249,473,504	4,343,666	1.8%	1.0542	232,518,310	147,964,296	30,842,995	50,921,722	101,844	1,472,134	470,797	744,522
2014	253,254,985	254,225,266	970,281	0.4%	1.0647	237,858,387	152,377,958	32,022,040	50,592,267	107,980	1,625,553	463,267	669,321
2015	255,186,387	255,095,714	(90,673)	0.0%	1.0538	242,165,066	151,042,923	34,218,675	54,636,276	103,536	1,106,444	463,092	594,120
2016		258,773,135				241,363,660							
2017		261,762,895				244,152,278							
2018		266,975,500				249,014,194							
2019		274,905,672				256,410,848							
2020		282,826,642				263,798,919							
2021		288,972,286				269,531,103							
Average					1.0721								
Usage Per Customer													
2006							11,588	34,117	497,886	698	610	3,242	1,386,067
2007							11,446	34,754	553,811	679	601	5,839	1,135,841
2008							11,295	33,971	620,129	668	593	6,050	1,040,153
2009							11,112	32,881	659,351	632	601	5,948	981,975
2010							10,867	33,744	751,894	581	588	6,020	1,001,807
2011							10,893	34,095	745,100	490	534	6,041	951,716
2012							10,395	33,623	752,954	659	575	6,080	819,723
2013							10,434	32,492	760,026	606	518	6,068	744,522
2014							10,502	32,305	753,235	637	556	6,129	669,321
2015							10,163	34,199	764,144	625	382	6,093	594,120
2016							10,039	33,966	804,730	618	377	6,598	542,445
2017							9,916	33,735	847,471	611	373	7,145	495,264
2018							9,795	33,506	892,483	604	369	7,737	452,187
2019							9,675	33,278	939,886	597	365	8,378	412,857
2020							9,557	33,052	989,806	590	360	9,072	376,947
2021							9,440	32,827	1,042,378	584	356	9,824	344,161
2006													
2007							0.9877	1.0187	1.1123	0.9738	0.9858	1.8011	0.8195
2008							0.9868	0.9775	1.1197	0.9829	0.9861	1.0361	0.9158
2009							0.9838	0.9679	1.0632	0.9467	1.0136	0.9831	0.9441
2010							0.9780	1.0263	1.1404	0.9183	0.9796	1.0122	1.0202
2011							1.0024	1.0104	0.9910	0.8439	0.9078	1.0034	0.9500
2012							0.9543	0.9862	1.0105	1.3445	1.0771	1.0065	0.8613
2013							1.0037	0.9663	1.0094	0.9202	0.8998	0.9980	0.9083
2014							1.0065	0.9942	0.9911	1.0514	1.0740	1.0100	0.8990
2015													
Used							0.9878	0.9932	1.0531	0.9888	0.9886	1.0829	0.9130
Geomean							0.9878	0.9932	1.0531	0.9888	0.9886	1.0829	0.9130

														Residential	GS<50	GS>50	Sentinels	Streetlights	USL	Hydro One Load Transfers
Non Weather Corrected Forecast																				
2016		249,436,427	154,792,526	34,849,288	57,538,177	100,673	1,118,450	494,868	542,445	249,436,427				62.1%	14.0%	23.1%	0.0%	0.4%	0.2%	0.2%
2017	usage * customer	256,304,204	157,967,605	35,489,420	60,594,206	98,320	1,130,658	528,731	495,264	256,304,204				61.6%	13.8%	23.6%	0.0%	0.4%	0.2%	0.2%
2018	includes weather impacts	265,564,891	163,343,788	36,152,741	63,812,551	96,006	1,142,810	564,807	452,187	265,564,891				61.5%	13.6%	24.0%	0.0%	0.4%	0.2%	0.2%
2019		278,760,040	172,454,444	36,838,677	67,201,832	93,733	1,155,265	603,232	412,857	278,760,040				61.9%	13.2%	24.1%	0.0%	0.4%	0.2%	0.1%
2020		290,975,006	180,410,026	37,513,613	70,771,128	91,498	1,167,646	644,147	376,947	290,975,006				62.0%	12.9%	24.3%	0.0%	0.4%	0.2%	0.1%
2021		302,460,400	187,418,439	38,210,492	74,530,001	89,302	1,180,306	687,700	344,161	302,460,400				62.0%	12.6%	24.6%	0.0%	0.4%	0.2%	0.1%
Weather Corrected Forecast											CDM Adjustment									
2016		241,363,660	149,232,278	33,023,312	54,889,863	100,673	657,419	494,868	542,445	238,940,858	2,422,802	0		62.5%	13.8%	23.0%	0.0%	0.3%	0.2%	0.2%
2017		244,152,278	149,528,641	32,278,265	55,988,819	98,320	669,627	528,731	495,264	239,587,667	4,564,610	(0)		62.4%	13.5%	23.4%	0.0%	0.3%	0.2%	0.2%
2018	this has average weather impacts	249,014,194	151,683,941	31,163,007	58,150,841	96,006	681,779	564,807	452,187	242,792,568	6,221,626	0		62.5%	12.8%	24.0%	0.0%	0.3%	0.2%	0.2%
2019		256,410,848	156,436,191	29,518,417	60,182,952	93,733	694,234	603,232	412,857	247,941,616	8,469,232	0		63.1%	11.9%	24.3%	0.0%	0.3%	0.2%	0.2%
2020		263,798,919	160,622,673	27,922,926	62,540,635	91,498	706,615	644,147	376,947	252,905,442	10,893,477	0		63.5%	11.0%	24.7%	0.0%	0.3%	0.3%	0.1%
2021		269,531,103	163,277,113	26,524,397	64,881,031	89,302	719,275	687,700	344,161	256,522,979	13,008,124	0		63.7%	10.3%	25.3%	0.0%	0.3%	0.3%	0.1%
% Weather Sensitive			82.50%	82.50%	65.00%															
2016		(8,072,767)	127,703,834	28,750,662	37,399,815	0	0	0	0	193,854,311										
2017		(12,151,927)	130,323,274	29,278,772	39,386,234	0	0	0	0	198,988,280										
2018	this has normalized weahter impacts	(16,550,697)	134,758,625	29,826,011	41,478,158	0	0	0	0	206,062,795										
2019		(22,349,192)	142,274,916	30,391,909	43,681,191	0	0	0	0	216,348,016										
2020		(27,176,087)	148,838,272	30,948,730	46,001,233	0	0	0	0	225,788,236										
2021		(32,929,297)	154,620,212	31,523,656	48,444,500	0	0	0	0	234,588,368										
Allocation of Weather Sensitive Amount																				
2016			(5,318,031)	(1,197,277)	(1,557,458)	0	0	0	0	(8,072,767)										
2017			(7,958,654)	(1,788,012)	(2,405,260)	0	0	0	0	(12,151,927)										
2018			(10,823,638)	(2,395,587)	(3,331,472)	0	0	0	0	(16,550,697)										
2019			(14,697,289)	(3,139,546)	(4,512,356)	0	0	0	0	(22,349,192)										

Rate Class Energy Model

2020			(17,914,316)	(3,725,019)	(5,536,752)	0	0	0	0	(27,176,087)	
2021			(21,704,123)	(4,424,993)	(6,800,181)	0	0	0	0	(32,929,297)	

