EXHIBIT 3 - REVENUES

2021 Cost of Service

Hearst Power Distribution Company Ltd.
EB-2020-0027

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3.1 LOAD AND REVENUE FORECAST

3.1.1 INTRODUCTION

The evidence presented in this exhibit provides information supporting the revenues derived from activities regulated by the Ontario Energy Board. Actual operating revenues from regulated operations are derived mainly from fixed and variable tariff charges as well as pass through charges and specific service charges. Revenues are collected from five (6) customer classes: Residential, General Service less than 50 kW, General Service greater than 50 kW, Intermediate, Sentinel and Street Lighting. HPDCL does not anticipate any significant changes in its customer classes.

This exhibit also describes HPDCL's load and customer forecasts. The load forecast methodology and assumptions are described in detail at 3.1.4 Load Forecast Methodology.

The evidence herein is organized per the following topics:

1) Revenue and Load Forecast
2) Impact and Persistence from Historical CDM Programs
3) Accuracy of Load Forecast and Variance Analysis, and
4) Other Revenues

3.1.2 OVERVIEW OF CURRENT REVENUES

Table 1 - Revenues at Current Rates below shows revenues from current distribution charges for 2020. Distribution Revenues are derived from a combination of fixed monthly charges and volumetric charges applied to the utility's proposed Load Forecast. Fixed rate revenues are determined by applying the current fixed monthly charge to the number of customers or connections in each of the customer classes in each month. Variable rate revenue is based on a volumetric rate applied to meter readings for consumption or demand volume.

HPDCL's 2021 forecasted revenues recovered through its currently approved distribution rates are projected at $1,073,143 (exclusive of all rate riders). The revenues at proposed distribution rates are presented in Exhibit 6 and Exhibit 8.

Table 1 - Revenues at Current Rates

Current Rates at Proposed Test Year Load

	Test Year Projected Revenue from Existing Variable Charges							
Customer Class Name	**Variable Distribution Rate**	**per**	**Test Year Volume**	**Gross Variable Revenue**	**Transform. Allowance Rate**	**Transform. Allowance kW's**	**Transform. Allowance $'s**	**Net Variable Revenue**
Residential	$0.0000	kWh	23,652,429	$0.00			$0.00	$0.00
General Service < 50 kW	$0.0066	kWh	10,991,463	$72,543.66			$0.00	$72,543.66
General Service > 50 to 4999 kW	$1.8310	kW	65,172	$119,329.51	-0.45	67,244	-$30,259.80	$89,069.71
Intermediate	$1.2164	kW	57,468	$69,903.94	-0.45	60,194	-$27,087.30	$42,816.64
Sentinel	$8.5001	kW	27	$226.62			$0.00	$226.62
Street Lighting	$2.6811	kW	1,366	$3,661.93			$0.00	$3,661.93
Total Variable Revenue			34,767,924	$265,665.65	-0.9	127438	-$57,347.10	$208,318.55

Current Rates at Proposed Test Year Load

	Test Year Projected Revenue from Existing Fixed Charges							
Customer Class Name	**Fixed Rate**	**Customers (Connections)**	**Fixed Charge Revenue**	**Variable Revenue**	**TOTAL**	**% Fixed Revenue**	**% Variable Revenue**	**% Total Revenue**
Residential	$24.7300	2,250	$667,643.44	$0.00	$667,643.44	100.00%		62.21%
General Service < 50 kW	$19.4200	470	$109,531.84	$72,543.66	$182,075.50	60.16%	39.84%	16.97%
General Service > 50 to 4999 kW	$58.1900	36	$24,881.10	$89,069.71	$113,950.81	21.83%	78.17%	10.62%
Intermediate	$236.6900	2	$5,430.32	$42,816.64	$48,246.96	11.26%	88.74%	4.50%
Sentinel	$7.9500	12	$1,159.88	$226.62	$1,386.50	83.66%	16.34%	0.13%
Street Lighting	$4.8400	967	$56,177.97	$3,661.93	$59,839.90	93.88%	6.12%	5.58%
Total Fixed Revenue		**3,737**	**$864,824.56**	**$208,318.55**	**$1,073,143.11**			100%

A completed Appendix 2-IB Load Forecast Analysis is presented at Appendix A of this Exhibit and in Tab 10 of the RRWF.

HPDCL does not foresee or plan for any changes in the composition of its customer classes.

