2.3 Exhibit 3: OPERATING REVENUE

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APPENDICES

2.3.1 LOAD AND REVENUE FORECAST

This Exhibit provides the details of Welland Hydro-Electric System Corp. ("WHESC") operating revenue for 2013 Board Approved, 2013 Actual, 2014 Actual, 2015 Actual, the 2016 Bridge Year ("Bridge Year") and the 2017 Test Year ("Test Year"). This Exhibit also provides a detailed variance analysis by rate classification of the operating revenue components. Distribution revenue excludes revenue from commodity sales.

WHESC is proposing a total Service Revenue Requirement of $10,636,334 for the 2017 Test Year. This amount includes a Base Revenue Requirement of $10,106,284 plus revenue offsets of $530,050 to be recovered through Other Revenue.

Other Revenues include Late Payment charges, Specific Service charges, Rent from Electric Property, Miscellaneous Service revenues, Standard Supply Service ("SSS") Administrative charges and Interest. A summary of these operating revenues is presented with a materiality analysis of variances is presented in Table 3-37.

The following Table 3-1 summarizes WHESC's total Base Revenue Requirement from Distribution Revenues (fixed and variable charges). Revenue for each of the actual years is from the Annual OEB Filings* which are reconciled to WHESC's Audited Financial Statements in Exhibit 1 for the 2014 and 2015 years**.** The Bridge Year is comprised of load forecasted customers and volumes at 2016 Distribution Rates. The Test Year distribution revenue is provided on the basis of both existing and proposed distribution rates. Revenue for the GS< 50 kW and GS> 50 kW and Large Use rate classes are net of transformer allowance credits to eligible customers within these rate classes.

*WHESC filed a Smart Meter Rate Application (EB-2011-0415) in 2012. As a result, the 2012 Annual OEB Filings contain Distribution Revenue from the Smart Meter Deferral Accounts. As is the case with OM&A, WHESC has excluded these adjustment entries from Distribution Revenue for comparison purposes.

With regards to load transfers, the actual power purchased data has been reduced by the amount of power provided to customers from WHESC's system that are customers of other LDCs. Currently, all WHESC's customers are supplied directly by Welland Hydro which is assumed to continue in 2017. WHESC currently serves 21 sites that are designated as CNP (6), NPEI (14) and HONI (1) customers. It is expected these customer will be served directly by their respective distributors by the end of 2017. In any event, these customers have not been included in WHESC's customer numbers for purposes of the customer forecasts.

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Table 3-1 Base Revenue Requirement

Table 3-1: Summary of Base Revenue Requirment									
Description	2011 Actual	2012 Actual	2013 Board Approved	2013 Actual	2014 Actual	2015 Actual	2016 Bridge - Exisitng Rates	2017 Test - Existing Rates	2017 Test - Proposed Rates
Distribution Revenues									
Residential	5,629,382	6,218,897	6,007,417	6,035,509	6,008,631	6,086,712	6,269,169	6,428,017	7,178,370
General Service < 50 kW	943,858	1,002,427	1,005,811	1,001,165	1,024,771	1,054,960	1,061,766	1,085,244	1,211,926
General Service 50 to 4,999 kW	1,105,710	1,129,645	1,342,766	1,278,326	1,351,549	1,379,368	1,298,138	1,269,875	1,572,415
Large Use	180,230	182,073	108,118	131,373	98,517	-264	0	0	0
Unmetered Scattered Load	46,052	45,575	38,940	41,460	42,241	43,074	44,259	44,204	39,952
Sentinel Lighting	33,668	32,443	30,776	29,471	28,483	27,921	29,098	29,141	41,723
Street Lighting	338,294	335,022	181,212	237,088	211,712	208,452	196,615	193,395	61,897
Total Distribution Revenue - Rates	**8,277,194**	**8,946,082**	**8,715,040**	**8,754,392**	**8,765,904**	**8,800,223**	**8,899,045**	**9,049,877**	**10,106,284**

SUMMARY OF LOAD AND CUSTOMER/CONNECTION FORECAST

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

In summary, as a starting point WHESC used the same regression analysis methodology approved by the Ontario Energy Board (the "Board") in its 2013 Cost of Service ("COS") Application (EB-2012-0173) and updated the analysis for actual power purchases to the end of the 2015. As described below, the updated regression analysis included the variables used in the 2013 COS application and included one new variable; a binary variable to reflect the spring and fall months. The regression analysis used in this application has also been used by a number of distributors in more recent cost of service rate applications to determine a prediction model. With regard to the overall process of load forecasting, WHESC believes that conducting a regression analysis on historical electricity purchases to produce an equation that will predict purchases is appropriate. WHESC has the data for the amount of electricity (in kWh) purchased from the IESO for use by WHESC'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 produce 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 Year which is converted to billed kWh and kW, where applicable, by rate class. A detailed explanation of the process is provided later in this evidence.

Based on the Board's approval of this methodology in a number of previous cost of service applications as well as the discussion that follows, WHESC 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 WHESC 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 Actual (GWh)	Growth (GWh)	Billed Weather Normal (GWh)	Growth (GWh)	Customer/ Connection Count	Growth
Billed Energy (GWh) and Customer Count / Connections						
2013 Board Approved			421.6		29,847	
2002	502.7		490.6		27,500	
2003	477.9	(24.8)	477.8	(12.8)	27,665	165
2004	484.1	6.3	488.7	10.9	27,854	189
2005	501.9	17.7	484.4	(4.2)	28,151	297
2006	476.8	(25.1)	476.5	(8.0)	28,317	166
2007	468.8	(8.0)	465.6	(10.9)	28,396	79
2008	467.6	(1.2)	472.9	7.3	28,583	187
2009	397.5	(70.1)	406.9	(66.1)	28,760	177
2010	426.0	28.5	427.2	20.3	28,943	183
2011	430.0	4.0	429.2	2.1	29,207	264
2012	405.5	(24.5)	409.2	(20.0)	29,580	373
2013	399.0	(6.5)	401.3	(7.9)	29,733	153
2014	380.9	(18.1)	384.4	(16.9)	29,944	212
2015	356.4	(24.5)	359.3	(25.1)	30,129	184
2016 Bridge			343.8	(15.5)	30,362	234
2017 Test			347.4	3.6	30,599	237

In the above Table 3-2, the billed GWh data from 2002 to 2015 reflects actual weather and weather normal conditions in each year. The weather normal values are the actual values adjusted by the weather normal conversion factor outlined in Table 3-6. The weather conversion factor is determined consistent with the approach outlined by the OEB in Appendix 2-IA (See Appendix 3-B for 2-I Chapter 2 Appendices schedules). For 2016 and 2017, the forecasted billed GWh is on a weather normal basis.

Customer/Connection values are on an average basis and Street Lights, Sentinel Lights and Unmetered Scattered Loads are measured as connections.

On a rate class basis, the actual and forecasted billed amounts are shown in Table 3-3. Actual volumes have been weather normalized by rate class using the weather normal conversion factor from Table 3-6. The actual and forecasted number of customers/connections and customer/connection usage on a weather normal basis is shown in Table 3-4.

Table 3-3 Billed Energy by Rate Class

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads	Total
Billed Energy (GWh) - Actual								
2002	163.8	47.9	220.6	64.2	4.6	0.6	1.0	502.7
2003	157.6	46.5	148.8	118.1	4.6	1.0	1.2	477.9
2004	158.2	49.9	145.9	123.3	4.7	1.0	1.2	484.1
2005	170.9	52.6	147.1	124.4	4.7	1.0	1.2	501.9
2006	160.7	50.3	147.0	111.9	4.7	1.0	1.2	476.8
2007	162.9	53.4	163.2	82.5	4.7	1.0	1.1	468.8
2008	157.9	55.1	145.1	102.7	4.7	0.9	1.2	467.6
2009	152.4	54.6	135.4	48.2	4.7	1.1	1.2	397.5
2010	159.7	54.2	144.9	60.4	4.7	0.9	1.1	426.0
2011	158.6	54.4	150.2	60.0	4.7	0.9	1.1	430.0
2012	159.2	50.0	141.4	48.4	4.5	0.8	1.1	405.5
2013	158.7	52.7	138.1	44.8	2.8	0.8	1.0	399.0
2014	158.2	53.9	144.2	20.4	2.5	0.8	1.0	380.9
2015	158.0	54.3	139.8	0.3	2.3	0.8	1.0	356.4
Billed Energy (GWh) - Weather Normal								
2002	159.8	46.8	215.3	62.6	4.5	0.6	1.0	490.6
2003	157.6	46.5	148.7	118.1	4.6	1.0	1.2	477.8
2004	159.7	50.4	147.2	124.4	4.7	1.0	1.2	488.7
2005	165.0	50.8	142.0	120.0	4.5	1.0	1.2	484.4
2006	160.6	50.3	146.9	111.8	4.7	1.0	1.2	476.5
2007	161.7	53.0	162.1	81.9	4.7	1.0	1.1	465.6
2008	159.7	55.7	146.8	103.8	4.8	1.0	1.2	472.9
2009	156.0	55.9	138.6	49.3	4.8	1.1	1.2	406.9
2010	160.2	54.3	145.3	60.6	4.7	0.9	1.1	427.2
2011	158.3	54.3	149.9	59.9	4.7	0.9	1.1	429.2
2012	160.7	50.5	142.7	48.9	4.5	0.9	1.1	409.2
2013 Board Approved	162.6	54.8	141.5	59.5	1.3	0.8	1.1	421.6
2013	159.6	53.0	138.9	45.0	2.9	0.8	1.0	401.3
2014	159.6	54.4	145.5	20.6	2.5	0.8	1.0	384.4
2015	159.3	54.8	140.9	0.3	2.3	0.8	1.0	359.3
2016 Bridge	155.4	53.1	132.1	0.0	1.5	0.8	1.0	343.8
2017 Test	161.1	54.7	128.7	0.0	1.3	0.8	0.9	347.4

Table 3-4 Number of Customers/Connections and Annual Normalized Usage by Rate Class

Number of Customers/Connections								
Year	**Residential**	**General Service < 50 kW**	**General Service 50 to 4,999 kW**	**Large User**	**Street Lights**	**Sentinel Lights**	**Unmetered Scattered Loads**	**Total**
2002	18,178	1,680	239	1	6,412	765	225	27,500
2003	18,298	1,684	236	3	6,458	758	229	27,665
2004	18,498	1,683	217	3	6,471	750	232	27,854
2005	18,756	1,691	208	3	6,520	739	234	28,151
2006	18,915	1,668	209	3	6,558	732	233	28,317
2007	18,996	1,657	194	2	6,610	704	232	28,396
2008	19,137	1,676	176	3	6,671	689	232	28,583
2009	19,277	1,690	171	3	6,709	680	231	28,760
2010	19,434	1,691	172	1	6,738	679	227	28,943
2011	19,717	1,691	170	1	6,739	663	226	29,207
2012	20,110	1,699	173	1	6,749	627	221	29,580
2013 Board Approved	20,432	1,696	169	1	6,750	574	225	29,847
2013	20,266	1,699	173	1	6,779	580	236	29,733
2014	20,472	1,743	165	1	6,784	519	259	29,944
2015	20,636	1,769	159	1	6,793	515	257	30,129
2016 Bridge	20,838	1,776	154	0	6,823	515	257	30,362
2017 Test	21,042	1,783	149	0	6,853	515	257	30,599
Actual Annual Energy Usage per Customer/Connection (kWh per customer/connection)								
2002	9,009	28,545	921,365	48,139,425	714	796	4,501	
2003	8,614	27,585	630,984	42,958,798	720	1,353	5,349	
2004	8,552	29,672	673,710	43,500,920	722	1,372	5,147	
2005	9,113	31,098	707,333	43,892,176	717	1,353	5,126	
2006	8,496	30,182	704,886	37,292,695	715	1,380	5,188	
2007	8,573	32,247	840,642	34,146,528	710	1,392	4,939	
2008	8,254	32,854	823,340	41,072,994	708	1,378	4,990	
2009	7,907	32,331	792,862	19,261,445	699	1,549	4,997	
2010	8,219	32,049	841,001	45,292,057	698	1,338	4,964	
2011	8,045	32,195	884,751	59,993,492	702	1,348	4,962	
2012	7,916	29,445	816,397	48,424,320	664	1,355	4,918	
2013	7,832	31,043	800,096	44,784,691	420	1,349	4,201	
2014	7,727	30,928	871,693	20,367,511	369	1,478	3,729	
2015	7,655	30,701	880,149	277,079	336	1,464	3,779	
Normalized Annual Energy Usage per Customer/Connection (kWh per customer/connection)								
2002	8,792	27,860	899,251	46,983,999	697	776	4,393	
2003	8,612	27,580	630,858	42,950,196	720	1,353	5,348	
2004	8,632	29,949	679,994	43,906,670	729	1,385	5,195	
2005	8,797	30,018	682,764	42,367,567	692	1,306	4,948	
2006	8,490	30,161	704,404	37,267,217	714	1,379	5,184	
2007	8,514	32,024	834,827	33,910,333	705	1,382	4,905	
2008	8,347	33,226	832,653	41,537,590	716	1,394	5,047	
2009	8,094	33,093	811,564	19,715,793	716	1,585	5,115	
2010	8,242	32,139	843,354	45,418,785	700	1,342	4,978	
2011	8,031	32,140	883,233	59,890,554	701	1,346	4,953	
2012	7,989	29,717	823,939	48,871,654	670	1,367	4,963	
2013 Board Approved	7,956	32,306	837,458	59,538,701	189	1,449	4,931	
2013	7,877	31,222	804,704	45,042,623	422	1,357	4,225	
2014	7,798	31,214	879,737	20,555,467	372	1,491	3,763	
2015	7,717	30,950	887,281	279,324	339	1,476	3,810	
2016 Bridge	7,457	29,896	858,591		215	1,464	3,729	
2017 Test	7,654	30,651	862,857		187	1,464	3,679	

2.3.1.1 - 2.3.1.2 FORECAST METHODOLOGY – MULTIVARIATE REGRESSION MODEL / NAC

WHESC'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 a multivariate regression model that incorporates historical load, weather, CDM activity and calendar related information. 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 numbers and historical usage patterns per customer. 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 model. The forecast of customers by rate class is determined using a geometric mean analysis and judgement of WHESC. The forecast is also adjusted for expected Conservation and Demand Management ("CDM") results. 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 independent variables outlined below: weather (heating and cooling degree days), calendar variables (days in month, number of peak hours and seasonal flag), and CDM activity. The regression model uses monthly kWh and monthly values of independent variables from January 2002 to December 2015 to determine the monthly regression coefficients. This provides 168 monthly data points which are a reasonable data set for use in a multiple regression analysis.