	CDM Adjustment										
	2016	(2,422,802)	(242,217)	(628,698)	(1,090,855)	0	(461,031)	0	0	(2,422,802)	0
load adjustment based on	2017	(4,564,610)	(480,310)	(1,423,143)	(2,200,127)	0	(461,031)	0	0	(4,564,610)	0
2015-2021 programs	2018	(6,221,626)	(836,209)	(2,594,148)	(2,330,239)	0	(461,031)	0	0	(6,221,626)	0
	2019	(8,469,232)	(1,320,964)	(4,180,714)	(2,506,524)	0	(461,031)	0	0	(8,469,232)	0
	2020	(10,893,477)	(1,873,037)	(5,865,668)	(2,693,741)	0	(461,031)	0	0	(10,893,477)	0
	2021	(13,008,124)	(2,437,202)	(7,261,102)	(2,848,789)	0	(461,031)	0	0	(13,008,124)	0

Persistence Assumption - Total

	2015	2016	2017	2018	2019	2020	2021	Total to 2020	Total to 2021
2015 Programs	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889		
2016 Programs		3,143,714	3,143,714	3,143,714	3,143,714	3,143,714	3,143,714		
2017 Programs			1,139,903	1,139,903	1,139,903	1,139,903	1,139,903		
2018 Programs				2,174,129	2,174,129	2,174,129	2,174,129		
2019 Programs					2,321,084	2,321,084	2,321,084		
2020 Programs						2,527,406	2,527,406		
2021 Programs							1,701,889		
Target Credit	1,701,889	3,143,714	1,139,903	2,174,129	2,321,084	2,527,406	1,701,889	13,008,124	14,710,013
Residential %	29.7%	23.0%	19.6%	22.5%	20.7%	24.7%	29.7%		

Persistence Assumption - Residential

2015 Programs	231,434	231,434	231,434	231,434	231,434	231,434	231,434		
2016 Programs		253,000	253,000	253,000	253,000	253,000	253,000		
2017 Programs			223,186	223,186	223,186	223,186	223,186		
2018 Programs				488,612	488,612	488,612	488,612		
2019 Programs					480,898	480,898	480,898		
2020 Programs						623,249	623,249		
2021 Programs							505,080		
Target Credit	231,434	253,000	223,186	488,612	480,898	623,249	505,080	2,300,379	2,805,459

Persistence Assumption - GS < 50 kW

2015 Programs	493,553	493,553	493,553	493,553	493,553	493,553	493,553		
2016 Programs		763,843	763,843	763,843	763,843	763,843	763,843		
2017 Programs			825,045	825,045	825,045	825,045	825,045		
2018 Programs				1,516,965	1,516,965	1,516,965	1,516,965		
2019 Programs					1,656,167	1,656,167	1,656,167		
2020 Programs						1,713,741	1,713,741		
2021 Programs							1,077,128		
Target Credit	493,553	763,843	825,045	1,516,965	1,656,167	1,713,741	1,077,128	6,969,315	8,046,443

Persistence Assumption - GS > 50 kW

2015 Programs	54,839	54,839	54,839	54,839	54,839	54,839	54,839		
2016 Programs		84,871	84,871	84,871	84,871	84,871	84,871		
2016 CHP Prj		2,042,000	2,042,000	2,042,000	2,042,000	2,042,000	2,042,000		
2017 Programs			91,672	91,672	91,672	91,672	91,672		
2018 Programs				168,552	168,552	168,552	168,552		
2019 Programs					184,019	184,019	184,019		
2020 Programs						190,416	190,416		
2021 Programs							119,681		
Target Credit	54,839	2,126,871	91,672	168,552	184,019	190,416	119,681	2,816,368	2,936,049

Persistence Assumption - Streetlight

2015 Programs	922,062	922,062	922,062	922,062	922,062	922,062	922,062			
2016 Programs		0	0	0	0	0	0			
2017 Programs			0	0	0	0	0			
2018 Programs				0	0	0	0			
2019 Programs					0	0	0			
2020 Programs						0	0			
2021 Programs							0			
Target Credit	922,062	0	0	0	0	0	0	922,062	922,062	
								13,008,124	14,710,013	1,701,889

2015 Programs	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889	1,701,889
2016 Programs		3,143,714	3,143,714	3,143,714	3,143,714	3,143,714	3,143,714
2017 Programs			1,139,903	1,139,903	1,139,903	1,139,903	1,139,903
2018 Programs				2,174,129	2,174,129	2,174,129	2,174,129
2019 Programs					2,321,084	2,321,084	2,321,084
2020 Programs						2,527,406	2,527,406
2021 Programs							1,701,889
Check	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

	Residential	GS<50	GS>50	Sentinels	Streetlights	USL	Total	Number of Customers - 3 Main Classes		
2006	12,867	797	80	189	2,371	90	16,394	13,744		
2007	12,991	819	71	186	2,489	89	16,645	13,881		
2008	13,277	836	73	186	2,588	84	17,044	14,186		
2009	13,533	855	72	193	2,625	83	17,361	14,460		
2010	13,651	865	68	201	2,685	82	17,552	14,584		
2011	13,779	896	67	225	2,728	81	17,776	14,742		
2012	13,943	914	68	172	2,728	79	17,903	14,925		
2013	14,181	949	67	168	2,843	78	18,286	15,197		
2014	14,509	991	67	169	2,923	76	18,736	15,568		
2015	14,862	1,001	72	166	2,898	76	19,073	15,934		
2016	15,419	1,026	72	163	2,963	75	19,718	16,517	16,517	54
2017	15,930	1,052	72	161	3,030	74	20,319	17,054	17,054	37
2018	16,676	1,079	72	159	3,098	73	21,157	17,827	17,827	87
2019	17,824	1,107	72	157	3,168	72	22,400	19,003	19,003	107
2020	18,877	1,135	72	155	3,239	71	23,549	20,084	20,084	76
2021	19,853	1,164	72	153	3,312	70	24,624	21,089	21,089	90

Growth Rate in Customer Numbers

2006						
2007	1.0096	1.0276	0.8875	0.9841	1.0498	0.9889
2008	1.0220	1.0208	1.0282	1.0000	1.0398	0.9438
2009	1.0193	1.0227	0.9863	1.0376	1.0143	0.9881
2010	1.0087	1.0117	0.9444	1.0415	1.0229	0.9880
2011	1.0094	1.0358	0.9853	1.1194	1.0160	0.9878
2012	1.0119	1.0198	1.0137	0.7648	1.0000	0.9712
2013	1.0171	1.0389	0.9865	0.9763	1.0423	0.9862
2014	1.0231	1.0442	1.0025	1.0084	1.0281	0.9742
2015	1.0243	1.0094	1.0645	0.9784	0.9912	1.0055
Geomean	1.0161	1.0256	0.9876	0.9855	1.0225	0.9814

Year End	Residential		
2015	15,082	Year end Incr	
2016	15,756	674	56.1667
2017	16,104	348	29.0000
2018	17,248	1,144	95.3333
2019	18,399	1,151	95.9167
2020	19,354	955	79.5833
2021	20,351	997	83.0833
	5,269	5,269	439.0833