3.1.3 PROPOSED LOAD FORECAST

The following section of the application covers the approach taken to determine the Load Forecast. This section also covers economic assumptions and data sources for customer and load forecasts. It explains wholesale purchases and subsequent adjustments to the wholesale purchases. It also provides the rationale behind each variable used in the regression analysis. Lastly, it presents the regression results and explains how they were used to determine the forecast for the bridge and test year.

The table at the next page presents the actual and forecast trends for customer/connection counts, kWh consumption and billed kW demand. The forecast trend is what HPDCL has based its proposed rates on.

Table 2 - Customer and Volume Trend Table

Final Load Forecast Results

	Year	2015 Actuals	2016 Actuals	2017 Actuals	2018 Actuals	2019 Actuals	2020 Predicted	2021 Predicted
Residential	Cust/Conn	2,261	2,257	2,257	2,253	2,255	2,250	2,250
	kWh	23,678,804	22,546,128	21,777,281	22,434,635	22,186,869	23,652,429	23,652,429
	kW							
General Service < 50 kW	Cust/Conn	453	453	450	457	462	470	478
	kWh	10,713,015	10,266,745	10,334,459	11,004,125	10,694,021	10,991,463	10,991,463
	kW							
General Service > 50 to 1499 kW	Cust/Conn	42	43	42	36	36	36	35
	kWh	25,486,582	25,437,497	24,933,472	24,388,623	24,264,710	23,398,367	23,398,367
	kW	71,584	69,687	69,073	66,209	66,925	65,172	65,172
Intermediate	Cust/Conn	2	2	2	2	2	2	2
	kWh	19,768,633	19,768,633	19,768,633	19,994,465	20,144,203	19,969,100	19,969,100
	kW	58,405	56,343	56,200	56,067	60,137	57,468	57,468
Sentinel	Cust/Conn	13	10	11	12	12	12	12
	kWh	16,557	12,863	8,920	9,452	9,452	9,598	9,724
	kW	46	36	25	26	26	27	27
Street Lighting	Cust/Conn	942	953	961	962	962	967	973
	kWh	1,031,237	565,469	448,057	448,820	448,820	451,236	453,699
	kW	3,159	2,105	1,356	1,359	1,359	1,366	1,373
Total	**Cust/Conn**	**3,713**	**3,717**	**3,723**	**3,722**	**3,728**	**3,737**	**3,750**
	kWh	**80,694,828**	**78,597,335**	**77,270,822**	**78,280,120**	**77,748,075**	**78,472,193**	**78,474,783**
	kW	**133,194**	**128,171**	**126,654**	**123,660**	**128,447**	**124,032**	**124,040**

3.1.4 LOAD FORECAST METHODOLOGY AND DETAIL

HPDCL's load forecast is prepared in two phases. The first phase, a billed energy forecast by customer class for 2021, is developed using a total purchase (**Wholesale**) basis regression analysis. Then, in the second phase, usage associated with the known change in customers for 2021 is determined and added (if applicable) (**Adjusted Wholesale**). The methodology proposed in this application predicts wholesale consumption (**Predicted**) using a multiple regression analysis that relates historical monthly wholesale kWh usage to carefully selected variables. The one-way analysis of variance (**ANOVA**) is used to determine whether there are any statistically significant differences between the means of three or more independent (unrelated) groups. The ANOVA compares the means between the groups you are interested in and determines whether any of those means are statistically significantly different from each other. The utility did not test the NAC method because NAC is generally seen as an alternative when sound historical data is not available.

The most significant variables used in weather related regressions are monthly historical heating degree days and cooling degree days. Heating degree-days provide a measure of how much (in degrees), and for how long (in days), the outside temperature was below that base temperature. The most readily available heating degree days come with a base temperature of 18°C. Cooling degree-day figures also come with a base temperature, and provide a measure of how much, and for how long, the outside temperature was above that base temperature.

For degree days, daily observations as reported in Kapuskasing are used. The regression model also uses other variables which are tested to see their relationship and contribution to the fluctuating wholesale purchases. Each variable is discussed in detail later in this section.