With regards to weather normalization, WHESC submits that it is appropriate to review the impact of weather over the fourteen year period from January 2002 to December 2015 since it is consistent with the number of years used in the regression analysis. The average weather conditions over this period are applied in the prediction formula to determine a weather normalized forecast. In accordance with the filing requirement, WHESC has also provided a sensitivity analysis showing the impact on the 2017 forecast of purchases assuming normal weather conditions that are based on a 10 year average and a 20 year trend of weather data.

The multivariate regression model has determined drivers of year-over-year changes in WHESC's load growth are weather (heating and cooling degree days), calendar variables (days in month, number of peak hours and seasonal spring/fall flag) and CDM activity. 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.

Other factors determining energy use in the monthly model are the number of days in a particular month, the number of peak hours in the month and whether the month is a spring/fall month or not.

The regression analysis indicates that CDM activity within the WHESC service area significantly impacts on a statistical basis the electricity usage for WHESC.

The following outlines the predication model used by WHESC to predict weather normal purchases for 2016 and 2017.

Welland Hydro Monthly Predicted kWh Purchases

= Heating Degree Days * 10,558 + Cooling Degree Days * 80,199
+ Number of Days in the Month * 733,163 + CDM Activity * (7.6)
+ Number of Peak Hours * 24,442
+ Spring Fall Flag * (863,550)
+ Constant of 6,211,846

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 day and cooling degree information. From 1992 to 2006, the source of data was from the Welland weather stations and from 2007 onward data from the Welland-Pelham weather station.
b) The calendar provided information related to number of days in the month, the number of peak hours which are the business days in the month times 16 (i.e. 7 am to 11 pm) and the months that are spring and fall.
c) The CDM activity variable has been determined based on an estimated level of monthly activity in CDM. For each year the monthly values for the CDM activity variable grow at a constant value over the year. In the first year in which a program is initiated it is assumed that only one half of the full year results are achieved consistent with the half year rule for first year programs assumed in the manual CDM adjustment discussed later on in this evidence. For all years following, the full year persistence data is used in the development of the CDM activity variable. The CDM variable is based on actual CDM results from 2006 to 2015. For the years 2006 to 2014, the actual results are based on the 2006-2010 Final CDM Results for WHESC and the 2011-2014 Final Results Report for WHESC provided by the IESO/OPA. For 2015, the CDM savings are based on the results outlined in WHESC CDM 2015-2020 Plan. The detailed calculations that support the development of the CDM activity variable are provided in the CDM Activity tab of the Excel spreadsheet WHESC 2017 Load Forecast filed as part of this Application.

The prediction formula has the following statistical results (Table 3-5) which generally indicate the formula has a very good fit to the actual data set.

Table 3-5 Statistical Results

R Square	89.4%
Adjusted R Square	89.0%
F Test	225.5
MAPE (Monthly)	3.4%
T-stats by Coefficient	
Heating Degree Days	12.7
Cooling Degree Days	14.5
Number of Days in Month	4.1
CDM Activity	(26.2)
Number of Peak Hours	2.8
Spring Fall Flag	(2.5)
Constant	1.2

The annual results of the above prediction formula compared to the actual annual purchases from 2002 to 2015 are shown below in Table 3-6 along with the predicted total system purchases for WHESC for 2016 and 2017 on a weather normal basis. In addition, weather normal values for 2017 are provided on a 10 year average and 20 year trend assumption for weather normalization. Information is also provided to show the Weather Normal Conversion Factor which is used to weather normalize actual volume data. In Table 3-6, the Predicted Weather Normal values are similar to the Predicted amounts but the weather normalized heating degree days and cooling degree days used to determine the weather normal forecast for 2016 and 2017 are used in the prediction formula in place of actual heating degree days and cooling degree days. The ratio of Predicted Weather Normal to Predicted values results in a Weather Normal Conversion Factor. This factor is applied to the Actual amount which results in the Actual Weather Normal value.

Table 3-6 Total System Purchases Excluding Large Use

Year	Actual	Predicted	% Difference	Predicted Weather Normal	Weather Normal Conversion Factor	Actual Weather Normal
Purchased Energy (GWh)						
2002	522.7	511.1		498.8	0.9760	510.1
2003	497.1	499.0	0.4%	498.9	0.9998	497.0
2004	501.2	495.4	(1.2%)	500.0	1.0093	505.9
2005	520.8	516.4	(0.8%)	498.5	0.9653	502.7
2006	488.4	492.7	0.9%	492.4	0.9993	488.0
2007	493.9	487.2	(1.4%)	483.8	0.9931	490.5
2008	487.1	469.1	(3.7%)	474.4	1.0113	492.6
2009	419.6	451.9	7.7%	462.6	1.0236	429.5
2010	443.6	458.2	3.3%	459.5	1.0028	444.8
2011	451.2	447.8	(0.8%)	447.0	0.9983	450.4
2012	421.7	431.2	2.3%	435.2	1.0092	425.6
2013	415.4	411.2	(1.0%)	413.6	1.0058	417.8
2014	391.6	387.1	(1.1%)	390.7	1.0092	395.2
2015	372.5	368.3	(1.1%)	371.3	1.0081	375.5
2016 Bridge		360.0		360.0	1.0000	
2017 Test		368.1		368.1	1.0000	
2017 WN - 10 year average		365.5				
2017 WN - 20 year trend		365.3				

The weather normalized amount for 2017 is determined by using 2017 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 2002 to December 2015 (i.e. 14 years). The 2017 weather normal 10 year average value assumes the average in monthly heating degree days and cooling degree days which have occurred from January 2006 to December 2015. The 2017 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 a historical loss factor. The historical loss factor used is 4.09% which represents the average loss factor from 2002 to 2015. With this average loss factor the total weather normalized billed energy before adjustment discussed below will be 345.8 (GWh) for 2016 (i.e. 360.0/1.0409) and 353.6 (GWh) for 2017 (i.e. 368.1/1.0409).

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 3-7.

Table 3-7 Historical Customer/Connection Data

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads	Total
Number of Customers/Connections								
2002	18,178	1,680	239	1	6,412	765	225	27,500
2003	18,298	1,684	236	3	6,458	758	229	27,665
2004	18,498	1,683	217	3	6,471	750	232	27,854
2005	18,756	1,691	208	3	6,520	739	234	28,151
2006	18,915	1,668	209	3	6,558	732	233	28,317
2007	18,996	1,657	194	2	6,610	704	232	28,396
2008	19,137	1,676	176	3	6,671	689	232	28,583
2009	19,277	1,690	171	3	6,709	680	231	28,760
2010	19,434	1,691	172	1	6,738	679	227	28,943
2011	19,717	1,691	170	1	6,739	663	226	29,207
2012	20,110	1,699	173	1	6,749	627	221	29,580
2013	20,266	1,699	173	1	6,779	580	236	29,733
2014	20,472	1,743	165	1	6,784	519	259	29,944
2015	20,636	1,769	159	1	6,793	515	257	30,129

From the historical customer/connection data the growth rate in customer/connection can be evaluated which is provided in the following Table 3-8.

Table 3-8 Growth Rate in Customer/Connections

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads
Growth Rate in Customers/Connections							
2002							
2003	0.7%	0.3%	(1.5%)	106.3%	0.7%	(0.9%)	1.5%
2004	1.1%	(0.1%)	(8.2%)	3.0%	0.2%	(1.0%)	1.7%
2005	1.4%	0.5%	(3.9%)	0.0%	0.8%	(1.5%)	0.7%
2006	0.8%	(1.4%)	0.2%	5.9%	0.6%	(0.9%)	(0.6%)
2007	0.4%	(0.7%)	(6.9%)	(19.4%)	0.8%	(3.8%)	(0.4%)
2008	0.7%	1.2%	(9.2%)	3.4%	0.9%	(2.2%)	0.1%
2009	0.7%	0.8%	(3.1%)	0.0%	0.6%	(1.4%)	(0.6%)
2010	0.8%	0.0%	0.9%	(46.7%)	0.4%	(0.1%)	(1.4%)
2011	1.5%	0.0%	(1.5%)	(25.0%)	0.0%	(2.3%)	(0.4%)
2012	2.0%	0.5%	2.1%	0.0%	0.2%	(5.5%)	(2.5%)
2013	0.8%	(0.0%)	(0.3%)	0.0%	0.4%	(7.4%)	6.7%
2014	1.0%	2.6%	(4.2%)	0.0%	0.1%	(10.5%)	10.1%
2015	0.8%	1.5%	(4.0%)	0.0%	0.1%	(0.8%)	(1.0%)
Geometric Mean	1.0%	0.4%	(3.1%)		0.4%	(3.0%)	1.0%

For the Residential, GS < 50 kW, GS 50 to 4,999 kW, and Street Light classes the geometric mean analysis was used to forecast the number of customers for 2016 and 2017. The results of the geometric mean analysis were applied to the 2015 customer value to determine the 2016 customer forecast. The 2017 customer forecast is determined by applying the geometric mean factor to the 2016 forecast.

For the Sentinel Light and Unmetered Scattered Load classes WHESC proposes it is reasonable to use the actual December, 2015 connections as the forecast for 2016 and 2017 since WHESC believes based on local knowledge that these values are more reflective of the values that will occur in the forecast period compared to those produced by using the results of the geometric mean analysis. Table 3-9 outlines the forecast of customers/connections by rate class.

Table 3-9 Customer/Connection Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads	Total
Forecast Number of Customers/Connections								
2016 Bridge	20,838	1,776	154	0	6,823	515	257	30,362
2017 Test	21,042	1,783	149	0	6,853	515	257	30,599

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 3-10 below provides the average annual usage per customer by rate class from 2002 to 2015.

Table 3-10 Historical Annual Usage per Customer

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads
Annual kWh Usage Per Customer/Connection							
2002	9,009	28,545	921,365	48,139,425	714	796	4,501
2003	8,614	27,585	630,984	42,958,798	720	1,353	5,349
2004	8,552	29,672	673,710	43,500,920	722	1,372	5,147
2005	9,113	31,098	707,333	43,892,176	717	1,353	5,126
2006	8,496	30,182	704,886	37,292,695	715	1,380	5,188
2007	8,573	32,247	840,642	34,146,528	710	1,392	4,939
2008	8,254	32,854	823,340	41,072,994	708	1,378	4,990
2009	7,907	32,331	792,862	19,261,445	699	1,549	4,997
2010	8,219	32,049	841,001	45,292,057	698	1,338	4,964
2011	8,045	32,195	884,751	59,993,492	702	1,348	4,962
2012	7,916	29,445	816,397	48,424,320	664	1,355	4,918
2013	7,832	31,043	800,096	44,784,691	420	1,349	4,201
2014	7,727	30,928	871,693	20,367,511	369	1,478	3,729
2015	7,655	30,701	880,149	277,079	336	1,464	3,779

As can been seen from the above table, usage per customer/connection generally declines after 2007. It is WHESC's view that this decline is partially due to the CDM programs initiated in 2006 and onwards and changing individual usage caused by a variety of factors including weather and the economy. WHESC's customer base is also very sensitive to weather, especially during the winter heating and summer cooling months.

From the historical usage per customer/connection data the growth rate in usage per customer/connection can be reviewed which is provided in the following Table 3-11. The geometric mean growth rate from 2002 to 2015 has also been shown.

Table 3-11 Growth Rate in Usage per Customer/Connection

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads
Growth Rate in Customer/Connection							
2002							
2003	(4.4%)	(3.4%)	(31.5%)	(10.8%)	0.8%	70.0%	18.8%
2004	(0.7%)	7.6%	6.8%	1.3%	0.3%	1.4%	(3.8%)
2005	6.6%	4.8%	5.0%	0.9%	(0.7%)	(1.4%)	(0.4%)
2006	(6.8%)	(2.9%)	(0.3%)	(15.0%)	(0.3%)	2.0%	1.2%
2007	0.9%	6.8%	19.3%	(8.4%)	(0.7%)	0.9%	(4.8%)
2008	(3.7%)	1.9%	(2.1%)	20.3%	(0.2%)	(1.0%)	1.0%
2009	(4.2%)	(1.6%)	(3.7%)	(53.1%)	(1.3%)	12.4%	0.1%
2010	3.9%	(0.9%)	6.1%	135.1%	(0.2%)	(13.6%)	(0.7%)
2011	(2.1%)	0.5%	5.2%	32.5%	0.6%	0.7%	(0.1%)
2012	(1.6%)	(8.5%)	(7.7%)	(19.3%)	(5.4%)	0.5%	(0.9%)
2013	(1.1%)	5.4%	(2.0%)	(7.5%)	(36.8%)	(0.4%)	(14.6%)
2014	(1.3%)	(0.4%)	8.9%	(54.5%)	(12.1%)	9.5%	(11.2%)
2015	(0.9%)	(0.7%)	1.0%	(98.6%)	(8.8%)	(0.9%)	1.4%
Geometric Mean	(1.2%)	0.6%	(0.4%)	(32.7%)	(5.6%)	4.8%	(1.3%)

For all customer classes the 2016 and 2017 forecast of usage per customer/connection have been held constant at the 2015 level. WHESC was concerned with using the geometric mean factor since it could cause double counting of CDM results. The resulting usage forecast is as follows in Table 3-12.

Table 3-12 Forecast Annual kWh Usage per Customer/Connection

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads
Forecast Annual kWh Usage per Customers/Connection							
2016 Bridge	7,655	30,701	880,149	0	336	1,464	3,729
2017 Test	7,655	30,701	880,149	0	336	1,464	3,679

The preceding information is used to determine the non-normalized weather billed energy forecast by applying the forecast number of customer/connection from Table 3-9 by the forecast of annual usage per customer/connection from Table 3-12. The resulting non-normalized weather billed energy forecast is shown in the following Table 3-13.

Table 3-13 Non-normalized Weather Billed Energy Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads	Total
NON-normalized Weather Billed Energy Forecast (GWh)								
2016 Bridge	159.5	54.5	135.5	0.0	2.3	0.8	1.0	353.5
2017 Test	161.1	54.7	131.2	0.0	2.3	0.8	0.9	351.1

The non-normalized weather billed energy forecast has been determined but needs to be adjusted in order to be aligned with the total weather normalized billed energy forecast. As previously determined, the total weather normalized billed energy forecast is 345.8 (GWh) for 2016 and 353.6 (GWh) for 2017.

The difference between the non-normalized and normalized forecast adjustments is 7.7 GWh in 2016 (i.e. 345.8-353.5) and 2.5 GWh in 2017 (i.e. 353.6 - 351.1). The difference is assumed to be the adjustment needed 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 WHESC for the cost allocation study, which has been used to support this Application, it was determined that the weather sensitivity by rate class is as follows in Table 3-14.