	GS>50	Sentinels	Streetlights	Total
2006	118,310	367	4,014	122,691
2007	116,956	351	4,153	121,460
2008	134,693	345	4,261	139,299
2009	136,122	339	4,370	140,832
2010	144,502	324	4,389	149,215
2011	139,425	306	4,416	144,148
2012	144,982	315	4,424	149,721
2013	130,935	283	4,149	135,367
2014	135,394	300	4,581	140,275
2015	141,987	288	3,140	145,414
2016	154,174	280	1,854	156,308
2017	157,261	273	1,889	159,423
2018	163,334	267	1,923	165,523
2019	169,041	260	1,958	171,260
2020	175,664	254	1,993	177,911
2021	182,237	248	2,029	184,514

kW/kWh

2006	0.2970%	0.2783%	0.2777%
2007	0.2974%	0.2778%	0.2776%
2008	0.2975%	0.2778%	0.2778%
2009	0.2867%	0.2778%	0.2771%
2010	0.2826%	0.2778%	0.2778%
2011	0.2793%	0.2779%	0.3030%
2012	0.2835%	0.2779%	0.2818%
2013	0.2571%	0.2779%	0.2818%
2014	0.2676%	0.2778%	0.2818%
2015	0.2599%	0.2778%	0.2838%
Average	0.2809%	0.2779%	0.2820%

Summary of Degree | TORONTO LESTER B. PEARSON INT'L A

Summary of All Heating Degree Days

Month	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10 Year Avg	20 Year Trend				
																						2017	2018	2019	2020	2021
January	765.20	756.60	624.80	749.80	738.90	684.90	572.20	814.50	849.10	770.00	551.80	647.10	623.50	830.20	720.00	775.30	611.10	624.40	825.90	792.40	700.17	721.82	722.30	722.77	723.24	723.71
February	689.80	593.00	512.20	548.10	612.70	587.60	540.20	699.00	631.70	616.40	604.30	740.10	674.70	606.40	598.30	654.20	531.70	631.50	737.10	856.80	663.51	705.98	712.30	718.62	724.94	731.26
March	645.60	600.00	492.30	550.60	418.60	566.60	545.60	581.10	487.30	608.60	516.60	546.70	610.20	533.80	422.80	572.80	349.40	554.80	690.60	615.50	541.32	544.10	543.98	543.86	543.74	543.63
April	408.20	366.80	282.00	296.70	339.20	293.80	329.50	372.50	331.50	306.80	293.30	356.40	253.90	305.80	225.10	332.30	321.70	358.60	356.90	313.70	311.77	305.96	304.55	303.14	301.72	300.31
May	205.90	260.80	59.10	97.10	139.60	111.50	227.50	177.90	158.90	189.40	136.90	136.40	193.50	158.80	107.90	134.10	80.70	109.10	132.10	89.30	127.88	106.57	103.20	99.83	96.46	93.09
June	20.90	20.60	54.70	25.00	34.50	29.80	36.20	43.40	44.20	8.90	19.50	16.50	22.70	49.30	21.70	19.00	23.20	33.00	14.10	33.80	25.28	23.86	23.46	23.05	22.64	22.23
July	10.30	12.40	1.00	-	6.60	9.30	-	0.20	3.60	-	-	3.20	1.00	6.20	1.80	-	-	1.30	4.00	4.00	2.15	0.20	-0.06	-0.33	-0.59	-0.86
August	2.50	17.00	3.40	8.40	11.50	-	0.20	2.00	12.80	0.20	4.20	5.20	12.70	9.80	2.10	-	2.00	4.40	8.80	4.40	5.36	4.05	3.91	3.78	3.65	3.51
September	71.60	87.10	39.70	49.30	99.50	73.60	21.80	54.90	30.00	22.60	80.90	36.90	59.00	55.20	78.10	48.20	85.00	83.00	69.70	31.10	62.71	57.63	57.52	57.42	57.31	57.20
October	273.10	266.90	223.40	267.60	212.70	232.50	292.20	276.00	226.30	220.20	288.30	137.70	278.60	287.80	241.60	235.50	242.50	208.50	224.30	249.80	239.46	230.44	229.24	228.04	226.84	225.63
November	512.10	466.50	392.60	367.50	432.00	325.80	445.00	398.50	379.10	388.40	382.20	462.50	451.60	361.20	405.30	342.10	434.00	478.20	482.10	345.00	414.42	402.97	402.14	401.30	400.46	399.63
December	571.60	586.20	535.10	579.30	780.30	505.00	619.40	561.50	643.40	665.30	500.50	630.70	654.60	631.30	676.20	534.00	533.50	687.90	557.30	429.70	583.57	574.14	572.40	570.66	568.92	567.18
Total	4,176.80	4,033.90	3,220.30	3,539.40	3,826.10	3,420.40	3,629.80	3,981.50	3,797.90	3,796.80	3,378.50	3,719.40	3,836.00	3,835.80	3,500.90	3,647.50	3,214.80	3,774.70	4,102.90	3,765.50						

Summary of All Cooling Degree Days

Month	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	10 Year Avg	20 Year Trend				
																						2017	2018	2019	2020	2021
January	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
February	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.20	-	-	-	0.02	0.03	0.03	0.04	0.04	0.04
April	-	-	-	-	-	1.40	8.30	2.40	-	-	-	-	-	1.20	-	-	-	-	-	-	0.12	0.02	-0.03	-0.09	-0.15	-0.20
May	8.60	-	28.60	19.40	23.70	12.20	7.80	-	8.60	0.80	26.00	22.40	2.50	6.90	45.70	13.00	36.70	23.10	11.90	34.10	22.23	25.99	26.80	27.62	28.44	29.25
June	38.30	73.20	82.40	96.00	41.10	79.70	70.00	52.90	31.60	146.30	73.60	99.20	71.50	34.20	58.70	52.20	101.60	59.60	68.10	32.30	65.10	63.25	62.82	62.40	61.97	61.55
July	59.60	103.00	101.30	196.50	71.80	100.90	192.40	118.30	86.40	188.70	167.30	106.10	111.00	43.70	164.90	198.50	195.40	120.80	71.00	114.30	129.30	140.32	141.61	142.89	144.17	145.45
August	87.10	46.80	117.70	79.10	92.50	160.00	142.70	128.00	59.60	140.70	101.60	141.00	64.00	91.00	138.80	122.20	112.10	93.80	81.80	88.60	103.49	107.51	107.77	108.04	108.30	108.57
September	27.10	11.70	45.00	48.90	35.20	35.70	87.60	24.00	41.20	52.10	12.90	47.50	26.70	20.90	31.50	39.70	35.60	28.10	30.10	81.90	35.49	42.20	42.55	42.90	43.25	43.60
October	-	2.80	-	-	1.20	2.00	10.00	-	1.50	7.60	1.10	19.80	-	-	-	2.40	1.10	0.40	1.30	-	2.61	2.29	2.26	2.24	2.22	2.19
November	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
December	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00
Total	220.70	237.50	375.00	439.90	265.50	391.90	518.80	325.60	228.90	536.20	382.50	436.00	275.70	197.90	439.60	428.00	482.70	325.80	264.20	351.20						

2016 Load Foreacst	kWh	kW	2015 %RPP
Residential	149,674,174		94%
General Service < 50 kW	33,122,069		83%
General Service 50 to 4,999 kW	54,889,863	154,174	4%
Street Lighting	657,419	1,854	0%
Sentinel Lighting	100,673	280	84%
Unmetered Scattered Load	496,660		94%
TOTAL	**238,940,858**	**156,308**	