Explanation of Multiple Regression Analysis

Multiple regression can be utilized for forecasting purposes by analyzing how several variables have affected a depended variable historically. From this, the relationship between these variables and the depended variable can be expressed as:

Y=A+B1X1+B2X2…+bNxN + E

Where:

Y = Predicted depended variable value

A = the value of Y when all Xs are zero

X = the independent variable

B = the coefficients corresponding to the independent variables

n = the number of independent variables

E = an error term

By forecasting the independent variables, the dependent variable can be predicted. However, to ascertain that the relationship is not coincidental, the utility must first assess the correlation between the dependent and individual independent variables. This can be accomplished by the Person Correlation Coefficient (otherwise known as "R") to each independent variable. This depicts how much of the change in depended variable can be explained by the change in independent variables. Those variables with a high R-squared should then be used for multiple regression. The same correlation coefficient can be applied to multiple independent variables to ascertain how much of the change in a dependent variable can be explained by changes in all independent variables.

R Squared=(B'X'Y – nAVG(Y)^2)/Y'Y-nAVG(Y)^2)

Where:

B',X',Y' = Matrixes of all combinations of B,X&Y respectively

^2 = Squared

The adjusted R-squared is calculated by "correcting" for the number of independent variables in a multiple regression analysis. The formula: Adj RSq=(1-(1-RSq)*((n-1)/(n-k)). It is often used to compare models involving a different number of coefficients. The statistical significance of the multiple regression can be tested with the F-test which is derived from a normal probability distribution. A critical point along the distribution can be found given the degree of confidence

required, the number of variables and the number of observations. If the F-statistic is at this point, then the analysis can be deemed statistically significant at the level of confidence.

F-statistic = (R Squared/k-1)/(1-R Squared)/(n-k)

Where:

K = number of independent variables

n = number of observations

Independent variables that are highly correlated themselves can lead to high variances in slope estimation (B). This is known as "Multicollinearity." For this reason, independent variables with a high level of multicollinearity to the other independent variables should consider being omitted from the analysis.

The formula behind the monthly weather normalized values is as follows; (coefficient for the intercept) + (monthly HDD*coefficient for HDD) + (monthly CDD*coefficient for CDD) + (monthly Number of Days*coefficient for monthly Number of Days) + (monthly Employment Stats*coefficient for monthly Employment Stats) + (monthly Daylight Hours*coefficient for monthly Daylight Hours). When the regression line is linear (y = ax + b), the regression coefficient is the constant (a) that represents the rate of change of one variable (y) as a function of changes in the other (x); it is the slope of the regression line. The intercept is the predicted value of the dependent variable when all predictor variables are set to 0.

3.1.5 ECONOMIC OVERVIEW

HPDCL's economic overview is also presented in section 2.1 of the Business Plan and duplicated below for ease of reference.

DEMOGRAPHICS

View the Demographics tab for information such as Population, Median Age and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Total Population	Median Household Income	Total Visible Minorities	Median Age
5,070	64,064	30	47.9

What is the Population of Hearst, ON?

At present, Hearst, ON has a population of 5,070 people. Overall, the population of Hearst, ON is declining at a rate of 0.86% per year over the past 15 years from 2001 to 2016. In the last two census, its populations declined by -20 people, an average decline rate of 0.08% per year from 2011 to 2016.

What is the Median Age of Hearst, ON?

Hearst, ON has a median age of 47 years old.

Age

The largest population of Hearst, ON is the age group between 55 and 59 years old, and the least populated age group is 85+ years old. 62.52% of the population are in the working age group between 15 to 64 years old, while 23.34% make up the younger population which will be a part of labour force in less than 2 decades.

Gender

Overall, women outnumber men by 110 people. The 15 to 19 years old age cohort exhibits the largest discrepancy with a difference of 20 people between the sexes. Furthermore, majority of the population is between the ages 55 to 59 years old, comprising 8.96 per cent of the population.

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Marital Status

Majority of the population are married, making up 43.3 per cent of the population. Having a predominantly married population is highy beneficial to Hearst, ON as married couples usually bring in larger incomes, higher net worth and gains on average. They also help boost the community's liveliness and labour force, as they are most likely to bear children and create the best economic conditions for them. Furthermore, this group also spends more compared to most of their counterparts.

Aboriginal Identification

The largest aboriginal population are that of the First Nations, making up 51.39 per cent of the total aboriginal population. At 165 people, the second largest Aboriginal population is the Metis. persons with Registered or Treaty Indian status but are not First Nations, Métis or Inuit follows with 2.78% of the total Aboriginal population in Hearst, ON.

Household Income

With a population at 5,070 people, most inhabitants at Hearst, ON are above the low income cut-off, or the income a person must earn to be considered to be part of the low income group. Majority are also above the 2,016 national median income of $64,064 per year.