Table 3-14 Weather Sensitivity by Rate Class

Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads
Weather Sensitivity						
82%	82%	64%	0%	0%	0%	0%

For the GS > 50 kW class the weather sensitivity amount of 64% was provided in the weather normalization work completed by Hydro One. For the Residential and General Service < 50 kW classes, it was assumed in the 2013 COS application that the weather sensitivity for the Residential and General Service < 50 kW classes was mid-way between 100% and 64%, or 82%. This assumption has been maintained in this application.

The difference between the non-normalized and normalized forecast of 7.7 GWh in 2016 and 2.5 GWh in 2017 has been assigned on a pro rata basis to each rate class based on the above level of weather sensitivity.

2.3.1.3 CDM Adjustment and LRAMVA

A manual adjustment has been made to reflect the impact of 2016 to 2017 CDM programs on the load forecast. WHESC has made this adjustment to reflect the "net" impact of the CDM programs on the load forecast.

The following Table 3-15, outlines the expected full year savings from 2016 to 2017 CDM programs based on the 2015 to 2020 CDM Plan for WHESC. It assumed that the savings that occur in the first year of a program will persist at 100% for the years that follow.

Table 3-15 2016 to 2017 Expected Full Year Total kWh Savings

	2016	2017
2016 Programs	4,054,000	4,054,000
2017 Programs		4,350,000
Total Applicable to Target	4,054,000	4,350,000
Total Including Persistence	4,054,000	8,404,000

The following outlines how the above information is assigned to rate classes based on information in WHESC's 2015 to 2020 CDM Plan.

Since the regression analysis uses the full year 2015 results in the CDM activity variable for 2016 and 2017 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 2016 and 2017, it is assumed that for the programs that are initiated in 2016 and 2017 only one half of the full year results actually occur in the year the programs are initiated. This has been classified as the half year rule for CDM purposes. As a result, the following equation is used to determine the rate class manual CDM adjustment for each year.

Rate class CDM adjustment 2016 = 2016 Programs rate class savings x 50% x rate class allocation factor in Table 3-16. The rate class allocation factor is based on assumed savings by rate class in the WHESC's 2015 to 2020 CDM Plan for 2016.

Rate class CDM adjustment 2017 = + 2016 Programs rate class savings + 2017 Programs rate class savings x 50% x rate class allocation factor in Table 3-16. The rate class allocation factor is based on assumed savings by rate class in WHESC's 2015 to 2020 CDM Plan for 2017.

The following Table 3-16 outlines the CDM adjustment by rate class.

Table 3-16 CDM Adjustments by Rate Class (kWh)

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lights	Total
Allocation %					
2016 Bridge	15%	6%	38%	41%	100%
2017 Test	21%	8%	54%	16%	100%
CDM Adjustment					
2016 Bridge	299,517	119,807	778,744	828,932	2,027,000
2017 Test	1,301,502	520,601	3,383,906	1,022,991	6,229,000

In accordance with the Guidelines for Electricity Distributor Conservation and Demand Management (EB-2013-0003), issued April 26, 2013 ("CDM Guidelines"), it is WHESC's understanding that as part of this application expected CDM savings in 2017 from 2016 and 2017 programs will need to be established for lost revenue adjustment mechanism ("LRAM") variance accounts purposes. WHESC 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 WHESC'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 2017 = Rate class 2016 Program savings + Rate class 2017 Program savings. The conversion to kW for the GS > 50 kW class uses the kW/kWh factor from Table 3-20.

Table 3-17 2017 Expected CDM Savings by Rate Class for LRAM Variance Account

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lights	Total
2017 Test - kWh	1,755,952	702,381	4,565,475	1,380,192	8,404,000
2017 Test - kW Annual			12,878	3,833	12,878
2017 Test - kW Monthly			1,073	319	1,073

The following Table 3-18 outlines how the classes have been adjusted to align the non-normalized forecast with the normalized forecast and reflect the adjustments discussed above.

Table 3-18 Alignment of Non-normal to Weather Normal Forecast

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Large User	Street Lights	Sentinel Lights	Unmetered Scattered Loads	Total
Non-normalized Weather Billed Energy Forecast (GWh)								
2016 Bridge	159.5	54.5	135.5	0.0	2.3	0.8	1.0	352.6
2017 Test	161.1	54.7	131.2	0.0	2.3	0.8	0.9	350.1
Weather Adjustment (GWh)								
2016 Bridge	(3.8)	(1.3)	(2.5)	0.0	0.0	0.0	0.0	(7.7)
2017 Test	1.3	0.4	0.8	0.0	0.0	0.0	0.0	2.5
CDM Adjustment (GWh)								
2016 Bridge	(0.3)	(0.1)	(0.8)		(0.8)			(2.0)
2017 Test	(1.3)	(0.5)	(3.4)		(1.0)			(6.2)
Weather Normalized Billed Energy Forecast (GWh)								
2016 Bridge	155.4	53.1	132.1	0.0	1.5	0.8	1.0	343.8
2017 Test	161.1	54.7	128.7	0.0	1.3	0.8	0.9	347.4

Billed KW Load Forecast

There are three rate classes that charge volumetric distribution on a per kW basis. These include General Service 50 to 4,999 kW, Street Lights and Sentinel Lights. The forecast of kW for these classes is based on a review of the historical ratio of kW to kWh and applying the average ratio to the forecasted kWh to produce the required kW.

The following Table 3-19 outlines the annual demand units by applicable rate class on actual and weather normal basis. The weather normal values are actual values adjusted by the weather normal conversion factor outlined in Table 3-6.

Table 3-19 Historical Annual kW per Applicable Rate Class

Year	General Service 50 to 4,999 kW	Street Lights	Sentinel Lights	Total	General Service 50 to 4,999 kW	Street Lights	Sentinel Lights	Total
Billed Annual kW								
	Actual				**Weather Normal**			
2002	551,946	11,857	2,536	566,338	538,698	11,572	2,475	552,745
2003	449,454	12,975	2,929	465,358	449,364	12,972	2,928	465,265
2004	418,533	13,024	3,192	434,748	422,436	13,145	3,222	438,803
2005	415,116	13,039	2,844	430,999	400,697	12,586	2,745	416,028
2006	414,301	13,084	2,812	430,197	414,018	13,075	2,810	429,903
2007	441,184	13,086	3,042	457,312	438,133	12,995	3,021	454,149
2008	417,425	13,186	2,690	433,301	422,147	13,335	2,721	438,203
2009	390,493	13,091	3,631	407,215	399,704	13,400	3,717	416,821
2010	432,238	13,119	2,816	448,173	433,448	13,156	2,824	449,427
2011	417,210	13,148	2,462	432,820	416,494	13,125	2,458	432,077
2012	387,769	12,420	2,331	402,520	391,351	12,535	2,353	406,238
2013	389,545	7,923	2,186	399,654	391,789	7,969	2,199	401,956
2014	402,375	6,992	2,120	411,487	406,088	7,057	2,140	415,284
2015	402,768	6,476	2,077	411,321	406,032	6,528	2,094	414,654

The following Table 3-20 shows the historical ratio of kW/kWh as well as the average.

Table 3-20 Historical kW/KWh Ratio per Applicable Rate Class

Year	General Service 50 to 4,999 kW	Street Lights	Sentinel Lights
Ratio of kW to kWh			
2002	0.2502%	0.2589%	0.4167%
2003	0.3021%	0.2791%	0.2856%
2004	0.2869%	0.2788%	0.3101%
2005	0.2822%	0.2790%	0.2844%
2006	0.2819%	0.2791%	0.2782%
2007	0.2703%	0.2789%	0.3102%
2008	0.2877%	0.2791%	0.2833%
2009	0.2884%	0.2790%	0.3449%
2010	0.2982%	0.2791%	0.3098%
2011	0.2778%	0.2780%	0.2753%
2012	0.2742%	0.2773%	0.2745%
2013	0.2820%	0.2786%	0.2792%
2014	0.2791%	0.2793%	0.2763%
2015	0.2881%	0.2835%	0.2755%
Average 2002 to 2015	0.2821%	0.2777%	0.3003%
Used	0.2821%	0.2777%	0.2762%

For the General Service 50 to 4,999 kW, and Street Lights, the average ratio from 2002 to 2015 was applied to the weather normalized billed energy forecast in Table 3-18 to provide the forecast of kW for these classes. For the Sentinel Lights class the average ratio from 2011 to 2015 was applied to the weather normalized billed energy forecast in Table 3-18 since this average value is more reflective of the kWh/kW ratio in recent years.

The following Table 3-21 outlines the forecast of kW for the applicable rate classes.

Table 3-21 kW Forecast by Applicable Rate Class

Year	General Service 50 to 4,999 kW	Street Lights	Sentinel Lights	Total
Predicted Billed kW				
2016 Bridge	372,724	4,071	2,077	378,872
2017 Test	362,937	3,560	2,077	368,574

Table 3-22 provides a summary of the total load forecast on a power purchased and billed level.

Table 3-22 Summary of Total Load Forecast

Table 3-22: Summary of Forecast								
	2011 Actual	2012 Actual	2013 Board Approved	2013 Actual	2014 Actual	2015 Actual	2016 Bridge	2017 Test
Purchases								
Actual kWh Purchases	451,220,848	421,671,164		415,369,616	391,554,997	372,480,930		
Predicted kWh Purchases before CDM adjustment	447,809,346	431,249,242		411,214,437	387,095,563	368,268,653	359,978,949	368,053,206
% Difference between actual and predicted purchases	-0.8%	-0.8%		-1.0%	-1.1%	-1.1%		
Loss Factor							1.0409	1.0409
Total Billed Before CDM Adjustments							345,828,435	353,585,298
CDM Adjustment							2,027,000	6,229,000
Total Billed After Adjustments	429,972,781	405,481,205		399,002,323	380,885,629	356,369,056	343,801,435	347,356,298
Billing Determinants								
Residential								
Customers	19,717	20,110	20,432	20,266	20,472	20,636	20,838	21,042
kWh	158,621,921	159,179,968	162,565,618	158,724,607	158,185,053	157,973,719	155,389,123	161,051,510
General Service ≤ 50 kW								
Customers	1,691	1,699	1,696	1,699	1,743	1,769	1,776	1,783
kWh	54,435,719	50,022,065	54,784,534	52,726,527	53,903,009	54,312,604	53,099,923	54,658,680
General Service 50 to 4,999 kW								
Customers	170	173	169	173	165	159	154	149
kWh	150,174,158	141,440,866	141,530,394	138,149,957	144,192,534	139,796,962	132,135,416	128,665,764
kW	417,210	387,769	396,002	389,545	402,375	402,768	372,724	362,937
Large User								
Customers	1	1	1	1	1	1	0	0
kWh	59,993,492	48,424,320	59,538,701	44,784,691	20,367,511	277,079	0	0
kW	170,236	152,573	168,818	153,121	59,144	479	0	0
Street Lights								
Connections	6,739	6,749	6,750	6,779	6,784	6,793	6,823	6,853
kWh	4,730,347	4,479,319	1,273,281	2,844,301	2,503,378	2,284,687	1,465,918	1,282,067
kW	13,148	12,420	3,552	7,923	6,992	6,476	4,071	3,560
Sentinel Lights								
Connections	663	627	574	580	519	515	515	515
kWh	894,240	849,278	831,977	782,990	767,199	753,964	753,964	753,964
kW	2,462	2,331	2,297	2,186	2,120	2,077	2,077	2,077
Unmetered Scattered Loads								
Connections	226	221	225	236	259	257	257	257
kWh	1,122,904	1,085,389	1,111,230	989,250	966,945	970,041	957,090	944,313
Total								
Customer/Connections	29,207	29,580	29,847	29,733	29,944	30,129	30,362	30,599
kWh	429,972,781	405,481,205	421,635,734	399,002,323	380,885,629	356,369,056	343,801,435	347,356,298
kW from applicable classes	603,056	555,093	570,669	552,775	470,631	411,800	378,872	368,574

2.3.2 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 WHESC's distribution revenue and billing determinants. The variance analysis will compare 2011 Actual to 2012 Actual; 2012 Actual to 2013 Actual; 2013 Board Approved to 2013 Actual; 2013 Actual to 2014 Actual; 2014 Actual to 2015 Actual; 2015 Actual to 2016 Bridge and 2016 Bridge Year to 2017 Test Year. The distribution revenue variance analysis is based on information provided in Table 3-1. The billing determinant variance analysis is based on data outlined in Table 3-22. The overall variance analysis has been provided based on WHESC's materiality of $53,000; the materiality calculation being noted in Exhibit 4 of this Application.

2011 Actual vs 2012 Actual

Table 3-23 Distribution Revenue - 2011 Actual vs 2012 Actual

Throughput Revenue	2011 Actual	2012 Actual	Difference $	Difference %
Residential	$5,629,382	$6,218,897	$589,515	10.5%
General Service < 50 kW	$943,858	$1,002,427	$58,569	6.2%
General Service 50 to 4,999 kW	$1,105,710	$1,129,645	$23,935	2.2%
Large User	$180,230	$182,073	$1,843	1.0%
Street Lights	$338,294	$335,022	-$3,272	-1.0%
Sentinel Lights	$33,668	$32,443	-$1,225	-3.6%
Unmetered Scattered Loads	$46,052	$45,575	-$477	-1.0%
Total	$8,277,194	$8,946,082	$668,888	8.1%

Table 3-24 Billing Determinants - 2011 Actual vs 2012 Actual

Billing Quantiites	**Customers / Connections**		**Units**	**Volume**		**Volume Weather Normal**		**Annual Usage Per Customer / Connection**		**Annual Usage Per Customer / Connection Weather Normal**	
Weather Normal Conversion Factor						0.9983	1.0092				
	2011 Actual	2012 Actual		2011 Actual	2012 Actual	2011 Actual	2012 Actual	2011 Actual	2012 Actual	2011 Actual	2012 Actual
Residential	19,717	20,110	kWh	158,621,921	159,179,968	158,349,753	160,650,439	8,045	7,916	8,031	7,989
General Service < 50 kW	1,691	1,699	kWh	54,435,719	50,022,065	54,342,317	50,484,158	32,195	29,445	32,140	29,717
General Service 50 to 4,999 kW	170	173	kW	417,210	387,769	416,494	391,351	2,458	2,238	2,454	2,259
Large User	1	1	kW	170,236	152,573	169,944	153,982	170,236	152,573	169,944	153,982
Street Lights	6,739	6,749	kW	13,148	12,420	13,125	12,535	2	2	2	2
Sentinel Lights	663	627	kW	2,462	2,331	2,458	2,353	4	4	4	4
Unmetered Scattered Loads	226	221	kWh	1,122,904	1,085,389	1,120,977	1,095,416	4,962	4,918	4,953	4,963
Total	29,207	29,580									
	Variance			Variance		Variance		Variance		Variance	
Residential	393		kWh	558,047		2,300,686		(129)		(43)	
General Service < 50 kW	8		kWh	(4,413,654)		(3,858,158)		(2,750)		(2,423)	
General Service 50 to 4,999 kW	4		kW	(29,441)		(25,143)		(220)		(195)	
Large User	0		kW	(17,663)		(15,961)		(17,663)		(15,961)	
Street Lights	10		kW	(728)		(591)		(0)		(0)	
Sentinel Lights	(36)		kW	(131)		(105)		0		0	
Unmetered Scattered Loads	(6)		kWh	(37,515)		(25,562)		(44)		10	

As previously discussed, WHESC filed a Smart Meter Disposition Rate Application in 2012. The result was the addition of Rate Riders for Smart Meter Incremental Revenue Requirement for both the Residential and GS<50 kW customer classes. As a result, differences in year over year distribution revenues for these two customer classes have exceeded the materiality threshold. However, figures for these two classes are not comparable as a result of the impact of the Smart Meter Rate Application in 2012.