% RPP (Actual and Forecast)	2015 RPP kWh	Non Rpp kWh	Retailer	Total	
Residential	139,668,748		9,642,784	149,311,532	0.94
General Service < 50 kW	27,881,276	0	5,849,019	33,730,295	0.83
General Service 50 to 4,999 kW	1,974,043	49,168,773	3,576,098	54,718,914	0.04
Street Lighting		1,010,509	5,945	1,016,454	0.00
Sentinel Lighting	90,122		17,420	107,542	0.84
Unmetered Scattered Load	433,284		29,808	463,092	0.94

Electricity - Commodity RPP	2016	2016 Loss	Variable Rate		
Class per Load Forecast RPP	**Forecasted**	**Factor**		**2016**	
Residential	140,693,723	1.0723	150,865,879	$0.10728	$16,184,892
General Service < 50 kW	27,491,317	1.0723	29,478,940	$0.10728	$3,162,501
General Service 50 to 4,999 kW	2,195,595	1.0723	2,354,336	$0.10728	$252,573
Street Lighting	0	1.0723	0	$0.10728	$0
Sentinel Lighting	84,565	1.0723	90,680	$0.10728	$9,728
Unmetered Scattered Load	466,861	1.0723	500,615	$0.10728	$53,706
TOTAL	**170,932,061**		**183,290,449**		**$19,663,399**

Electricity - Commodity Non-RPP	2016	2016 Loss			
Class per Load Forecast	**Forecasted**	**Factor**		**2016**	
Residential	8,980,450	1.0723	9,629,737	$0.10670	$1,027,493
General Service < 50 kW	5,630,752	1.0723	6,037,855	$0.10670	$644,239
General Service 50 to 4,999 kW	52,694,269	1.0723	56,504,064	$0.10670	$6,028,984
Street Lighting	657,419	1.0723	704,950	$0.10670	$75,218
Sentinel Lighting	16,108	1.0723	17,272	$0.10670	$1,843
Unmetered Scattered Load	29,800	1.0723	31,954	$0.10670	$3,410
TOTAL	**68,008,797**		**72,925,833**		**$7,781,186**
					$27,444,586

Transmission - Network		Volume			
Class per Load Forecast		**Metric**		**2016**	
Residential		kWh	160,495,616	$0.0057	$914,825
General Service < 50 kW		kWh	35,516,795	$0.0052	$184,687
General Service 50 to 4,999 kW		kW	154,174	$2.1047	$324,490
Street Lighting		kW	1,854	$1.5873	$2,943
Sentinel Lighting		kW	280	$1.5954	$446
Unmetered Scattered Load		kWh	532,569	$0.0052	$2,769
TOTAL					**$1,430,161**

Transmission - Connection		Volume			
Class per Load Forecast		**Metric**		**2016**	
Residential		kWh	160,495,616	$0.0041	$658,032
General Service < 50 kW		kWh	35,516,795	$0.0039	$138,515
General Service 50 to 4,999 kW		kW	154,174	$1.4837	$228,748
Street Lighting		kW	1,854	$1.1469	$2,126
Sentinel Lighting		kW	280	$1.7004	$476
Unmetered Scattered Load		kWh	532,569	$0.0039	$2,077
TOTAL					**$1,029,975**

Wholesale Market Service		Volume			
Class per Load Forecast		**Metric**		**2016 Rate**	
Residential		kWh	160,495,616	$0.0036	$577,784
General Service < 50 kW		kWh	35,516,795	$0.0036	$127,860
General Service 50 to 4,999 kW		kWh	58,858,400	$0.0036	$211,890
Street Lighting		kWh	704,950	$0.0036	$2,538
Sentinel Lighting		kWh	107,952	$0.0036	$389
Unmetered Scattered Load		kWh	532,569	$0.0036	$1,917
TOTAL			**256,216,282**		**$922,379**

Rural Rate Assistance		Volume			
Class per Load Forecast		**Metric**		**2016 Rate**	
Residential		kWh	160,495,616	$0.0013	$208,644
General Service < 50 kW		kWh	35,516,795	$0.0013	$46,172
General Service 50 to 4,999 kW		kWh	58,858,400	$0.0013	$76,516
Street Lighting		kWh	704,950	$0.0013	$916
Sentinel Lighting		kWh	107,952	$0.0013	$140
Unmetered Scattered Load		kWh	532,569	$0.0013	$692
TOTAL			**256,216,282**		**$333,081**

OESP		Volume			
Class per Load Forecast		**Metric**		**2016 Rate**	
Residential		kWh	160,495,616	$0.0011	$176,545
General Service < 50 kW		kWh	35,516,795	$0.0011	$39,068
General Service 50 to 4,999 kW		kWh	58,858,400	$0.0011	$64,744
Street Lighting		kWh	704,950	$0.0011	$775
Sentinel Lighting		kWh	107,952	$0.0011	$119
Unmetered Scattered Load		kWh	532,569	$0.0013	$692
TOTAL			**256,216,282**		**$281,944**

LV		Volume			
Class per Load Forecast		**Metric(w/o losse**		**2016 Rate**	
Residential		kWh	149,674,174	$0.0022	$329,283
General Service < 50 kW		kWh	33,122,069	$0.0020	$66,244
General Service 50 to 4,999 kW		kW	154,174	$0.7883	$121,535
Street Lighting		kW	1,854	$1.6331	$3,028
Sentinel Lighting		kW	280	$0.6065	$170
Unmetered Scattered Load		kWh	496,660	$0.0020	$993
TOTAL			**183,449,211**		**$521,254**

How should an LV rate be forecasted?

Summary	**2016**
4062-OESP	$ 281,944
SME	$ 155,899
4705-Power Purchased	$27,444,586
4708-Charges-WMS	$922,379
4714-Charges-NW	$1,430,161
4716-Charges-CN	$1,029,975
4730-Rural Rate Assistance	$333,081
4750-Low Voltage	$521,254
TOTAL	**32,119,278**

Calcualtion Of SME Charges

	Customers	Rate	
Residential	15,419	0.79	$146,172
GS<50	1,026	0.79	$9,726
			$155,899

Average price paid by consumer as per the Regulated price Plan Nov 1, 2015 tp Oct 31, 2016
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Table ES-1: Average RPP Supply Cost Summary (for the 12 months from November 1, 2015)

RPP Supply Cost Summary
for the period from November 1, 2015 through October 31, 2016

		Current
Forecast Wholesale Electricity Price		$18.82
Load-Weighted Price for RPP Consumers ($ / MWh)		$20.57
Impact of the Global Adjustment ($ / MWh)	+	$87.92
Adjustment to Address Bias Towards Unfavourable Variance ($ / MWh)	+	$1.00
Adjustment to Clear Existing Variance ($ / MWh)	+	($2.22)
Average Supply Cost for RPP Consumers ($ / MWh)	=	**$107.28**

Source: Navigant

Non RPP price is calcualted by adding the following from the above table'

Impact of the Global Adjustment ($/MWh)	87.92
Forecast Wholesale Electrcity Price	18.82
	106.74