Knowledge Of Official Language

Majority of the population speaks both English and French, making up 70.45 per cent of the population.

Median Household Income

In Hearst, ON, the median household income is $64,064 per year. The median household income in Hearst, ON is lower than the national household median income in 2015.

Period Of Immigration

The largest influx of immigrants to Canada was pre-1981, where 30 people surveyed called Canada their new home.

Visible Minority

The largest visible minority population are that of the Black, making up 33.33 per cent of the total visible minority population. The second largest group are the Latin American, making up 10 people.Following Latin American is South Asian that is 33.33 per cent of the visible minority population.

LABOUR FORCE

View the Labour Force tab for information such as Unemployment Rate, Participation Rate and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Total Labour Force	Employment Rate	Participation Rate	Unemployment Rate
2,570	58.4%	61.6%	5.2%

Unemployment Rate

Overall, the unemployment rate in Hearst, ON is declining at a rate of 0.25% per year over the past 15 years from 2001 to 2016.

Participation Rate

Overall, the participation rate in Hearst, ON is declining at a rate of 0.6% per year over the past 15 years from 2001 to 2016. In the last two census, its participation rates declined by 1.6%, an average growth rate of -0.32% per year from 2011 to 2016. A decrease in participation rate means the proportion of the working population in Hearst, ON is lower than in the past.

Employment Rate

Overall, the employment rate in Hearst, ON is declining at a rate of 0.39% per year over the past 15 years from 2001 to 2016. In the last two census, its employment rates grew by 0.9%, an average growth rate of 0.18% per year from 2011 to 2016. A growing employment rate reflects positive economic conditions in the community, , and implies that people looking for a job are getting matched to an employer.

1

TAXATION

View the Taxation tab for information such as and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Federal General Corporate Tax	Federal Small Business Corporate	Federal M&P Corporate Tax	Federal Investment Corporate Tax
15	9	15	15

QUALITY OF LIFE

View the Quality of Life tab for information such as Average Rainfall, Average Snowfall and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Average Yearly Rainfall(mm)	Average Yearly Snowfall(cm)	Highest Temperature (Celsius)	Lowest Temperature (Celsius)
693	308	32	-42

Average Rainfall

Umbrellas and raincoats are most handy in the month of July when it rains an average of 101 mm. This is 18.33% of the annual rain experienced in Hearst, ON. The month of September is also rainy with an average rainfall of 99.5 mm. Following September is June, when 80.1 mm is the average rainfall.

Average Snowfall

Wrap up in layers in the month of December when snow builds up tp an average of 60.0 centimetres. This is 19.51% of the annual snowfall experienced in Hearst, ON. The month of Janurary is also snowy with an average snowfall of 55.5 cm. Following Janurary is November, when 52.9 cm is the average snowfall.

Average Temperature

It is coldest in Hearst, ON in January when temperature drops to -23.9 °C and warmest in the month of July when it hits 24.0 °C. It will be a good idea to always check temperatures and the weather around May when temperatures are more fickle that it changed by 14.0 °C in the same month in 2016. Temperatures are most stable in Hearst, ON in the month of November.

1

REAL ESTATE

View the Real Estate tab for information such as Construction Period, Dwellings By Bedroom and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Number of Renters	Number of Home Owners	Most Popular Dwelling Size	Least Popular Dwelling Size
995	1,385	3 Bedrooms	1 Bedroom or Less

Construction Period

48.43 per cent, which is majority of homes in Hearst, ON, were constructed between 1961 to 1980. Building and home construction was also brisk before 1960, where 590 homes were built. In between 1981 to 1990, 300 of homes were built too.

Dwellings By Bedroom

33.76%, which is majority of homes in Hearst, ON, have three bedrooms. Homes with 4 or more bedrooms are also very popular, with 615 homes built with this number of bedrooms. The third largest category of homes according to number of bedrooms are two bedrooms representing 23.42 per cent of dwellings.

TRANSPORTATION

View the Transportation tab for information such as Time Leaving For Work, Transportation Mode and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Most Used Transportation	Busiest Time On Roads	Residents Who Work Locally	Vehicle Drivers
Vehicle Driver	7:00AM - 7:59AM	1,910	76.79%

Time Leaving For Work

Majority of commuters in Hearst, ON leave their homes from 7:00am to 7:59am, saying that it's enough time to get to work. The second most popular time to head to work, with 25.11% of respondents, is from 8:00am to 8:59am. However, 405 of commuters still prefer to leave from 6:00am to 6:59am.