2012 Actual vs 2013 Actual

Table 3-25 Distribution Revenue - 2012 Actual vs 2013 Actual

Table 3-25: Comparison 2012 Actual to 2013 Actual				
Throughput Revenue	2012 Actual	2013 Actual	Difference $	Difference %
Residential	$6,218,897	$6,035,509	-$183,388	-2.9%
General Service < 50 kW	$1,002,427	$1,001,165	-$1,262	-0.1%
General Service 50 to 4,999 kW	$1,129,645	$1,278,326	$148,681	13.2%
Large User	$182,073	$131,373	-$50,700	-27.8%
Street Lights	$335,022	$237,088	-$97,934	-29.2%
Sentinel Lights	$32,443	$29,471	-$2,972	-9.2%
Unmetered Scattered Loads	$45,575	$41,460	-$4,115	-9.0%
Total	$8,946,082	$8,754,392	-$191,690	-2.1%

Table 3-25 above compares distribution revenue for 2012 Actual to 2013. WHESC's 2013 Cost of Service had a revenue sufficiency of $289,566 resulting in decreased distribution rates effective May 1, 2013. Part of the reduction is due to the accounting for 1576 as a result of WHESC adopting changes in useful lives and capitalized overhead policies effective January 1, 2012. This revenue reduction results in the overall decrease in 2013 distribution revenues compared to 2012. Cost allocation changes in the 2013 COS rate application included rate reductions for the Large User and Street Light classifications and increases to the General Service 50 to 4,999 kW class. The full year impact of these changes is not fully recognized in 2013 as a result of May 1st rate changes. WHESC believes that a better comparison for the 2013 Actuals are a comparison to 2013 Board Approved.

Table 3-26 Billing Determinants - 2012 Actual vs 2013 Actual

Billing Quantiites	Customers /		Units	Volume		Volume Weather Normal		Annual Usage Per		Annual Usage Per	
Weather Normal Conversion Factor						1.0092	1.0058				
	2012 Actual	2013 Actual		2012 Actual	2013 Actual	2012 Actual	2013 Actual	2012 Actual	2013 Actual	2012 Actual	2013 Actual
Residential	20,110	20,266	kWh	159,179,968	158,724,607	160,650,439	159,638,763	7,916	7,832	7,989	7,877
General Service < 50 kW	1,699	1,699	kWh	50,022,065	52,726,527	50,484,158	53,030,199	29,445	31,043	29,717	31,222
General Service 50 to 4,999 kW	173	173	kW	387,769	389,545	391,351	391,789	2,238	2,256	2,259	2,269
Large User	1	1	kW	152,573	153,121	153,982	154,003	152,573	153,121	153,982	154,003
Street Lights	6,749	6,779	kW	12,420	7,923	12,535	7,969	2	1	2	1
Sentinel Lights	627	580	kW	2,331	2,186	2,353	2,199	4	4	4	4
Unmetered Scattered Loads	221	236	kWh	1,085,389	989,250	1,095,416	994,947	4,918	4,201	4,963	4,225
Total	29,580	29,733									
	Variance			Variance		Variance		Variance		Variance	
Residential	156		kWh	(455,361)		(1,011,676)		(83)		(111)	
General Service < 50 kW	(0)		kWh	2,704,462		2,546,041		1,598		1,505	
General Service 50 to 4,999 kW	(1)		kW	1,776		437		18		10	
Large User	0		kW	548		20		548		20	
Street Lights	30		kW	(4,497)		(4,566)		(1)		(1)	
Sentinel Lights	(47)		kW	(145)		(154)		0		0	
Unmetered Scattered Loads	15		kWh	(96,139)		(100,468)		(717)		(739)	

Table 3-26 above displays two important year over year trends. The first is the reduction in Sentinel Lights connections which continues in future years. The second is the impact of the City of Welland's LED Streetlight program on Street Light kW which decreases dramatically. For the most part, Phase 1 Cobra Head Streetlight conversions were completed in 2013 with full year impacts in 2014.

2013 Board Approved vs 2013 Actual

Table 3-27 Distribution Revenue – 2013 Board Approved vs 2013 Actual

Throughput Revenue	2013 Board Approved	2013 Actual	Difference $	Difference %
Residential	$6,007,417	$6,035,509	$28,092	0.5%
General Service < 50 kW	$1,005,811	$1,001,165	-$4,646	-0.5%
General Service 50 to 4,999 kW	$1,342,766	$1,278,326	-$64,440	-4.8%
Large User	$108,118	$131,373	$23,255	21.5%
Street Lights	$181,212	$237,088	$55,876	30.8%
Sentinel Lights	$30,776	$29,471	-$1,305	-4.2%
Unmetered Scattered Loads	$38,940	$41,460	$2,520	6.5%
Total	$8,715,040	$8,754,392	$39,352	0.5%

Table 3-27 compares 2013 Actual to 2013 Board Approved distribution revenues. The total variance is below the materiality threshold of $53,000. However, the 2013 Actual has only 8 months of rate adjustments compared to the 2013 Board Approved which assumes decreased rates were in place for a full year. There are two classes which have exceeded the materiality threshold. The first being the General Service > 50 kW which is less than Board Approved. Again increases for this class from cost allocation changes in the 2013 COS were not in place for a full

twelve months. There were also reductions in overall kW consumed. The second class is Street Lights. There are two reasons for the increased distribution revenue over Board Approved. The first is the 2013 COS rate reduction was not in place for a full twelve months. The second is that the 2013 COS rate application volumes for the Street Light classification assumed both Phase 1 (Cobra Heads) and Phase 2 (Post Top) were completed by the end of 2012. However, the city made a decision to delay Phase 2 until a review could be made on the most appropriate design of the new LED Post Top fixtures.

Table 3-28 Billing Determinants – 2013 Board Approved vs 2013 Actual

Billing Quantiites	Customers /		Units	Volume		Volume Weather Normal		Annual Usage Per		Annual Usage Per	
Weather Normal Conversion Factor						1.0000	1.0058				
	2013 Board Approved	2013 Actual		2013 Board Approved	2013 Actual	2013 Board Approved	2013 Actual	2013 Board Approved	2013 Actual	2013 Board Approved	2013 Actual
Residential	20,432	20,266	kWh	162,565,618	158,724,607	162,565,618	159,638,763	7,956	7,832	7,956	7,877
General Service < 50 kW	1,696	1,699	kWh	54,784,534	52,726,527	54,784,534	53,030,199	32,306	31,043	32,306	31,222
General Service 50 to 4,999 kW	169	173	kW	396,002	389,545	396,002	391,789	2,343	2,256	2,343	2,269
Large User	1	1	kW	168,818	153,121	168,818	154,003	168,818	153,121	168,818	154,003
Street Lights	6,750	6,779	kW	3,552	7,923	3,552	7,969	1	1	1	1
Sentinel Lights	574	580	kW	2,297	2,186	2,297	2,199	4	4	4	4
Unmetered Scattered Loads	225	236	kWh	1,111,230	989,250	1,111,230	994,947	4,931	4,201	4,931	4,225
Total	29,847	29,733									
	Variance			Variance		Variance		Variance		Variance	
Residential	(166)		kWh	(3,841,011)		(2,926,855)		(124)		(79)	
General Service < 50 kW	3		kWh	(2,058,007)		(1,754,335)		(1,263)		(1,084)	
General Service 50 to 4,999 kW	4		kW	(6,457)		(4,214)		(87)		(74)	
Large User	0		kW	(15,697)		(14,815)		(15,697)		(14,815)	
Street Lights	29		kW	4,371		4,417		1		1	
Sentinel Lights	6		kW	(111)		(98)		(0)		(0)	
Unmetered Scattered Loads	10		kWh	(121,980)		(116,282)		(730)		(706)	

Table 3-28 above compares customer counts and volumes between 2013 Board Approved and 2013 Actuals.

The 2013 Board Approved customer count of 20,432 for the Residential Class was not reached until late in the 2014. The 2013 Board Approved kWh for the Residential Class has not been achieved in any of the years from 2013 to 2015 with the highest total reaching 158,724,607 kWh in 2013.

As previously discussed, 2013 Actual Street Light volumes exceeded Board Approved in 2013 as a result in delays in the LED Street Light program. Theses streetlights are owned and operated by WHESC's shareholder, the City of Welland.

Unmetered Scattered Load usage has changed in relation to connections. The Region of Niagara has been working to reduce its unmetered connections. During the same time unmetered street light monitoring devices have been added which consume less kWh then amounts moving from Unmetered Scattered to GS<50 kWh.

2013 Actual vs 2014 Actual

Table 3-29 Distribution Revenue - 2013 Actual vs 2014 Actual

Throughput Revenue	2013 Actual	2014 Actual	Difference $	Difference %
Residential	$6,035,509	$6,008,631	-$26,878	-0.4%
General Service < 50 kW	$1,001,165	$1,024,771	$23,606	2.4%
General Service 50 to 4,999 kW	$1,278,326	$1,351,549	$73,223	5.7%
Large User	$131,373	$98,517	-$32,856	-25.0%
Street Lights	$237,088	$211,712	-$25,376	-10.7%
Sentinel Lights	$29,471	$28,483	-$988	-3.4%
Unmetered Scattered Loads	$41,460	$42,241	$781	1.9%
Total	$8,754,392	$8,765,904	$11,512	0.1%

Despite an increase in distribution rates in the 2014 IRM Rate Application, distribution revenue was flat in 2014 compared to 2013 as shown in Table 3-29 above. Volume levels increased in the GS>50 class in 2014 over 2013 levels. However, in 2014 WHESC's last remaining Large Use customer announced it would cease production in May, 2014. This account was reclassified to GS>50 effective January 1, 2015. Streetlight revenues decreased as a result of a full year impact on LED streetlight installations but still remained above 2013 COS levels.

Table 3-30 Billing Determinants - 2013 Actual vs 2014 Actual

Billing Quantiites	**Customers /**		**Units**	**Volume**		**Volume Weather Normal**		**Annual Usage Per**		**Annual Usage Per**	
Weather Normal Conversion Factor						1.0058	1.0092				
	2013 Actual	2014 Actual		2013 Actual	2014 Actual	2013 Actual	2014 Actual	2013 Actual	2014 Actual	2013 Actual	2014 Actual
Residential	20,266	20,472	kWh	158,724,607	158,185,053	159,638,763	159,644,823	7,832	7,727	7,877	7,798
General Service < 50 kW	1,699	1,743	kWh	52,726,527	53,903,009	53,030,199	54,400,439	31,043	30,928	31,222	31,214
General Service 50 to 4,999 kW	173	165	kW	389,545	402,375	391,789	406,088	2,256	2,432	2,269	2,455
Large User	1	1	kW	153,121	59,144	154,003	59,690	153,121	59,144	154,003	59,690
Street Lights	6,779	6,784	kW	7,923	6,992	7,969	7,057	1	1	1	1
Sentinel Lights	580	519	kW	2,186	2,120	2,199	2,140	4	4	4	4
Unmetered Scattered Loads	236	259	kWh	989,250	966,945	994,947	975,868	4,201	3,729	4,225	3,763
Total	29,733	29,944									
	Variance			Variance		Variance		Variance		Variance	
Residential	206		kWh	(539,554)		6,060		(105)		(79)	
General Service < 50 kW	44		kWh	1,176,482		1,370,240		(115)		(8)	
General Service 50 to 4,999 kW	(7)		kW	12,830		14,300		176		186	
Large User	0		kW	(93,977)		(94,313)		(93,977)		(94,313)	
Street Lights	5		kW	(931)		(912)		(0)		(0)	
Sentinel Lights	(61)		kW	(66)		(59)		0		0	
Unmetered Scattered Loads	24		kWh	(22,305)		(19,079)		(472)		(462)	

As previously discussed Table 3-30 shows the reduction in consumption by the Large Use account and the full year impact of LED streetlight installations in 2013.

Sentinel Lights continue to decrease in 2014. For the most part these lights tended to be installed at industrial and commercial locations who are requesting they be removed from service or usage run thru an existing meter. WHESC

continues to service existing Sentinel Lights but does not install new services. As a result, the number of connections will continue to decrease in future years.

2014 Actual vs 2015 Actual

Table 3-31 Distribution Revenue - 2014 Actual vs 2015 Actual

Throughput Revenue	2014 Actual	2015 Actual	Difference $	Difference %
Residential	$6,008,631	$6,086,712	$78,081	1.3%
General Service < 50 kW	$1,024,771	$1,054,960	$30,189	2.9%
General Service 50 to 4,999 kW	$1,351,549	$1,379,368	$27,819	2.1%
Large User	$98,517	-$264	-$98,781	-100.3%
Street Lights	$211,712	$208,452	-$3,260	-1.5%
Sentinel Lights	$28,483	$27,921	-$562	-2.0%
Unmetered Scattered Loads	$42,241	$43,074	$833	2.0%
Total	$8,765,904	$8,800,223	$34,319	0.4%

WHESC's increase in the 2015 IRM Rate Application was 1.45%. This accounts for the majority of increases compared to 2014 actual as shown in Table 3-31 above. Actual volumes and customer counts remain fairly flat. However, as previously discussed the Large User was reclassified to GS>50 kW effective January 1, 2015 resulting in a decrease in revenue which exceeds the materiality threshold. This reduction will continue in rates until May 1, 2017 and will have an impact on the revenue deficiency in this rate application.