2017 Load Foreacst	kWh	kW	2015 %RPP
Residential	149,932,101		94%
General Service < 50 kW	32,368,433		83%
General Service 50 to 4,999 kW	55,988,819	157,261	4%
Street Lighting	669,627	1,889	0%
Sentinel Lighting	98,320	273	84%
Unmetered Scattered Load	530,367		94%
TOTAL	**239,587,667**	**159,423**	

Electricity - Commodity RPP	2017	2017 Loss			
Class per Load Forecast RPP	**Forecasted**	**Factor**	**2017**		
Residential	140,936,175	1.0678	150,491,648	$0.10728	$16,144,744
General Service < 50 kW	26,865,799	1.0678	28,687,301	$0.10728	$3,077,574
General Service 50 to 4,999 kW	2,239,553	1.0678	2,391,394	$0.10728	$256,549
Street Lighting	0	1.0678	0	$0.10728	$0
Sentinel Lighting	82,588	1.0678	88,188	$0.10728	$9,461
Unmetered Scattered Load	498,545	1.0678	532,346	$0.10728	$57,110
TOTAL	**170,622,661**		**182,190,877**		**$19,545,437**

Electricity - Commodity Non-RPP	2017	2017 Loss			
Class per Load Forecast	**Forecasted**	**Factor**	**2017**		
Residential	8,995,926	1.0678	9,605,850	$0.10670	$1,024,944
General Service < 50 kW	5,502,634	1.0678	5,875,712	$0.10670	$626,938
General Service 50 to 4,999 kW	53,749,266	1.0678	57,393,467	$0.10670	$6,123,883
Street Lighting	669,627	1.0678	715,028	$0.10670	$76,293
Sentinel Lighting	15,731	1.0678	16,798	$0.10670	$1,792
Unmetered Scattered Load	31,822	1.0678	33,980	$0.10670	$3,626
TOTAL	**68,965,006**		**73,640,834**		**$7,857,477**

Transmission - Network		Volume			
Class per Load Forecast		**Metric**	**2017**		
Residential		kWh	160,097,498	$0.0057	$912,556
General Service < 50 kW		kW	34,563,013	$0.0052	$179,728
General Service 50 to 4,999 kW		kW	157,261	$2.1047	$330,987
Street Lighting		kWh	1,889	$1.5873	$2,998
Sentinel Lighting		kW	273	$1.5954	$436
Unmetered Scattered Load		kW	566,326	$0.0052	$2,945
TOTAL					**$1,429,649**

Transmission - Connection		Volume			
Class per Load Forecast		**Metric**	**2017**		
Residential		kWh	160,097,498	$0.0041	$656,400
General Service < 50 kW		kWh	34,563,013	$0.0039	$134,796
General Service 50 to 4,999 kW		kW	157,261	$1.4837	$233,328
Street Lighting		kW	1,889	$1.1469	$2,166
Sentinel Lighting		kW	273	$1.7004	$465
Unmetered Scattered Load		kWh	566,326	$0.0039	$2,209
TOTAL					**$1,029,363**

Wholesale Market Service		Volume			
Class per Load Forecast		**Metric**	**2017**		
Residential		kWh	160,097,498	$0.0036	$576,351
General Service < 50 kW		kWh	34,563,013	$0.0036	$124,427
General Service 50 to 4,999 kW		kWh	59,784,861	$0.0036	$215,225
Street Lighting		kWh	715,028	$0.0036	$2,574
Sentinel Lighting		kWh	104,986	$0.0036	$378
Unmetered Scattered Load		kWh	566,326	$0.0036	$2,039
TOTAL			**255,831,711**		**$920,994**

Rural Rate Assistance		Volume			
Class per Load Forecast		**Metric**	**2017**		
Residential		kWh	160,097,498	$0.0013	$208,127
General Service < 50 kW		kWh	34,563,013	$0.0013	$44,932
General Service 50 to 4,999 kW		kWh	59,784,861	$0.0013	$77,720
Street Lighting		kWh	715,028	$0.0013	$930
Sentinel Lighting		kWh	104,986	$0.0013	$136
Unmetered Scattered Load		kWh	566,326	$0.0013	$736
TOTAL			**255,831,711**		**$332,581**

OESP		Volume			
Class per Load Forecast		**Metric**	**2016 Rate**		
Residential		kWh	160,097,498	$0.0011	$176,107
General Service < 50 kW		kWh	34,563,013	$0.0011	$38,019
General Service 50 to 4,999 kW		kWh	59,784,861	$0.0011	$65,763
Street Lighting		kWh	715,028	$0.0011	$787
Sentinel Lighting		kWh	104,986	$0.0011	$115
Unmetered Scattered Load		kWh	566,326	$0.0013	$736
TOTAL			**255,831,711**		**$281,528**

LV		Volume			
Class per Load Forecast		**Metric(w/o losse**	**2017**		
Residential		kWh	149,932,101	$0.0028	$419,810
General Service < 50 kW		kWh	32,368,433	$0.0028	$90,632
General Service 50 to 4,999 kW		kW	157,261	$0.9912	$155,877
Street Lighting		kW	1,889	$0.9870	$1,864
Sentinel Lighting		kW	273	$1.0027	$274
Unmetered Scattered Load		kWh	530,367	$0.0028	$1,485
TOTAL			**182,990,324**		**$669,941**

Summary	**2017**
4062-OESP	$ 281,528
SME	$ 160,989
4705-Power Purchased	$27,402,914
4708-Charges-WMS	$920,994
4714-Charges-NW	$1,429,649
4716-Charges-CN	$1,029,363
4730-Rural Rate Assistance	$332,581
4750-Low Voltage	$669,941
TOTAL	**32,227,960**

Calcualtion Of SME Charges			
	Customers	Rate	
Residential	15,930	0.79	$151,016
GS<50	1,052	0.79	$9,973
			$160,989

2018 Load Foreacst	kWh	kW	2015 %RPP
Residential	152,052,309		94%
General Service < 50 kW	31,245,332		83%
General Service 50 to 4,999 kW	58,150,841	163,334	4%
Street Lighting	681,779	1,923	0%
Sentinel Lighting	96,006	267	84%
Unmetered Scattered Load	566,301		94%
TOTAL	**242,792,568**	**165,523**	

Electricity - Commodity RPP	2018	2018 Loss			
Class per Load Forecast RPP	**Forecasted**	**Factor**		**2018**	
Residential	142,929,171	1.0678	152,619,768	$0.11110	$16,956,056
General Service < 50 kW	25,933,625	1.0678	27,691,925	$0.11110	$3,076,573
General Service 50 to 4,999 kW	2,326,034	1.0678	2,483,739	$0.11110	$275,943
Street Lighting	0	1.0678	0	$0.11110	$0
Sentinel Lighting	80,645	1.0678	86,113	$0.11110	$9,567
Unmetered Scattered Load	532,323	1.0678	568,415	$0.11110	$63,151
TOTAL	**171,801,798**		**183,449,960**		**$20,381,291**

Electricity - Commodity Non-RPP	2018	2018 Loss			
Class per Load Forecast	**Forecasted**	**Factor**		**2018**	
Residential	9,123,139	1.0678	9,741,687	$0.10860	$1,057,947
General Service < 50 kW	5,311,706	1.0678	5,671,840	$0.10860	$615,962
General Service 50 to 4,999 kW	55,824,807	1.0678	59,609,729	$0.10860	$6,473,617
Street Lighting	681,779	1.0678	728,004	$0.10860	$79,061
Sentinel Lighting	15,361	1.0678	16,402	$0.10860	$1,781
Unmetered Scattered Load	33,978	1.0678	36,282	$0.10860	$3,940
TOTAL	**70,990,770**		**75,803,944**		**$8,232,308**