Transportation Mode

Majority of commuters, around 1,820 respondents in Hearst, ON, are carpooling in a private car, truck, or van to go to work. Moreover, 13.71% of respondents say that they prefer walking. The third most popular means of transportation is driving alone in a private car, truck, or van with 95 commuters preferring it.

EDUCATION

View the Education tab for information such as Education, Field Of Study and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Dominant Level of Education	Most Popular Field of Study	Most Popular Educational Destination	Least Popular Field of Study
No Certificate	Engineering	Canada	Mathematics

Education

Most people in Hearst, ON have have not completed any certificate. With 1,210 people, it is what most people in Hearst, ON completed. Coming in second, 27.95% of inhabitants say they have completed a high school education. The third largest group are people who have completed a university degree, with 565 people responding.

Field Of Study

Most are in Engineering & related fields with 450 people practicing it in Hearst, ON. Business, Management & Public Administration is another popular field of expertise, as 20.24% of inhabitants are involved in it. The third group are those who are in Health & related fields, with 415 people responding that it is their line of work. STEM (Science, Technology, Engineering, and Math) is expected to be a growing industry, however, Department of Finance confirms that Canada is lagging behind other Organisation for Economic Co-operation and Development (OECD) countries in terms of STEM graduates. Hearst, ON has 485 people or 23.66% of workers in STEM industries.

Location Of Study

Majority of the population, which is around 97.82% of residents received their schooling from Canada. Another country where most residents received their schooling is another country not listed here, making up 15 people. At 0.48 per cent, those who received their education from United States is the third largest group.

1

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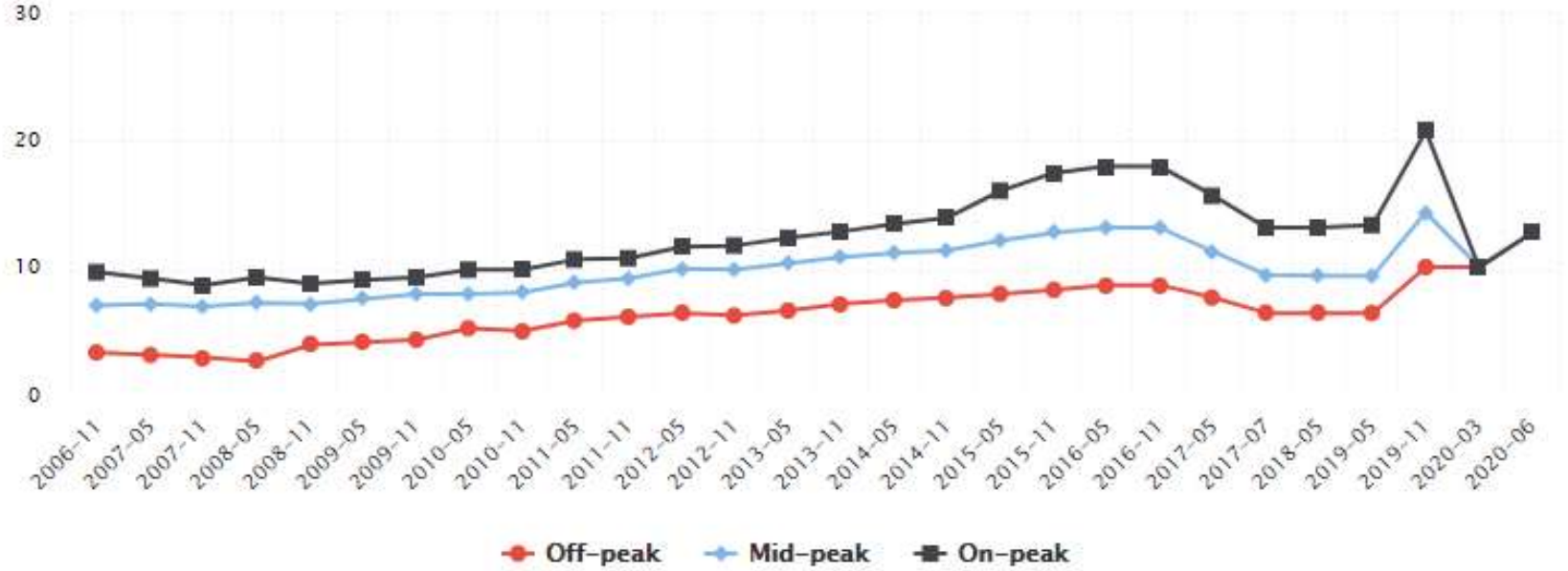
UTILITIES

View the Utilities tab for information such as and more. Data is populated from census, state, provincial and municipal sources, along with third-party projections.