Table 3-32 Billing Determinants - 2014 Actual vs 2015 Actual

Billing Quantiites	**Customers /**		**Units**	**Volume**		**Volume Weather Normal**		**Annual Usage Per**		**Annual Usage Per**	
Weather Normal Conversion Factor						1.0092	1.0081				
	2014 Actual	2015 Actual		2014 Actual	2015 Actual	2014 Actual	2015 Actual	2014 Actual	2015 Actual	2014 Actual	2015 Actual
Residential	20,472	20,636	kWh	158,185,053	157,973,719	159,644,823	159,253,917	7,727	7,655	7,798	7,717
General Service < 50 kW	1,743	1,769	kWh	53,903,009	54,312,604	54,400,439	54,752,746	30,928	30,701	31,214	30,950
General Service 50 to 4,999 kW	165	159	kW	402,375	402,768	406,088	406,032	2,432	2,536	2,455	2,556
Large User	1	1	kW	59,144	479	59,690	483	59,144	479	59,690	483
Street Lights	6,784	6,793	kW	6,992	6,476	7,057	6,528	1	1	1	1
Sentinel Lights	519	515	kW	2,120	2,077	2,140	2,094	4	4	4	4
Unmetered Scattered Loads	259	257	kWh	966,945	970,041	975,868	977,902	3,729	3,779	3,763	3,810
Total	29,944	30,129									
	Variance			Variance		Variance		Variance		Variance	
Residential	163		kWh	(211,334)		(390,906)		(71)		(81)	
General Service < 50 kW	26		kWh	409,595		352,307		(227)		(264)	
General Service 50 to 4,999 kW	(7)		kW	393		(56)		103		101	
Large User	0		kW	(52,668)		(59,207)		(58,665)		(59,207)	
Street Lights	8		kW	(4,915)		(528)		(0)		(0)	
Sentinel Lights	(4)		kW	967,921		(46)		(0)		(0)	
Unmetered Scattered Loads	(3)		kWh	(966,945)		2,034		51		47	

The Residential class continues its downward trend of consumption per customer as outlined in Table 3-32 above. WHESC believes that its CDM efforts have contributed greatly to the energy reductions. However, WHESC also

believes that general consumer awareness of factors such as escalating energy prices have impacted their hydro bills and are taking necessary conservation steps to reduce the impact.

GS>50 customers who previously have fallen just outside the GS<50 classification have also taken the necessary steps to reduce peak demand and are being reclassified on a yearly basis. CDM staff at WHESC have been working closely with many small and larger businesses on the various programs and funding available to them to assist them in energy savings. The change in classification forms part of the growth in the GS<50 kW class but for the most part this growth is comprised of metered VibeTV installations in 2015. However, revenue increases would be mostly confined to the monthly service charge as volumes for these installations are far less the other GS<50 customers.

The Street Light LED Phase 2 Post Top conversion was started in 2015 resulting in reduced demand. Conversions of fixtures has continued and adjustments are made to kW and kWh on a monthly basis. The project will be complete by mid-2016.

2015 Actual vs 2016 Bridge

Table 3-33 Distribution Revenue – 2015 Actual vs 2016 Bridge

Throughput Revenue	2015 Actual	2016 Bridge	Difference $	Difference %
Residential	$6,086,712	$6,269,169	$182,457	3.0%
General Service < 50 kW	$1,054,960	$1,061,766	$6,806	0.6%
General Service 50 to 4,999 kW	$1,379,368	$1,298,138	-$81,230	-5.9%
Large User	-$264	$0	$264	-100.0%
Street Lights	$208,452	$196,615	-$11,837	-5.7%
Sentinel Lights	$27,921	$29,098	$1,177	4.2%
Unmetered Scattered Loads	$43,074	$44,259	$1,185	2.8%
Total	$8,800,223	$8,899,045	$98,822	1.1%

WHESC's increase in the 2016 IRM was 1.95% and accounts for the majority of the increase in distribution revenue noted in Table 3-33 above. This increase was reflected for a full twelve months in the 2016 Bridge Year which also contributes to differences between the 2015 Actual and 2016 Bridge Year. The other important factor in the 2016 IRM was the start of the conversion in Residential distribution rates to 100% fixed over a four year period. This will reduce exposure to variances in volumes and more closely aligns with a distributors fixed costs. In addition, WHESC recorded LRAMVA distribution revenue of $34,250 in 2015. This revenue relates to lost revenues over a three year period. WHESC had not previously recorded any amounts relating to LRMAVA. The increases noted above have been reduced by impacts to forecasted volumes as shown in Table 3-34 below.

Table 3-34 Billing Determinants - 2015 Actual vs 2016 Bridge

Billing Quantiites	Customers /		Units	Volume		Volume Weather Normal		Annual Usage Per		Annual Usage Per	
Weather Normal Conversion Factor						1.0081	1.0000				
	2015 Actual	2016 Bridge		2015 Actual	2016 Bridge	2015 Actual	2016 Bridge	2015 Actual	2016 Bridge	2015 Actual	2016 Bridge
Residential	20,636	20,838	kWh	157,973,719	155,389,123	159,253,917	155,389,123	7,655	7,457	7,717	7,457
General Service < 50 kW	1,769	1,776	kWh	54,312,604	53,099,923	54,752,746	53,099,923	30,701	29,896	30,950	29,896
General Service 50 to 4,999 kW	159	154	kW	402,768	372,724	406,032	372,724	2,536	2,422	2,556	2,422
Large User	1	0	kW	479	0	483	0	479		483	
Street Lights	6,793	6,823	kW	6,476	4,071	6,528	4,071	1	1	1	1
Sentinel Lights	515	515	kW	2,077	2,077	2,094	2,077	4	4	4	4
Unmetered Scattered Loads	257	257	kWh	970,041	957,090	977,902	957,090	3,779	3,729	3,810	3,729
Total	30,129	30,362									
	Variance			Variance		Variance		Variance		Variance	
Residential	202		kWh	(2,584,596)		(3,864,794)		(198)		(260)	
General Service < 50 kW	7		kWh	(1,212,681)		(1,652,824)		(805)		(1,054)	
General Service 50 to 4,999 kW	(5)		kW	(30,044)		(33,308)		(114)		(134)	
Large User	(1)		kW	(479)		(483)		(479)		(483)	
Street Lights	30		kW	(2,405)		(2,458)		(0)		(0)	
Sentinel Lights	0		kW	0		(17)		0		(0)	
Unmetered Scattered Loads	0		kWh	(12,951)		(20,812)		(50)		(81)	

With the exception of the GS>50 kW class, the year over year differences among the rate classes for customers/connections are immaterial. The reduced customers and a demand reduction of 30,044 kW for the GS>50 kW class is based on historical trends and allocation of CDM reduction targets from 2015 to 2020.

2016 Bridge vs 2017 Test

Table 3-35 Distribution Revenue - 2016 Bridge vs 2017 Test

Throughput Revenue	2016 Bridge	2017 Test	Difference $	Difference %
Residential	$6,269,169	$7,178,370	$909,201	14.5%
General Service < 50 kW	$1,061,766	$1,211,926	$150,160	14.1%
General Service 50 to 4,999 kW	$1,298,138	$1,572,415	$274,277	21.1%
Large User	$0	$0	$0	0.0%
Street Lights	$196,615	$61,897	-$134,718	-68.5%
Sentinel Lights	$29,098	$41,723	$12,625	43.4%
Unmetered Scattered Loads	$44,259	$39,952	-$4,307	-9.7%
Total	$8,899,045	$10,106,284	$1,207,239	13.6%

The proposed Test Year distribution revenue is a reflection of the 2017 COS application and results in a proposed base revenue requirement of $10,106,284. 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. Cost allocation impacts as a result of the Board's proceedings on Unmetered Scattered Loads have impacted the various customer classes. Rate decreases are proposed for the Street Light and Unmetered Scattered Loads classes. There are two other items which have impacted the increases for all customer classes. The first is the reclassification of the Large Use to GS>50 and the resulting significant loss in distribution revenue from the 2013 COS Rate Application. The second is related to the treatment of account 1576 as it applied to WHESC's 2013 COS Distribution Rates. As previously

discussed, the impact of WHESC's decision to adopt changes in useful lives and capitalized overheads effective January 1, 2012 resulted in a credit balance in account 1576 which would be returned to customers over a four year period thru reductions in distribution rates. This methodology was later changed by the OEB from a reduction in distribution rates to a negative rate rider. Although the bill impacts to customers would be identical, the methodology applied to WHESC would show the bill impact as an increase to distribution rates where an expiration of a favorable rate rider would have equal bill impacts, it would not show the impact as an increase in distribution rates. WHESC believes that this must be taken in account in evaluating its 2017 COS Rate Application.

Table 3-36 Billing Determinants - 2016 Bridge vs 2017 Test

Billing Quantiites	Customers /		Units	Volume		Volume Weather Normal		Annual Usage Per		Annual Usage Per	
Weather Normal Conversion Factor						1.0000	1.0000				
	2016 Bridge	2017 Test		2016 Bridge	2017 Test	2016 Bridge	2017 Test	2016 Bridge	2017 Test	2016 Bridge	2017 Test
Residential	20,838	21,042	kWh	155,389,123	161,051,510	155,389,123	161,051,510	7,457	7,654	7,457	7,654
General Service < 50 kW	1,776	1,783	kWh	53,099,923	54,658,680	53,099,923	54,658,680	29,896	30,651	29,896	30,651
General Service 50 to 4,999 kW	154	149	kW	372,724	362,937	372,724	362,937	2,422	2,434	2,422	2,434
Large User	0	0	kW	0	0	0	0				
Street Lights	6,823	6,853	kW	4,071	3,560	4,071	3,560	1	1	1	1
Sentinel Lights	515	515	kW	2,077	2,077	2,077	2,077	4	4	4	4
Unmetered Scattered Loads	257	257	kWh	957,090	944,313	957,090	944,313	3,729	3,679	3,729	3,679
Total	30,362	30,599									
	Variance			Variance		Variance		Variance		Variance	
Residential	204		kWh	5,662,386		5,662,386		197		197	
General Service < 50 kW	7		kWh	1,558,758		1,558,758		755		755	
General Service 50 to 4,999 kW	(5)		kW	(9,787)		(9,787)		12		12	
Large User	0		kW	0		0		0		0	
Street Lights	30		kW	(511)		(511)		(0)		(0)	
Sentinel Lights	0		kW	0		0		0		0	
Unmetered Scattered Loads	0		kWh	(12,778)		(12,778)		(50)		(50)	

Year over year changes are a result of the inputs of the load forecast model which is explained in detail above. Flat growth rates, minimal increases to kWh, and reduced kW are appropriate on a go forward basis for rate setting purposes.

2.3.3 OTHER REVENUE

The following Table 3-37 summarizes WHESC's total Other Revenues as outlined in Board Chapter 2 Appendices 2-H. Other Revenues in the 2016 Bridge Year and 2017 Test Year exclude RSVA Interest Income and Non-Distribution Revenues. Account 4305 Regulatory Credits have been excluded from the 2016 Bridge Year. All three of these revenue categories are excluded when determining total Service Revenue Requirements.

Table 3-37 Other Revenue

Appendix 2-H
Other Operating Revenue

USoA #	USoA Description	2013 COS	2013 Actual	2014 Actual	2015 Actual[2]	Actual Year[2]	Bridge Year[2]	Test Year
		2013	2013	2014	2015	2015	2016	2017
	Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
4235	Account Status Fees	$ 2,143	$ 976	$ 1,113	$ 1,078	$ 1,078	$ 1,096	$ 1,096
4235	NSF Charges	$ 4,253	$ 4,485	$ 4,200	$ 3,768	$ 3,768	$ 3,984	$ 3,984
4235	Occupancy Related	$ 95,564	$ 100,770	$ 105,746	$ 102,780	$ 102,780	$ 104,263	$ 104,263
4235	Disconnect/Reconnect	$ 19,622	$ 56,260	$ 54,828	$ 50,047	$ 50,047	$ 52,438	$ 52,438
4235	Markup Work Orders	$ 34,193	$ 23,474	$ 25,878	$ 30,217	$ 30,217	$ 28,048	$ 28,048
4235	**Total Specific Service Charges**	**$ 155,775**	**$ 185,965**	**$ 191,765**	**$ 187,890**	**$ 187,890**	**$ 189,829**	**$ 189,829**
4225	**Late Payment Charges**	**$ 71,971**	**$ 63,356**	**$ 74,709**	**$ 72,853**	**$ 72,853**	**$ 73,781**	**$ 73,781**
4082	Retail Services Revenues	$ 20,515	$ 20,155	$ 18,745	$ 17,071	$ 17,071	$ 10,339	$ 10,339
4084	Service Trans Revenues	$ 789	$ 498	$ 479	$ 377	$ 377	$ 377	$ 377
4086	SSA Administration	$ 61,575	$ 63,829	$ 64,764	$ 65,515	$ 65,515	$ 66,156	$ 66,774
4086	SSA Administration-Microfits	$ 1,425	$ 1,876	$ 2,840	$ 3,398	$ 3,398	$ 4,536	$ 10,800
4210	Rent from Property-Poles	$ 129,990	$ 130,448	$ 130,672	$ 139,958	$ 139,958	$ 139,958	$ 139,958
4210	Rent from Property-Buildings	$ 22,679	$ 22,617	$ 23,180	$ 23,644	$ 23,644	$ 24,117	$ 24,599
	Other Operating Revenue	**$ 236,973**	**$ 239,423**	**$ 240,680**	**$ 249,963**	**$ 249,963**	**$ 245,483**	**$ 252,847**
4305	Regulatory Credits	$ -	$ 95,589	$ 143,387	$ 143,382	$ 143,382	$ 143,382	$ -
4355	Gain/(Loss) Sale of Assets	$ 7,911	$ 10,119	$ 16,672	$ 184	$ 184	$ 8,428	$ 8,428
4355	Gain/(Loss) Early Retired Assets	$ -	$ -	$ -	$ -	$ -	$ -	-$ 29,320
4390	Scrap Metal Sales	$ 16,570	$ 33,853	$ 26,543	$ 23,992	$ 23,992	$ 25,268	$ 25,268
4390	Miscellaneous	$ 9,657	$ 4,277	$ 4,713	$ 3,909	$ 3,909	$ 4,311	$ 4,311
4405	Interest Income	$ 76,143	$ 102,840	$ 48,265	$ 38,381	$ 38,381	$ 9,811	$ 4,906
	Other Income or Deductions	**$ 110,281**	**$ 246,678**	**$ 239,580**	**$ 209,848**	**$ 209,848**	**$ 191,200**	**$ 13,593**
Specific Service Charges		**$ 155,775**	**$ 185,965**	**$ 191,765**	**$ 187,890**	**$ 187,890**	**$ 189,829**	**$ 189,829**
Late Payment Charges		**$ 71,971**	**$ 63,356**	**$ 74,709**	**$ 72,853**	**$ 72,853**	**$ 73,781**	**$ 73,781**
Other Operating Revenues		**$ 236,973**	**$ 239,423**	**$ 240,680**	**$ 249,963**	**$ 249,963**	**$ 245,483**	**$ 252,847**
Other Income or Deductions		**$ 110,281**	**$ 246,678**	**$ 239,580**	**$ 209,848**	**$ 209,848**	**$ 191,200**	**$ 13,593**
Total		**$ 575,000**	**$ 735,422**	**$ 746,734**	**$ 720,554**	**$ 720,554**	**$ 700,293**	**$ 530,050**

Account 4405 - Interest and Dividend Income

	2013 Cos	2013 Actual	2014 Actual	2015 Actual[2]	Actual Year[2]	Bridge Year[2]	Test Year
	2013	2013	2014	2015	2015	2016	2017
Reporting Basis	CGAAP	CGAAP	MIFRS	MIFRS	MIFRS	MIFRS	MIFRS
Short-term Investment Interest							
Bank Deposit Interest	$ 76,143	$ 83,170	$ 34,120	$ 29,155	$ 29,155	$ 9,811	$ 4,906
Miscellaneous Interest Revenue	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RSVA Interest Income		$ 19,670	$ 14,145	$ 9,226	$ 9,226		
Total	**$ 76,143**	**$ 102,840**	**$ 48,265**	**$ 38,381**	**$ 38,381**	**$ 9,811**	**$ 4,906**

With the exception of Account 4305 all year over year variances are below the materiality threshold of $53,000. Account 4305 is related to the disposition of account 1576 from WHESC's 2013 Cost of Service Rate Application. In 2012, WHESC recognized a Regulatory Debit for reporting purposes to set up the liability in account 1576. The

amortized annual amount for which distribution rates are currently reduced is offset by reversal of account 1576 until May 1, 2017 when the balance in account 1576 will be nil and the reduction in rates is removed in this application.