Transmission - Network		Volume			
Class per Load Forecast		**Metric**		**2018**	
Residential		kWh	162,361,456	$0.0057	$925,460
General Service < 50 kW		kW	33,363,765	$0.0052	$173,492
General Service 50 to 4,999 kW		kW	163,334	$2.1047	$343,768
Street Lighting		kWh	1,923	$1.5873	$3,052
Sentinel Lighting		kW	267	$1.5954	$426
Unmetered Scattered Load		kW	604,696	$0.0052	$3,144
TOTAL					**$1,449,342**

Transmission - Connection		Volume			
Class per Load Forecast		**Metric**		**2018**	
Residential		kWh	162,361,456	$0.0041	$665,682
General Service < 50 kW		kW	33,363,765	$0.0039	$130,119
General Service 50 to 4,999 kW		kW	163,334	$1.4837	$242,338
Street Lighting		kWh	1,923	$1.1469	$2,205
Sentinel Lighting		kW	267	$1.7004	$454
Unmetered Scattered Load		kW	604,696	$0.0039	$2,358
TOTAL					**$1,043,156**

Wholesale Market Service					
Class per Load Forecast				**2018**	
Residential			162,361,456	$0.0036	$584,501
General Service < 50 kW			33,363,765	$0.0036	$120,110
General Service 50 to 4,999 kW			62,093,468	$0.0036	$223,536
Street Lighting			728,004	$0.0036	$2,621
Sentinel Lighting			102,516	$0.0036	$369
Unmetered Scattered Load			604,696	$0.0036	$2,177
TOTAL			**259,253,904**		**$933,314**

Rural Rate Assistance					
Class per Load Forecast				**2018**	
Residential			162,361,456	$0.0013	$211,070
General Service < 50 kW			33,363,765	$0.0013	$43,373
General Service 50 to 4,999 kW			62,093,468	$0.0013	$80,722
Street Lighting			728,004	$0.0013	$946
Sentinel Lighting			102,516	$0.0013	$133
Unmetered Scattered Load			604,696	$0.0013	$786
TOTAL			**259,253,904**		**$337,030**

OESP		Volume			
Class per Load Forecast		**Metric**		**2016 Rate**	
Residential		kWh	162,361,456	$0.0011	$178,598
General Service < 50 kW		kWh	33,363,765	$0.0011	$36,700
General Service 50 to 4,999 kW		kWh	62,093,468	$0.0011	$68,303
Street Lighting		kWh	728,004	$0.0011	$801
Sentinel Lighting		kWh	102,516	$0.0011	$113
Unmetered Scattered Load		kWh	604,696	$0.0011	$665
TOTAL			**259,253,904**		**$285,179**

LV		Volume			
Class per Load Forecast		**Metric(w/o losse**		**2018**	
Residential		kWh	152,052,309	$0.0028	$425,746
General Service < 50 kW		kWh	31,245,332	$0.0028	$87,487
General Service 50 to 4,999 kW		kW	163,334	$1.0025	$163,742
Street Lighting		kW	1,923	$0.9983	$1,920
Sentinel Lighting		kW	267	$1.0125	$270
Unmetered Scattered Load		kWh	566,301	$0.0028	$1,586
TOTAL			**184,029,465**		**$680,751**

Summary	**2018**
4062-OESP	$ 285,179
SME	$ 168,317
4705-Power Purchased	$28,613,599
4708-Charges-WMS	$933,314
4714-Charges-NW	$1,449,342
4716-Charges-CN	$1,043,156
4730-Rural Rate Assistance	$337,030
4750-Low Voltage	$680,751
TOTAL	**33,510,688**

Calcualtion Of SME Charges			
	Customers	Rate	
Residential	16,676	0.79	$158,088
GS<50	1,079	0.79	$10,229
			$168,317

2019 Load Foreacst	kWh	kW	2015 %RPP
Residential	156,772,519		94%
General Service < 50 kW	29,593,582		83%
General Service 50 to 4,999 kW	60,182,952	169,041	4%
Street Lighting	694,234	1,958	0%
Sentinel Lighting	93,733	260	84%
Unmetered Scattered Load	604,596		94%
TOTAL	**247,941,616**	**171,260**	

Electricity - Commodity RPP	2019	2019 Loss			
Class per Load Forecast RPP	**Forecasted**	**Factor**	**2019**		
Residential	147,366,168	1.0678	157,357,594	$0.11590	$18,237,745
General Service < 50 kW	24,562,673	1.0678	26,228,022	$0.11590	$3,039,828
General Service 50 to 4,999 kW	2,407,318	1.0678	2,570,534	$0.11590	$297,925
Street Lighting	0	1.0678	0	$0.11590	$0
Sentinel Lighting	78,735	1.0678	84,074	$0.11590	$9,744
Unmetered Scattered Load	568,320	1.0678	606,852	$0.11590	$70,334
TOTAL	**174,983,214**		**186,847,076**		**$21,655,576**

Electricity - Commodity Non-RPP	2019	2019 Loss			
Class per Load Forecast	**Forecasted**	**Factor**	**2019**		
Residential	9,406,351	1.0678	10,044,102	$0.11330	$1,137,997
General Service < 50 kW	5,030,909	1.0678	5,372,005	$0.11330	$608,648
General Service 50 to 4,999 kW	57,775,634	1.0678	61,692,822	$0.11330	$6,989,797
Street Lighting	694,234	1.0678	741,303	$0.11330	$83,990
Sentinel Lighting	14,997	1.0678	16,014	$0.11330	$1,814
Unmetered Scattered Load	36,276	1.0678	38,735	$0.11330	$4,389
TOTAL	**72,958,401**		**77,904,981**		**$8,826,634**

Transmission - Network		Volume			
Class per Load Forecast		**Metric**	**2019**		
Residential		kWh	167,401,696	$0.0057	$954,190
General Service < 50 kW		kW	31,600,026	$0.0052	$164,320
General Service 50 to 4,999 kW		kW	169,041	$2.1047	$355,781
Street Lighting		kWh	1,958	$1.5873	$3,108
Sentinel Lighting		kW	260	$1.5954	$416
Unmetered Scattered Load		kW	645,588	$0.0052	$3,357
TOTAL					**$1,481,171**

Transmission - Connection		Volume			
Class per Load Forecast		**Metric**	**2019**		
Residential		kWh	167,401,696	$0.0041	$686,347
General Service < 50 kW		kW	31,600,026	$0.0039	$123,240
General Service 50 to 4,999 kW		kW	169,041	$1.4837	$250,807
Street Lighting		kWh	1,958	$1.1469	$2,246
Sentinel Lighting		kW	260	$1.7004	$443
Unmetered Scattered Load		kW	645,588	$0.0039	$2,518
TOTAL					**$1,065,600**

Wholesale Market Service					
Class per Load Forecast			**2019**		
Residential			167,401,696	$0.0036	$602,646
General Service < 50 kW			31,600,026	$0.0036	$113,760
General Service 50 to 4,999 kW			64,263,356	$0.0036	$231,348
Street Lighting			741,303	$0.0036	$2,669
Sentinel Lighting			100,088	$0.0036	$360
Unmetered Scattered Load			645,588	$0.0036	$2,324
TOTAL			**264,752,057**		**$953,107**

Rural Rate Assistance					
Class per Load Forecast			**2019**		
Residential			167,401,696	$0.0013	$217,622
General Service < 50 kW			31,600,026	$0.0013	$41,080
General Service 50 to 4,999 kW			64,263,356	$0.0013	$83,542
Street Lighting			741,303	$0.0013	$964
Sentinel Lighting			100,088	$0.0013	$130
Unmetered Scattered Load			645,588	$0.0013	$839
TOTAL			**264,752,057**		**$344,178**

OESP		Volume			
Class per Load Forecast		**Metric**	**2016 Rate**		
Residential		kWh	167,401,696	$0.0011	$184,142
General Service < 50 kW		kWh	31,600,026	$0.0011	$34,760
General Service 50 to 4,999 kW		kWh	64,263,356	$0.0011	$70,690
Street Lighting		kWh	741,303	$0.0011	$815
Sentinel Lighting		kWh	100,088	$0.0011	$110
Unmetered Scattered Load		kWh	645,588	$0.0011	$710
TOTAL			**264,752,057**		**$291,227**

LV		Volume			
Class per Load Forecast		**Metric(w/o losse**	**2019**		
Residential		kWh	156,772,519	$0.0029	$454,640
General Service < 50 kW		kWh	29,593,582	$0.0029	$85,821
General Service 50 to 4,999 kW		kW	169,041	$1.0405	$175,887
Street Lighting		kW	1,958	$1.0362	$2,029
Sentinel Lighting		kW	260	$1.0536	$274
Unmetered Scattered Load		kWh	604,596	$0.0029	$1,753
TOTAL			**187,141,956**		**$720,406**

Summary	**2019**
4062-OESP	$ 291,227
SME	$ 179,466
4705-Power Purchased	$30,482,210
4708-Charges-WMS	$953,107
4714-Charges-NW	$1,481,171
4716-Charges-CN	$1,065,600
4730-Rural Rate Assistance	$344,178
4750-Low Voltage	$720,406
TOTAL	**35,517,366**

Calcualtion Of SME Charges			
	Customers	Rate	
Residential	17,824	0.79	$168,972
GS<50	1,107	0.79	$10,494
			$179,466

2020 Load Foreacst	kWh	kW	2015 %RPP
Residential	160,929,748		94%
General Service < 50 kW	27,991,553		83%
General Service 50 to 4,999 kW	62,540,635	175,664	4%
Street Lighting	706,615	1,993	0%
Sentinel Lighting	91,498	254	84%
Unmetered Scattered Load	645,392		94%
TOTAL	**252,905,442**	**177,911**	

Electricity - Commodity RPP	2020	2020 Loss			
Class per Load Forecast RPP	**Forecasted**	**Factor**		**2020**	
Residential	151,273,964	1.0678	161,530,338	$0.12078	$19,509,634
General Service < 50 kW	23,232,989	1.0678	24,808,186	$0.12078	$2,996,333
General Service 50 to 4,999 kW	2,501,625	1.0678	2,671,236	$0.12078	$322,632
Street Lighting	0	1.0678	0	$0.12078	$0
Sentinel Lighting	76,858	1.0678	82,069	$0.12078	$9,912
Unmetered Scattered Load	606,669	1.0678	647,801	$0.12078	$78,241
TOTAL	**177,692,105**		**189,739,629**		**$22,916,752**

Electricity - Commodity Non-RPP	2020	2020 Loss			
Class per Load Forecast	**Forecasted**	**Factor**		**2020**	
Residential	9,655,785	1.0678	10,310,447	$0.11810	$1,217,664
General Service < 50 kW	4,758,564	1.0678	5,081,195	$0.11810	$600,089
General Service 50 to 4,999 kW	60,039,010	1.0678	64,109,655	$0.11810	$7,571,350
Street Lighting	706,615	1.0678	754,524	$0.11810	$89,109
Sentinel Lighting	14,640	1.0678	15,632	$0.11810	$1,846
Unmetered Scattered Load	38,724	1.0678	41,349	$0.11810	$4,883
TOTAL	**75,213,337**		**80,312,802**		**$9,484,942**

Transmission - Network		Volume			
Class per Load Forecast		**Metric**		**2020**	
Residential		kWh	171,840,785	$0.0041	$704,547
General Service < 50 kW		kW	29,889,380	$0.0039	$116,569
General Service 50 to 4,999 kW		kW	175,664	$1.4837	$260,632
Street Lighting		kWh	1,993	$1.1469	$2,286
Sentinel Lighting		kW	254	$1.7004	$432
Unmetered Scattered Load		kW	689,150	$0.0039	$2,688
TOTAL					**$1,087,153**

Transmission - Connection		Volume			
Class per Load Forecast		**Metric**		**2020**	
Residential		kWh	171,840,785	$0.0041	$704,547
General Service < 50 kW		kW	29,889,380	$0.0039	$116,569
General Service 50 to 4,999 kW		kW	175,664	$1.4837	$260,632
Street Lighting		kWh	1,993	$1.1469	$2,286
Sentinel Lighting		kW	254	$1.7004	$432
Unmetered Scattered Load		kW	689,150	$0.0039	$2,688
TOTAL					**$1,087,153**

Wholesale Market Service					
Class per Load Forecast				**2020**	
Residential			171,840,785	$0.0036	$618,627
General Service < 50 kW			29,889,380	$0.0036	$107,602
General Service 50 to 4,999 kW			66,780,890	$0.0036	$240,411
Street Lighting			754,524	$0.0036	$2,716
Sentinel Lighting			97,701	$0.0036	$352
Unmetered Scattered Load			689,150	$0.0036	$2,481
TOTAL			**270,052,431**		**$972,189**

Rural Rate Assistance					
Class per Load Forecast				**2020**	
Residential			171,840,785	$0.0013	$223,393
General Service < 50 kW			29,889,380	$0.0013	$38,856
General Service 50 to 4,999 kW			66,780,890	$0.0013	$86,815
Street Lighting			754,524	$0.0013	$981
Sentinel Lighting			97,701	$0.0013	$127
Unmetered Scattered Load			689,150	$0.0013	$896
TOTAL			**270,052,431**		**$351,068**

OESP		Volume			
Class per Load Forecast		**Metric**		**2016 Rate**	
Residential		kWh	171,840,785	$0.0011	$189,025
General Service < 50 kW		kWh	29,889,380	$0.0011	$32,878
General Service 50 to 4,999 kW		kWh	66,780,890	$0.0011	$73,459
Street Lighting		kWh	754,524	$0.0011	$830
Sentinel Lighting		kWh	97,701	$0.0011	$107
Unmetered Scattered Load		kWh	689,150	$0.0011	$758
TOTAL			**270,052,431**		**$297,058**

LV		Volume			
Class per Load Forecast		**Metric(w/o losse**		**2020**	
Residential		kWh	160,929,748	$0.0029	$466,696
General Service < 50 kW		kWh	27,991,553	$0.0029	$81,176
General Service 50 to 4,999 kW		kW	175,664	$1.0210	$179,352
Street Lighting		kW	1,993	$1.0168	$2,026
Sentinel Lighting		kW	254	$1.0331	$263
Unmetered Scattered Load		kWh	645,392	$0.0029	$1,872
TOTAL			**189,744,604**		**$731,385**