WHESC offers the following comments on individual other revenue line items.

4210 Rent from Property-Poles

The increase in 2015 is the result of a field audit performed in conjunction with Bell Canada which increased the actual number of instances where Bell hardware was on WHESC poles. There was also an increase in the amount of Bell poles for which WHESC is currently on which impacts OM&A costs.

4390 Scrap Metal Sales

Scrap Metal pricing peaked in 2013 has remained relatively steady over the 2014 Actual and 2015 Actual periods.

4405 Interest Income

Bank Deposit Interest has decreased steadily from the 2013 Cost of Service and 2013 Actual years. WHESC's capital spending exceeds depreciation expense on an annual basis since the implementation of extended useful lives in 2012. Cash reserves will continue to be impacted thru the 2016 Bridge Year and 2017 Test Year.

4355 Gain / (Loss) Early Retired Assets

The reduction in Other Income in the 2017 Test Year is associated with the loss on the early retirement of assets which were previously pooled under CGAAP. Pooling of assets were eliminated with the adoption of IFRS effective January 1, 2015. This issue has been discussed previously in Exhibit 2. No early retirement of previously pooled assets occurred in 2014. Retirements in the 2015 Actual, 2016 Bridge Year, and 2017 Test Year deal specifically with smart meters that are failing prematurely. Differences between Gross Asset value and Accumulated Depreciation for 2015 Actual and the 2016 Test Year have been charged to account 1575 for which WHESC is requesting disposal of in Exhibit 9. WHESC is requesting to include the impact of the early retirement of assets in Account 4355 as opposed to an increase in depreciation expenses. This methodology has no impact on the total Revenue Requirement and aligns with the accounting treatment of these disposals under IFRS. All early retired assets have been removed from rate base.

APPENDIX 3-A
MONTHLY DATA USED FOR REGRESSION ANALYSIS

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	CDM Activity	Number of Peak Hours	Spring Fall Flag	Predicted Purchases
Jan-02	46,293,277	559	0.0	31	0	352	0	43,441,001
Feb-02	41,843,002	519	0.0	28	0	320	0	40,037,140
Mar-02	44,412,572	512	0.0	31	0	320	1	41,304,567
Apr-02	42,581,129	307	5.1	30	0	352	1	39,596,780
May-02	40,099,130	220	8.8	31	0	352	1	39,710,356
Jun-02	42,830,520	27	74.7	30	0	320	0	42,296,106
Jul-02	50,209,650	1	169.2	31	0	352	0	51,118,159
Aug-02	49,113,260	1	141.6	31	0	336	0	48,520,692
Sep-02	43,203,390	21	77.3	30	0	320	1	41,580,891
Oct-02	39,840,800	260	11.6	31	0	352	1	40,351,955
Nov-02	40,267,910	413	0.0	30	0	336	1	39,920,822
Dec-02	41,966,900	611	0.0	31	0	320	0	43,209,141
Jan-03	45,793,920	782	0.0	31	0	352	0	45,792,278
Feb-03	41,797,690	681	0.0	28	0	320	0	41,750,711
Mar-03	43,041,020	530	0.0	31	0	336	1	41,889,393
Apr-03	39,112,340	360	0.0	30	0	336	1	39,366,524
May-03	37,768,340	149	0.0	31	0	336	1	37,871,001
Jun-03	38,550,110	33	35.6	30	0	336	0	39,630,553
Jul-03	45,139,630	1	105.3	31	0	352	0	45,993,469
Aug-03	44,242,730	4	127.8	31	0	320	0	47,052,956
Sep-03	39,933,800	51	29.0	30	0	336	1	38,426,680
Oct-03	39,274,410	264	1.0	31	0	352	1	39,540,915
Nov-03	39,924,090	352	0.0	30	0	320	1	38,874,140
Dec-03	42,535,190	531	0.0	31	0	336	0	42,767,724
Jan-04	46,623,430	805	0.0	31	0	336	0	45,662,740
Feb-04	42,059,450	617	0.0	29	0	320	0	41,810,974
Mar-04	44,041,140	479	0.0	31	0	368	1	42,130,755
Apr-04	39,465,450	303	0.8	30	0	336	1	38,823,596
May-04	38,649,380	117	17.1	31	0	320	1	38,505,536
Jun-04	40,366,830	47	42.0	30	0	352	0	40,676,679
Jul-04	42,442,080	1	93.1	31	0	336	0	44,635,283
Aug-04	42,940,430	12	61.6	31	0	336	0	42,223,054
Sep-04	41,663,760	28	46.7	30	0	336	1	39,599,137
Oct-04	39,406,350	209	0.3	31	0	320	1	38,126,372
Nov-04	40,213,160	365	0.0	30	0	352	1	39,800,134
Dec-04	43,313,970	591	0.0	31	0	336	0	43,396,984
Jan-05	46,807,180	717	0.0	31	0	320	0	44,326,182
Feb-05	41,117,740	595	0.0	28	0	320	0	40,837,440
Mar-05	44,324,530	591	0.0	31	0	352	1	42,921,643
Apr-05	39,294,850	304	0.0	30	0	336	1	38,765,771
May-05	38,503,630	179	0.0	31	0	336	1	38,181,408
Jun-05	43,469,730	6	141.2	30	0	352	0	48,196,333
Jul-05	51,308,440	0	190.7	31	0	320	0	52,053,104
Aug-05	48,784,110	1	144.1	31	0	352	0	49,105,175
Sep-05	41,264,120	20	49.8	30	0	336	1	39,770,679
Oct-05	40,426,860	212	8.7	31	0	320	1	38,833,826
Nov-05	41,421,880	361	0.0	30	0	352	1	39,761,069
Dec-05	44,051,790	652	0.0	31	0	320	0	43,637,798

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	CDM Activity	Number of Peak Hours	Spring Fall Flag	Predicted Purchases
Jan-06	43,192,750	524	0.0	31	10,209	336	0	42,616,993
Feb-06	39,863,550	570	0.0	28	20,419	320	0	40,424,062
Mar-06	42,675,980	515	0.0	31	30,628	368	1	42,277,203
Apr-06	34,740,070	270	0.0	30	40,837	304	1	37,308,648
May-06	38,741,980	127	24.3	31	51,046	352	1	39,581,078
Jun-06	41,837,560	19	69.9	30	61,256	352	0	42,150,256
Jul-06	47,715,260	1	161.4	31	71,465	320	0	49,168,679
Aug-06	44,325,550	1	100.1	31	81,674	352	0	44,960,783
Sep-06	36,564,730	69	17.2	30	91,884	320	1	36,561,537
Oct-06	38,815,730	270	0.0	31	102,093	336	1	38,366,552
Nov-06	39,427,080	361	0.0	30	112,302	352	1	38,904,383
Dec-06	40,481,750	469	0.0	31	122,511	304	0	40,398,736
Jan-07	43,659,020	626	0.0	31	128,921	352	0	43,163,871
Feb-07	42,004,080	739	0.0	28	135,331	320	0	41,331,772
Mar-07	41,099,580	539	0.0	31	141,741	352	1	41,285,032
Apr-07	37,578,410	376	0.0	30	148,151	320	1	37,997,378
May-07	37,137,720	144	15.4	31	154,561	352	1	38,256,092
Jun-07	42,747,830	20	84.3	30	160,971	336	0	42,164,685
Jul-07	41,879,640	7	77.5	31	167,381	336	0	42,175,965
Aug-07	45,846,620	6	106.5	31	173,791	352	0	44,819,921
Sep-07	40,071,090	52	41.8	30	180,200	304	1	37,294,065
Oct-07	39,182,630	131	20.2	31	186,610	352	1	38,257,193
Nov-07	40,415,660	438	0.0	30	193,020	352	1	39,102,659
Dec-07	42,304,750	613	0.0	31	199,430	304	0	41,325,993
Jan-08	43,662,060	604	0.0	31	209,655	352	0	42,323,153
Feb-08	42,566,180	654	0.0	29	219,880	320	0	40,517,208
Mar-08	42,057,090	602	0.0	31	230,106	304	1	40,107,177
Apr-08	37,570,770	273	0.0	30	240,331	352	1	36,993,500
May-08	36,307,140	217	0.0	31	250,556	336	1	36,665,289
Jun-08	41,100,780	27	61.5	30	260,781	336	0	39,649,140
Jul-08	44,714,390	5	90.3	31	271,006	352	0	42,772,808
Aug-08	41,138,100	19	42.4	31	281,231	320	0	38,216,865
Sep-08	39,609,350	70	25.5	30	291,457	336	1	36,117,375
Oct-08	37,751,930	293	0.0	31	301,682	352	1	37,475,093
Nov-08	38,864,960	447	0.0	30	311,907	304	1	37,117,728
Dec-08	41,720,160	615	0.0	31	322,132	336	0	41,185,986
Jan-09	42,696,540	829	0.0	31	332,159	336	0	43,375,254
Feb-09	35,865,870	606	0.0	28	342,186	304	0	37,953,202
Mar-09	36,893,370	529	0.0	31	352,212	352	1	39,574,989
Apr-09	32,546,810	317	2.0	30	362,239	320	1	35,903,188
May-09	30,411,992	157	1.8	31	372,266	320	1	34,861,927
Jun-09	32,954,969	44	30.0	30	382,292	352	0	36,768,610
Jul-09	35,112,531	20	33.1	31	392,319	352	0	37,412,061
Aug-09	38,795,185	14	74.2	31	402,346	320	0	39,792,591
Sep-09	32,382,923	71	12.0	30	412,373	336	1	34,119,688
Oct-09	32,302,731	290	0.0	31	422,399	336	1	36,128,303
Nov-09	32,596,485	336	0.0	30	432,426	320	1	35,417,480
Dec-09	37,057,808	612	0.0	31	442,453	352	0	40,632,800

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	CDM Activity	Number of Peak Hours	Spring Fall Flag	Predicted Purchases
Jan-10	38,555,454	711	0.0	31	439,903	320	0	40,913,254
Feb-10	35,503,923	633	0.0	28	437,354	304	0	37,512,289
Mar-10	36,616,969	468	0.0	31	434,804	368	1	38,695,138
Apr-10	31,620,685	243	0.0	30	432,254	320	1	34,432,670
May-10	34,713,300	125	27.5	31	429,705	320	1	36,149,118
Jun-10	38,175,215	24	51.3	30	427,155	352	0	37,915,003
Jul-10	43,449,462	5	124.0	31	424,605	336	0	43,906,385
Aug-10	42,901,115	8	103.4	31	422,056	336	0	42,306,474
Sep-10	34,876,669	70	13.9	30	419,506	336	1	34,204,979
Oct-10	33,323,746	247	0.1	31	416,956	320	1	35,335,950
Nov-10	35,291,992	240	0.0	30	414,407	336	1	34,927,153
Dec-10	38,566,092	671	0.0	31	411,857	368	0	41,880,186
Jan-11	40,900,176	795	0.0	31	435,545	336	0	42,219,166
Feb-11	37,002,004	645	0.0	28	459,232	304	0	37,480,535
Mar-11	39,251,866	551	0.0	31	482,919	368	1	39,200,189
Apr-11	34,076,716	325	0.4	30	506,607	320	1	34,762,263
May-11	34,411,223	136	12.5	31	530,294	336	1	34,681,782
Jun-11	38,049,473	23	40.2	30	553,982	352	0	36,047,813
Jul-11	46,034,684	0	158.6	31	577,669	320	0	45,076,106
Aug-11	42,762,335	4	88.8	31	601,356	352	0	40,120,854
Sep-11	34,007,841	54	24.9	30	625,044	336	1	33,352,423
Oct-11	32,896,105	235	0.0	31	648,731	320	1	33,424,717
Nov-11	34,363,376	320	0.0	30	672,419	352	1	34,195,701
Dec-11	37,465,044	512	0	31	696,106	336	0	37,247,796
Jan-12	38,332,945	601	0	31	696,483	336	0	38,182,478
Feb-12	35,663,980	533	0	29	696,859	320	0	35,608,492
Mar-12	34,848,118	334	0	31	697,236	352	1	34,885,250
Apr-12	29,360,304	331	0	30	697,612	320	1	33,336,467
May-12	33,203,358	82	29	31	697,989	352	1	34,541,897
Jun-12	33,725,678	32	59	30	698,365	336	0	36,140,992
Jul-12	42,152,151	0	131	31	698,742	336	0	42,319,967
Aug-12	39,128,268	6	77	31	699,118	352	0	38,416,724
Sep-12	33,338,864	86	29	30	699,495	304	1	32,664,170
Oct-12	32,606,142	227	1	31	699,871	352	1	33,805,926
Nov-12	34,295,421	415	0	30	700,248	352	1	34,988,533
Dec-12	35,015,935	505	0	31	700,625	304	0	36,358,347
Jan-13	37,762,682	617	0	31	735,460	352	0	38,450,417
Feb-13	33,318,399	640	0	28	770,295	304	0	35,052,720
Mar-13	34,776,846	555	0	31	805,130	320	1	35,619,719
Apr-13	31,363,089	340	0	30	839,966	352	1	33,127,691
May-13	31,691,627	117	24	31	874,801	352	1	33,177,255
Jun-13	33,388,745	43	49	30	909,636	320	0	33,430,473
Jul-13	40,707,063	6	117	31	944,471	352	0	39,779,817
Aug-13	35,841,332	15	52	31	979,307	336	0	34,002,388
Sep-13	32,423,203	110	23	30	1,014,142	320	1	30,430,350
Oct-13	32,735,800	198	4	31	1,048,977	352	1	31,101,909
Nov-13	33,760,117	451	0	30	1,083,813	336	1	32,048,407
Dec-13	37,600,716	641	0	31	1,118,648	320	0	34,993,290

	Purchased	Heating Degree Days	Cooling Degree Days	Number of Days in Month	CDM Activity	Number of Peak Hours	Spring Fall Flag	Predicted Purchases
Jan-14	40,157,304	783	0	31	1,126,369	352	0	37,219,986
Feb-14	35,890,736	744	0	28	1,134,090	304	0	33,371,360
Mar-14	37,345,081	692	0	31	1,141,811	336	1	34,887,844
Apr-14	29,856,156	338	0	30	1,149,532	320	1	29,968,224
May-14	27,591,366	144	7	31	1,157,254	336	1	29,565,462
Jun-14	32,152,920	21	63	30	1,164,975	336	0	32,793,555
Jul-14	33,898,997	14	51	31	1,172,696	352	0	32,832,298
Aug-14	33,235,703	12	57	31	1,180,417	320	0	32,454,511
Sep-14	28,690,043	85	28	30	1,188,138	336	1	29,598,009
Oct-14	29,545,098	223	5	31	1,195,859	352	1	30,273,667
Nov-14	30,497,875	466	0	30	1,203,581	304	1	30,508,897
Dec-14	32,693,713	541	0	31	1,211,302	336	0	33,621,749
Jan-15	35,250,727	753	0	31	1,238,712	336	0	35,654,127
Feb-15	32,507,721	872	0	28	1,266,122	304	0	33,717,709
Mar-15	32,200,533	637	0	31	1,293,532	352	1	33,537,662
Apr-15	27,396,995	320	0	30	1,320,942	336	1	28,853,215
May-15	28,717,672	97	34	31	1,348,352	320	1	29,373,510
Jun-15	29,735,254	36	29	30	1,375,763	352	0	28,988,003
Jul-15	35,302,271	8	79	31	1,403,173	352	0	33,263,306
Aug-15	33,761,714	12	59	31	1,430,583	320	0	30,706,544
Sep-15	32,384,101	37	54	30	1,457,993	336	1	29,186,839
Oct-15	27,193,803	252	1	31	1,485,403	336	1	27,693,428
Nov-15	27,893,759	337	0	30	1,512,813	320	1	27,182,192
Dec-15	30,136,379	409	0	31	1,540,223	352	0	30,112,119
Jan-16		693	0	31	1,537,210	320	0	32,354,553
Feb-16		646	0	29	1,534,196	320	0	30,414,083
Mar-16		538	0	31	1,531,183	352	1	30,680,499
Apr-16		315	1	30	1,528,170	336	1	27,268,139
May-16		144	14	31	1,525,156	336	1	27,328,317
Jun-16		29	59	30	1,522,143	352	0	30,252,173
Jul-16		5	113	31	1,519,129	320	0	34,281,124
Aug-16		8	88	31	1,516,116	352	0	33,138,791
Sep-16		59	34	30	1,513,103	336	1	27,337,249
Oct-16		237	4	31	1,510,089	320	1	27,174,802
Nov-16		379	0	30	1,507,076	336	1	28,057,974
Dec-16		569	0	31	1,504,062	336	0	31,691,245
Jan-17		693	0	31	1,491,153	336	0	33,096,960
Feb-17		646	0	28	1,478,243	304	0	29,716,687
Mar-17		538	0	31	1,465,334	368	1	31,573,888
Apr-17		315	1	30	1,452,425	304	1	27,063,822
May-17		144	14	31	1,439,515	352	1	28,372,687
Jun-17		29	59	30	1,426,606	352	0	30,980,968
Jul-17		5	113	31	1,413,696	320	0	35,085,409
Aug-17		8	88	31	1,400,787	352	0	34,018,568
Sep-17		59	34	30	1,387,877	320	1	27,901,451
Oct-17		237	4	31	1,374,968	336	1	28,596,624
Nov-17		379	0	30	1,362,059	352	1	29,555,288
Dec-17		569	0	31	1,349,149	304	0	32,090,854

APPENDIX 3-B
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-I
Load Forecast CDM Adjustment Work Form (2017)

6 Year (2015-2020) kWh Target:							
	25,500						
	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**Total**
			%				
2015 CDM Programs	18.57%	0.00%	0.00%	0.00%	0.00%	0.00%	18.57%
2016 CDM Programs		15.90%	0.00%	0.00%	0.00%	0.00%	15.90%
2017 CDM Programs			17.06%	0.00%	0.00%	0.00%	17.06%
2018 CDM Programs				16.93%	0.00%	0.00%	16.93%
2019 CDM Programs					16.92%	0.00%	16.92%
2020 CDM Programs						14.62%	14.62%
Total in Year	**18.57%**	**15.90%**	**17.06%**	**16.93%**	**16.92%**	**14.62%**	**100.00%**
			kWh				
2015 CDM Programs	4,735.95						4,735.95
2016 CDM Programs		4,054.00		-	-	-	4,054.00
2017 CDM Programs			4,350.00		-	-	4,350.00
2018 CDM Programs				4,318.00		-	4,318.00
2019 CDM Programs					4,315.00		4,315.00
2020 CDM Programs						3,727.05	3,727.05
Total in Year	**4,735.95**	**4,054.00**	**4,350.00**	**4,318.00**	**4,315.00**	**3,727.05**	**25,500.00**

Net-to-Gross Conversion				
Is CDM adjustment being done on a "net" or "gross" basis?				**net**
Persistence of Historical CDM programs to 2015	**"Gross" kWh**	**"Net" kWh**	**Difference kWh**	**"Net-to-Gross" Conversion Factor ('g')**
2006-2010 CDM programs				
2011 CDM program				
2012 CDM program				
2013 CDM program				
2014 CDM program				
2015 CDM program				
2006 to 2015 OPA CDM programs: Persistence to 2017	0	0	0	0.00%

Weight Factor for Inclusion in CDM Adjustment to 2017 Load Forecast

	2015	**2016**	**2017**	**2018**	**2019**	**2020**	
Weight Factor for each year's CDM program impact on 2014 load forecast	**0**	**1**	**0.5**	**0**	**0**	**0**	Distributor can select "0", "0.5", or "1" from drop-down list
Default Value selection rationale.	*Default is 0, but one option is for full year impact of persistence of 2015 CDM programs on 2017 load forecast, but 50% impact in base forecast (first year impact of 2014 CDM programs on 2014 actuals, which is part of the data for the load forecast.*	*Full year impact of persistence of 2015 programs on 2015 load forecast. 2015 CDM program impacts are not in the base forecast.*	*Only 50% of 2016 CDM programs are assumed to impact the 2016 load forecast based on the "half-year" rule.*	*2018, 2019 and 2020 are future years beyond the 2017 test year. No impacts of CDM programs beyond the 2017 test year are factored into the test year load forecast.*			

2015-2020 LRAMVA and 2017 CDM adjustment to Load Forecast

	2015	**2016**	**2017**	**2018**	**2019**	**2020**	**Total for 2017**
Amount used for CDM threshold for LRAMVA (2017)	-	4,054.00	4,350.00				8,404.00
Manual Adjustment for 2017 Load Forecast (billed basis)	-	4,054.00	2,175.00	-	-	-	6,229.00
Proposed Loss Factor (TLF)	4.09%	Format: X.XX%					
Manual Adjustment for 2017 Load Forecast (system purchased basis)	-	4,219.88	2,264.00	-	-	-	6,483.88

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Distribution System (Total)

	Calendar Year (for 2017 Cost of Service		Consumption (kWh) [3]				
				Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*		Actual	429,972,781	429,235,022		
Historical	*2012*		Actual	405,481,205	409,226,956		
Historical	*2013*		Actual	399,002,323	401,300,331	Board-approved	421,635,734
Historical	*2014*		Actual	380,885,629	384,400,534		
Historical	*2015*		Actual	356,369,056	359,257,023		
Bridge Year	*2016*		Forecast		343,801,435		
Test Year	*2017*		Forecast		347,356,298		

Variance Analysis	Year	Year-over-year		Versus Board-approved
	2011			
	2012	-5.7%	-4.7%	
	2013	-1.6%	-1.9%	
	2014	-4.5%	-4.2%	
	2015	-6.4%	-6.5%	
	2016		-4.3%	
	2017		1.0%	-17.6%
	Geometric Mean	-6.1%	-4.1%	-6.3%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class Analysis (one for each Customer Class, excluding MicroFIT and Standby)

1 Customer Class: Residential Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kWh

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]				Consumption (kWh) per Customer			
						Actual (Weather actual)	Weather-normalized		Weather-normalized	Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	19,717			Actual	158,621,921	158,349,753		Actual	8,045	8,031	
Historical	*2012*	Actual	20,110			Actual	159,179,968	160,650,439		Actual	7,916	7,989	
Historical	*2013*	Actual	20,266	Board-approved	20,432	Actual	158,724,607	159,638,763	Board-approved	162,565,618	Actual	7,832	7,877	Board-approved	7,956
Historical	*2014*	Actual	20,472			Actual	158,185,053	159,644,823			Actual	7,727	7,798		
Historical	*2015*	Actual	20,636			Actual	157,973,719	159,253,917			Actual	7,655	7,717		
Bridge Year	*2016*	Forecast	20,838			Forecast		155,389,123			Forecast	0	7,457		
Test Year	*2017*	Forecast	21,042			Forecast		161,051,510			Forecast	0	7,654		

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011			*2011*				*2011*			
	2012	2.0%		*2012*	0.4%	1.5%		*2012*	-1.6%	-0.5%	
	2013	0.8%		*2013*	-0.3%	-0.6%		*2013*	-1.1%	-1.4%	
	2014	1.0%		*2014*	-0.3%	0.0%		*2014*	-1.3%	-1.0%	
	2015	0.8%		*2015*	-0.1%	-0.2%		*2015*	-0.9%	-1.0%	
	2016	1.0%		*2016*		-2.4%		*2016*		-3.4%	
	2017	1.0%	3.0%	*2017*		3.6%	-0.9%	*2017*		2.6%	-3.8%
	Geometric Mean	1.3%	1.0%	Geometric Mean	-0.1%	0.3%	-0.3%	Geometric Mean	-1.6%	-1.0%	-1.3%

	Calendar Year (for 2017 Cost of Service	Revenues			
Historical	*2011*	Actual	$ 5,629,382		
Historical	*2012*	Actual	$ 6,218,897		
Historical	*2013*	Actual	$ 6,035,509	Board-approved	$ 6,007,417.00
Historical	*2014*	Actual	$ 6,008,631		
Historical	*2015*	Actual	$ 6,086,712		
Bridge Year (Foreca	*2016*	Forecast	$ 6,269,169		
Test Year (Forecast)	*2017*	Forecast	$ 7,178,370		

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved
	2011		
	2012	10.5%	
	2013	-2.9%	
	2014	-0.4%	
	2015	1.3%	
	2016	3.0%	
	2017	14.5%	19.5%
	Geometric Mean	5.0%	6.1%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class: GS < 50 kW Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kWh

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	1,691			Actual	54,435,719	54,342,317			Actual	32,195	32,140		
Historical	*2012*	Actual	1,699			Actual	50,022,065	50,484,158			Actual	29,445	29,717		
Historical	*2013*	Actual	1,699	Board-approved	1,696	Actual	52,726,527	53,030,199	Board-approved	54,784,534	Actual	31,043	31,222	Board-approved	32,306
Historical	*2014*	Actual	1,743			Actual	53,903,009	54,400,439			Actual	30,928	31,214		
Historical	*2015*	Actual	1,769			Actual	54,312,604	54,752,746			Actual	30,701	30,950		
Bridge Year	*2016*	Forecast	1,776			Forecast		53,099,923			Forecast	0	29,896		
Test Year	*2017*	Forecast	1,783			Forecast		54,658,680			Forecast	0	30,651		

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011				*2011*				*2011*			
	2012	0.5%			*2012*	-8.1%	-7.1%		*2012*	-8.5%	-7.5%	
	2013	0.0%			*2013*	5.4%	5.0%		*2013*	5.4%	5.1%	
	2014	2.6%			*2014*	2.2%	2.6%		*2014*	-0.4%	0.0%	
	2015	1.5%			*2015*	0.8%	0.6%		*2015*	-0.7%	-0.8%	
	2016	0.4%			*2016*		-3.0%		*2016*		-3.4%	
	2017	0.4%		5.2%	*2017*		2.9%	-0.2%	*2017*		2.5%	-5.1%
	Geometric Mean	1.1%		1.7%	Geometric Mean	-0.1%	0.1%	-0.1%	Geometric Mean	-1.6%	-0.9%	-1.7%

	Calendar Year (for 2017 Cost of Service	Revenues			
Historical	*2011*	Actual	$ 943,858		
Historical	*2012*	Actual	$ 1,002,427		
Historical	*2013*	Actual	$ 1,001,165	Board-approved	$ 1,005,811.00
Historical	*2014*	Actual	$ 1,024,771		
Historical	*2015*	Actual	$ 1,054,960		
Bridge Year (Foreca	*2016*	Forecast	$ 1,061,766		
Test Year (Forecast	*2017*	Forecast	$ 1,211,926		

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved
	2011		
	2012	6.2%	
	2013	-0.1%	
	2014	2.4%	
	2015	2.9%	
	2016	0.6%	
	2017	14.1%	20.5%
	Geometric Mean	5.1%	6.4%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class: GS > 50 kW Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kW

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]				Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	170			Actual	150,174,158	149,916,485			Actual	884,751	883,233		
Historical	*2012*	Actual	173			Actual	141,440,866	142,747,468			Actual	816,397	823,939		
Historical	*2013*	Actual	173	Board-approved	169	Actual	138,149,957	138,945,616	Board-approved	141,530,394	Actual	800,096	804,704	Board-approved	837,458
Historical	*2014*	Actual	165			Actual	144,192,534	145,523,178			Actual	871,693	879,737		
Historical	*2015*	Actual	159			Actual	139,796,962	140,929,858			Actual	880,149	887,281		
Bridge Year	*2016*	Forecast	154			Forecast		132,135,416			Forecast	0	858,591		
Test Year	*2017*	Forecast	149			Forecast		128,665,764			Forecast	0	862,857		