Summary	**2020**
4062-OESP	$ 297,058
SME	$ 189,714
4705-Power Purchased	$32,401,694
4708-Charges-WMS	$972,189
4714-Charges-NW	$1,087,153
4716-Charges-CN	$1,087,153
4730-Rural Rate Assistance	$351,068
4750-Low Voltage	$731,385
TOTAL	**37,117,414**

Calcualtion Of SME Charges

	Customers	Rate	
Residential	18,877	0.79	$178,954
GS<50	1,135	0.79	$10,760
			$189,714

2021 Load Foreacst	kWh	kW	2015 %RPP
Residential	163,557,480		94%
General Service < 50 kW	26,587,055		83%
General Service 50 to 4,999 kW	64,881,031	182,237	4%
Street Lighting	719,275	2,029	0%
Sentinel Lighting	89,302	248	84%
Unmetered Scattered Load	688,837		94%
TOTAL	**256,522,979**	**184,514**	

Electricity - Commodity RPP	2021	2021 Loss			
Class per Load Forecast RPP	**Forecasted**	**Factor**		**2021**	
Residential	153,744,031	1.0678	164,167,876	$0.12560	$20,619,485
General Service < 50 kW	22,067,256	1.0678	23,563,415	$0.12560	$2,959,565
General Service 50 to 4,999 kW	2,595,241	1.0678	2,771,199	$0.12560	$348,063
Street Lighting	0	1.0678	0	$0.12560	$0
Sentinel Lighting	75,013	1.0678	80,099	$0.12560	$10,060
Unmetered Scattered Load	647,507	1.0678	691,408	$0.12560	$86,841
TOTAL	**179,129,048**		**191,273,997**		**$24,024,014**

Electricity - Commodity Non-RPP	2021	2021 Loss			
Class per Load Forecast	**Forecasted**	**Factor**		**2021**	
Residential	9,813,449	1.0678	10,478,801	$0.12281	$1,286,902
General Service < 50 kW	4,519,799	1.0678	4,826,242	$0.12281	$592,711
General Service 50 to 4,999 kW	62,285,789	1.0678	66,508,766	$0.12281	$8,167,942
Street Lighting	719,275	1.0678	768,042	$0.12281	$94,323
Sentinel Lighting	14,288	1.0678	15,257	$0.12281	$1,874
Unmetered Scattered Load	41,330	1.0678	44,132	$0.12281	$5,420
TOTAL	**77,393,931**		**82,641,239**		**$10,149,171**

Transmission - Network		Volume			
Class per Load Forecast		**Metric**		**2021**	
Residential		kWh	174,646,677	$0.0057	$995,486
General Service < 50 kW		kW	28,389,657	$0.0052	$147,626
General Service 50 to 4,999 kW		kW	182,237	$2.1047	$383,555
Street Lighting		kWh	2,029	$1.5873	$3,220
Sentinel Lighting		kW	248	$1.5954	$396
Unmetered Scattered Load		kW	735,540	$0.0052	$3,825
TOTAL					**$1,534,108**

Transmission - Connection		Volume			
Class per Load Forecast		**Metric**		**2021**	
Residential		kWh	174,646,677	$0.0041	$716,051
General Service < 50 kW		kW	28,389,657	$0.0039	$110,720
General Service 50 to 4,999 kW		kW	182,237	$1.4837	$270,385
Street Lighting		kWh	2,029	$1.1469	$2,327
Sentinel Lighting		kW	248	$1.7004	$422
Unmetered Scattered Load		kW	735,540	$0.0039	$2,869
TOTAL					**$1,102,773**

Wholesale Market Service					
Class per Load Forecast				**2021**	
Residential			174,646,677	$0.0036	$628,728
General Service < 50 kW			28,389,657	$0.0036	$102,203
General Service 50 to 4,999 kW			69,279,965	$0.0036	$249,408
Street Lighting			768,042	$0.0036	$2,765
Sentinel Lighting			95,356	$0.0036	$343
Unmetered Scattered Load			735,540	$0.0036	$2,648
TOTAL			**273,915,237**		**$986,095**

Rural Rate Assistance					
Class per Load Forecast				**2021**	
Residential			174,646,677	$0.0013	$227,041
General Service < 50 kW			28,389,657	$0.0013	$36,907
General Service 50 to 4,999 kW			69,279,965	$0.0013	$90,064
Street Lighting			768,042	$0.0013	$998
Sentinel Lighting			95,356	$0.0013	$124
Unmetered Scattered Load			735,540	$0.0013	$956
TOTAL			**273,915,237**		**$356,090**

2021 COP Forecast

Table ES-1: Average RPP Supply Cost Summary (for the 12 months from November 1, 2015)

RPP Supply Cost Summary

for the period from November 1, 2015 through October 31, 2016

		Current
Forecast Wholesale Electricity Price		$18.82
Load-Weighted Price for RPP Consumers ($ / MWh)		$20.57
Impact of the Global Adjustment ($ / MWh)	+	$87.92
Adjustment to Address Bias Towards Unfavourable Variance ($ / MWh)	+	$1.00
Adjustment to Clear Existing Variance ($ / MWh)	+	($2.22)
Average Supply Cost for RPP Consumers ($ / MWh)	=	**$107.28**

Source: Navigant

Forecasted Com To calculate the Non Rpp
P:\2017 COS\1st Submission\Backup Data\RPP and Non RPP Forecast 2017 to 2021.xlsx

OESP		**Volume**			
Class per Load Forecast		**Metric**		**2016 Rate**	
Residential		kWh	174,646,677	$0.0011	$192,111
General Service < 50 kW		kWh	28,389,657	$0.0011	$31,229
General Service 50 to 4,999 kW		kWh	69,279,965	$0.0011	$76,208
Street Lighting		kWh	768,042	$0.0011	$845
Sentinel Lighting		kWh	95,356	$0.0011	$105
Unmetered Scattered Load		kWh	735,540	$0.0011	$809
TOTAL			**273,915,237**		**$301,307**

LV		**Volume**			
Class per Load Forecast		**Metric(w/o losse**		**2021**	
Residential		kWh	163,557,480	$0.0029	$474,317
General Service < 50 kW		kWh	26,587,055	$0.0029	$77,102
General Service 50 to 4,999 kW		kW	182,237	$1.0368	$188,944
Street Lighting		kW	2,029	$0.1037	$210
Sentinel Lighting		kW	248	$1.0487	$260
Unmetered Scattered Load		kWh	688,837	$0.0029	$1,998
TOTAL			**191,017,886**		**$742,831**

Summary	**2021**
4062-OESP	$ 301,307
SME	$ 199,241
4705-Power Purchased	$34,173,185
4708-Charges-WMS	$986,095
4714-Charges-NW	$1,534,108
4716-Charges-CN	$1,102,773
4730-Rural Rate Assistance	$356,090
4750-Low Voltage	$742,831
TOTAL	**39,395,629**

Calcualtion Of SME Charges			
	Customers	Rate	
Residential	19,853	0.79	###
GS<50	1,164	0.79	###
			###