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011				*2011*				*2011*			
	2012	2.1%			*2012*	-5.8%	-4.8%		*2012*	-7.7%	-6.7%	
	2013	-0.3%			*2013*	-2.3%	-2.7%		*2013*	-2.0%	-2.3%	
	2014	-4.2%			*2014*	4.4%	4.7%		*2014*	8.9%	9.3%	
	2015	-4.0%			*2015*	-3.0%	-3.2%		*2015*	1.0%	0.9%	
	2016	-3.1%			*2016*		-6.2%		*2016*		-3.2%	
	2017	-3.1%		-11.8%	*2017*		-2.6%	-9.1%	*2017*		0.5%	3.0%
	Geometric Mean	-2.6%		-4.1%	Geometric Mean	-2.4%	-3.0%	-3.1%	Geometric Mean	-0.2%	-0.5%	1.0%

	Calendar Year (for 2017 Cost of Service	Revenues				Demand (kW)				Demand (kW) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	$ 1,105,710			Actual	417,210	416,494			Actual	0.377323168	0.37667575		
Historical	*2012*	Actual	$ 1,129,645			Actual	387,769	391,351			Actual	0.343266247	0.34643727		
Historical	*2013*	Actual	$ 1,278,326	Board-approved	$ 1,342,766.00	Actual	389,545	391,789	Board-approved	396,002	Actual	0.304730562	0.30648562	Board-approved	0.294915154
Historical	*2014*	Actual	$ 1,351,549			Actual	402,375	406,088			Actual	0.297713956	0.30046133		
Historical	*2015*	Actual	$ 1,379,368			Actual	402,768	406,032			Actual	0.291994595	0.29436088		
Bridge Year (Foreca	*2016*	Forecast	$ 1,298,138			Forecast		372,724			Forecast	0	0.28712203		
Test Year (Forecast	*2017*	Forecast	$ 1,572,415			Forecast		362,937			Forecast	0	0.23081496		

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011				*2011*				*2011*			
	2012	2.2%			*2012*	-7.1%	-6.0%		*2012*	-9.0%	-8.0%	
	2013	13.2%			*2013*	0.5%	0.1%		*2013*	-11.2%	-11.5%	
	2014	5.7%			*2014*	3.3%	3.6%		*2014*	-2.3%	-2.0%	
	2015	2.1%			*2015*	0.1%	0.0%		*2015*	-1.9%	-2.0%	
	2016	-5.9%			*2016*		-8.2%		*2016*		-2.5%	
	2017	21.1%		17.1%	*2017*		-2.6%	-8.3%	*2017*		-19.6%	-21.7%
	Geometric Mean	7.3%		5.4%	Geometric Mean	-1.2%	-2.7%	-2.9%	Geometric Mean	-8.2%	-9.3%	-7.8%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class: Street Lights — Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kW

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	6,739			Actual	4,730,347	4,722,231			Actual	702	701		
Historical	*2012*	Actual	6,749			Actual	4,479,319	4,520,698			Actual	664	670		
Historical	*2013*	Actual	6,779	Board-approved	6,750	Actual	2,844,301	2,860,682	Board-approved	1,273,281	Actual	420	422	Board-approved	189
Historical	*2014*	Actual	6,784			Actual	2,503,378	2,526,480			Actual	369	372		
Historical	*2015*	Actual	6,793			Actual	2,284,687	2,303,202			Actual	336	339		
Bridge Year	*2016*	Forecast	6,823			Forecast		1,465,918			Forecast	0	215		
Test Year	*2017*	Forecast	6,853			Forecast		1,282,067			Forecast	0	187		

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011				*2011*				*2011*			
	2012	0.2%			*2012*	-5.3%	-4.3%		*2012*	-5.4%	-4.4%	
	2013	0.4%			*2013*	-36.5%	-36.7%		*2013*	-36.8%	-37.0%	
	2014	0.1%			*2014*	-12.0%	-11.7%		*2014*	-12.1%	-11.8%	
	2015	0.1%			*2015*	-8.7%	-8.8%		*2015*	-8.8%	-8.9%	
	2016	0.4%			*2016*		-36.4%		*2016*		-36.6%	
	2017	0.4%		1.5%	*2017*		-12.5%	0.7%	*2017*		-12.9%	-0.8%
	Geometric Mean	0.3%		0.5%	Geometric Mean	-21.5%	-23.0%	0.2%	Geometric Mean	-21.7%	-23.2%	-0.3%

	Calendar Year (for 2017 Cost of Service	Revenues				Demand (kW)					Demand (kW) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	$ 338,924			Actual	13,148	13,125			Actual	0.038793358	0.0387268		
Historical	*2012*	Actual	$ 335,022			Actual	12,420	12,535			Actual	0.037072192	0.03741466		
Historical	*2013*	Actual	$ 237,088	Board-approved	$ 181,212.00	Actual	7,923	7,969	Board-approved	3,552	Actual	0.033417971	0.03361044	Board-approved	0.019601351
Historical	*2014*	Actual	$ 211,712			Actual	6,992	7,057			Actual	0.033025998	0.03333077		
Historical	*2015*	Actual	$ 208,452			Actual	6,476	6,528			Actual	0.031067104	0.03131887		
Bridge Year (Foreca	*2016*	Forecast	$ 196,615			Forecast		4,071			Forecast	0	0.02070345		
Test Year (Forecast	*2017*	Forecast	$ 61,897			Forecast		3,560			Forecast	0	0.0575163		

Variance Analysis	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011				*2011*				*2011*			
	2012	-1.2%			*2012*	-5.5%	-4.5%		*2012*	-4.4%	-3.4%	
	2013	-29.2%			*2013*	-36.2%	-36.4%		*2013*	-9.9%	-10.2%	
	2014	-10.7%			*2014*	-11.8%	-11.4%		*2014*	-1.2%	-0.8%	
	2015	-1.5%			*2015*	-7.4%	-7.5%		*2015*	-5.9%	-6.0%	
	2016	-5.7%			*2016*		-37.6%		*2016*		-33.9%	
	2017	-68.5%		-65.8%	*2017*		-12.5%	0.2%	*2017*		177.8%	193.4%
	Geometric Mean	-28.8%		-30.1%	Geometric Mean	-21.0%	-23.0%	0.1%	Geometric Mean	-7.1%	8.2%	43.2%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class: Unmetered Scattered Load — Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kWh

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]				Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	226			Actual	1,122,904	1,120,977			Actual	4,962	4,953		
Historical	*2012*	Actual	221			Actual	1,085,389	1,095,416			Actual	4,918	4,963		
Historical	*2013*	Actual	236	Board-approved	225	Actual	989,250	994,947	Board-approved	1,111,230	Actual	4,201	4,225	Board-approved	4,931
Historical	*2014*	Actual	259			Actual	966,945	975,868			Actual	3,729	3,763		
Historical	*2015*	Actual	257			Actual	970,041	977,902			Actual	3,779	3,810		
Bridge Year	*2016*	Forecast	257			Forecast		957,090			Forecast	0	3,729		
Test Year	*2017*	Forecast	257			Forecast		944,313			Forecast	0	3,679		

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011			*2011*				*2011*			
	2012	-2.5%		*2012*	-3.3%	-2.3%		*2012*	-0.9%	0.2%	
	2013	6.7%		*2013*	-8.9%	-9.2%		*2013*	-14.6%	-14.9%	
	2014	10.1%		*2014*	-2.3%	-1.9%		*2014*	-11.2%	-10.9%	
	2015	-1.0%		*2015*	0.3%	0.2%		*2015*	1.4%	1.2%	
	2016	0.0%		*2016*		-2.1%		*2016*		-2.1%	
	2017	0.0%	13.9%	*2017*		-1.3%	-15.0%	*2017*		-1.3%	-25.4%
	Geometric Mean	2.5%	4.4%	Geometric Mean	-4.8%	-3.4%	-5.3%	Geometric Mean	-8.7%	-5.8%	-9.3%

	Calendar Year (for 2017 Cost of Service	Revenues				
Historical	*2011*	Actual	$ 46,052			
Historical	*2012*	Actual	$ 45,575			
Historical	*2013*	Actual	$ 41,460	Board-approved	$ 38,940.00	
Historical	*2014*	Actual	$ 42,241			
Historical	*2015*	Actual	$ 43,074			
Bridge Year (Foreca	*2016*	Forecast	$ 44,259			
Test Year (Forecast	*2017*	Forecast	$ 39,952			

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved
	2011		
	2012	-1.0%	
	2013	-9.0%	
	2014	1.9%	
	2015	2.0%	
	2016	2.8%	
	2017	-9.7%	2.6%
	Geometric Mean	-2.8%	0.9%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class: Sentinel Lights — Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kW

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	663			Actual	894,240	892,706			Actual	1,348	1,346		
Historical	*2012*	Actual	627			Actual	849,278	857,123			Actual	1,355	1,367		
Historical	*2013*	Actual	580	Board-approved	574	Actual	782,990	787,500	Board-approved	831,977	Actual	1,349	1,357	Board-approved	1,449
Historical	*2014*	Actual	519			Actual	767,199	774,279			Actual	1,478	1,491		
Historical	*2015*	Actual	515			Actual	753,964	760,074			Actual	1,464	1,476		
Bridge Year	*2016*	Forecast	515			Forecast		753,964			Forecast	0	1,464		
Test Year	*2017*	Forecast	515			Forecast		753,964			Forecast	0	1,464		

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011			*2011*				*2011*			
	2012	-5.5%		*2012*	-5.0%	-4.0%		*2012*	0.5%	1.6%	
	2013	-7.4%		*2013*	-7.8%	-8.1%		*2013*	-0.4%	-0.7%	
	2014	-10.5%		*2014*	-2.0%	-1.7%		*2014*	9.5%	9.9%	
	2015	-0.8%		*2015*	-1.7%	-1.8%		*2015*	-0.9%	-1.1%	
	2016	0.0%		*2016*		-0.8%		*2016*		-0.8%	
	2017	0.0%	-10.3%	*2017*		0.0%	-9.4%	*2017*		0.0%	1.0%
	Geometric Mean	-4.9%	-3.5%	Geometric Mean	-5.5%	-3.3%	-3.2%	Geometric Mean	2.8%	1.7%	0.3%

	Calendar Year (for 2017 Cost of Service	Revenues				Demand (kW)					Demand (kW) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	$ 33,668			Actual	2,462	2,458			Actual	0.073125817	0.07300035		
Historical	*2012*	Actual	$ 32,443			Actual	2,331	2,353			Actual	0.071849089	0.07251282		
Historical	*2013*	Actual	$ 29,471	Board-approved	$ 30,776.00	Actual	2,186	2,199	Board-approved	2,297	Actual	0.074174612	0.07460181	Board-approved	0.074629581
Historical	*2014*	Actual	$ 28,483			Actual	2,120	2,140			Actual	0.074430362	0.07511722		
Historical	*2015*	Actual	$ 27,921			Actual	2,077	2,094			Actual	0.074388453	0.07499129		
Bridge Year (Foreca	*2016*	Forecast	$ 29,098			Forecast		2,077			Forecast	0	0.07137948		
Test Year (Forecast	*2017*	Forecast	$ 41,723			Forecast		2,077			Forecast	0	0.0497807		

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011			*2011*				*2011*			
	2012	-3.6%		*2012*	-5.3%	-4.3%		*2012*	-1.7%	-0.7%	
	2013	-9.2%		*2013*	-6.2%	-6.5%		*2013*	3.2%	2.9%	
	2014	-3.4%		*2014*	-3.0%	-2.7%		*2014*	0.3%	0.7%	
	2015	-2.0%		*2015*	-2.0%	-2.1%		*2015*	-0.1%	-0.2%	
	2016	4.2%		*2016*		-0.8%		*2016*		-4.8%	
	2017	43.4%	35.6%	*2017*		0.0%	-9.6%	*2017*		-30.3%	-33.3%
	Geometric Mean	4.4%	10.7%	Geometric Mean	-5.5%	-3.3%	-3.3%	Geometric Mean	0.6%	-7.4%	-12.6%

APPENDIX 3-B Continued
CHAPTER 2 APPENDICES – LOAD FORECAST

Appendix 2-IB
Customer, Connections, Load Forecast and Revenues Data and Analysis

Customer Class: Large User — Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kW

	Calendar Year (for 2017 Cost of Service	Customers				Consumption (kWh) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	1			Actual	59,993,492	59,890,554			Actual	59,993,492	59,890,554		
Historical	*2012*	Actual	1			Actual	48,424,320	48,871,654			Actual	48,424,320	48,871,654		
Historical	*2013*	Actual	1	Board-approved	1	Actual	44,784,691	45,042,623	Board-approved	59,538,701	Actual	44,784,691	45,042,623	Board-approved	59,538,701
Historical	*2014*	Actual	1			Actual	20,367,511	20,555,467			Actual	20,367,511	20,555,467		
Historical	*2015*	Actual	1			Actual	277,079	279,324			Actual	277,079	279,324		
Bridge Year	*2016*	Forecast	-			Forecast		-			Forecast				
Test Year	*2017*	Forecast	-			Forecast		-			Forecast				

Variance Analysis	Year	Year-over-year	Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved	Year	Year-over-year		Test Year Versus Board-approved
	2011			*2011*				*2011*			
	2012	0.0%		*2012*	-19.3%	-18.4%		*2012*	-19.3%	-18.4%	
	2013	0.0%		*2013*	-7.5%	-7.8%		*2013*	-7.5%	-7.8%	
	2014	0.0%		*2014*	-54.5%	-54.4%		*2014*	-54.5%	-54.4%	
	2015	0.0%		*2015*	-98.6%	-98.6%		*2015*	-98.6%	-98.6%	
	2016	-100.0%		*2016*		-100.0%		*2016*		#VALUE!	
	2017		-100.0%	*2017*			-100.0%	*2017*			#VALUE!
	Geometric Mean	-100.0%	-100.0%	Geometric Mean	-83.3%	-100.0%	-100.0%	Geometric Mean	-83.3%	#VALUE!	#VALUE!

	Calendar Year (for 2017 Cost of Service	Revenues				Demand (kW)					Demand (kW) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2011*	Actual	$ 180,230			Actual	170,236	169,944			Actual	0.944548632	0.94292795		
Historical	*2012*	Actual	$ 182,073			Actual	152,573	153,982			Actual	0.837977075	0.84571813		
Historical	*2013*	Actual	$ 131,373	Board-approved	$ 108,118.00	Actual	153,121	154,003	Board-approved	168,818	Actual	1.165543909	1.17225673	Board-approved	1.561420601
Historical	*2014*	Actual	$ 98,517			Actual	59,144	59,690			Actual	0.600343088	0.6058832		
Historical	*2015*	Actual	-$ 264			Actual	479	483			Actual	-1.81439394	-1.82909755		
Bridge Year (Foreca	*2016*	Forecast	$ -			Forecast		0			Forecast				
Test Year (Forecast	*2017*	Forecast	$ -			Forecast		0			Forecast				