Electricity Rates (¢/kWh)

Source: Ontario Energy Board

Last Updated: June 2020



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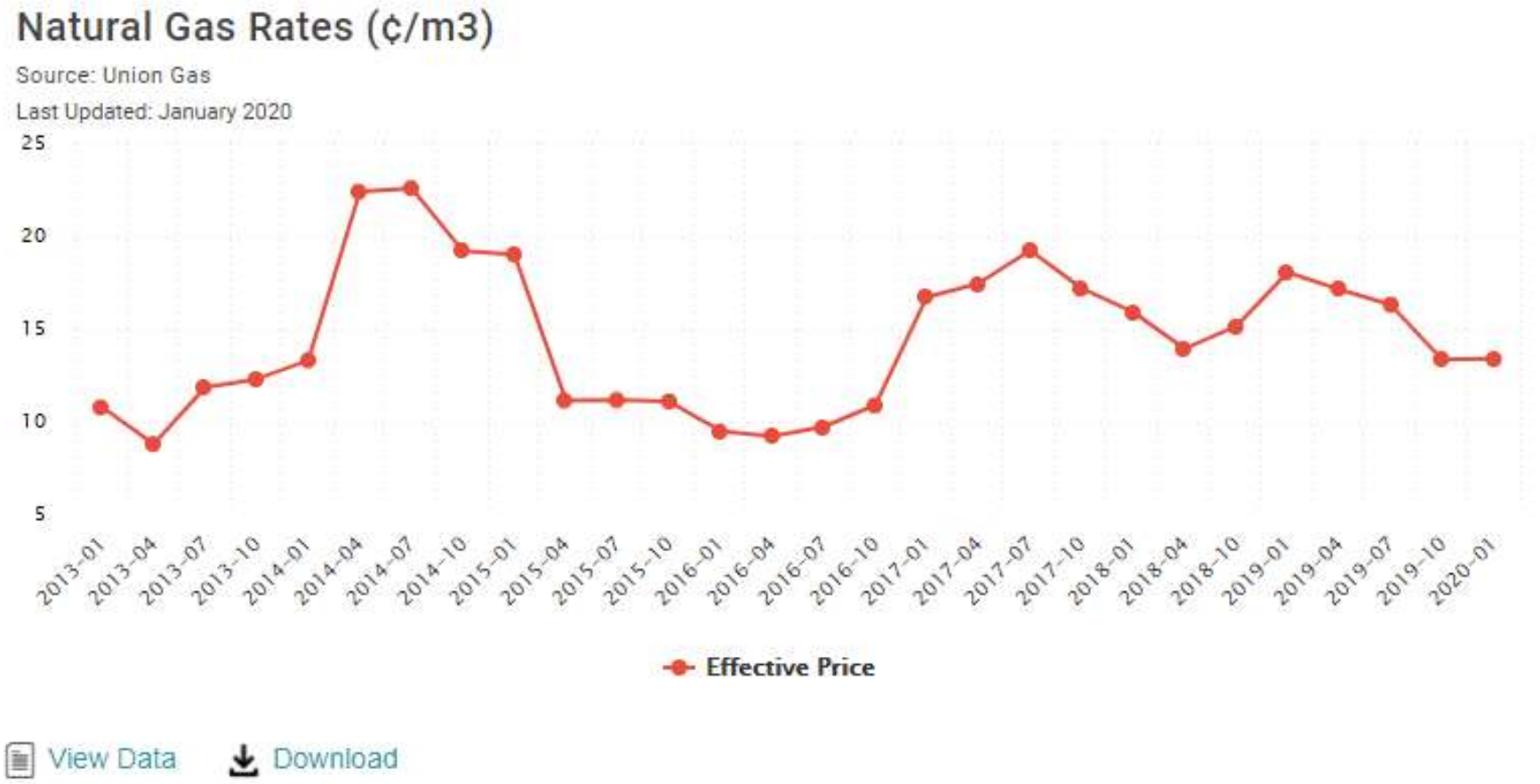
Natural Gas Rates (¢/m3)
Source: Union Gas
Last Updated: January 2020
25
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2013-01
2013-04
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Effective Price
View Data
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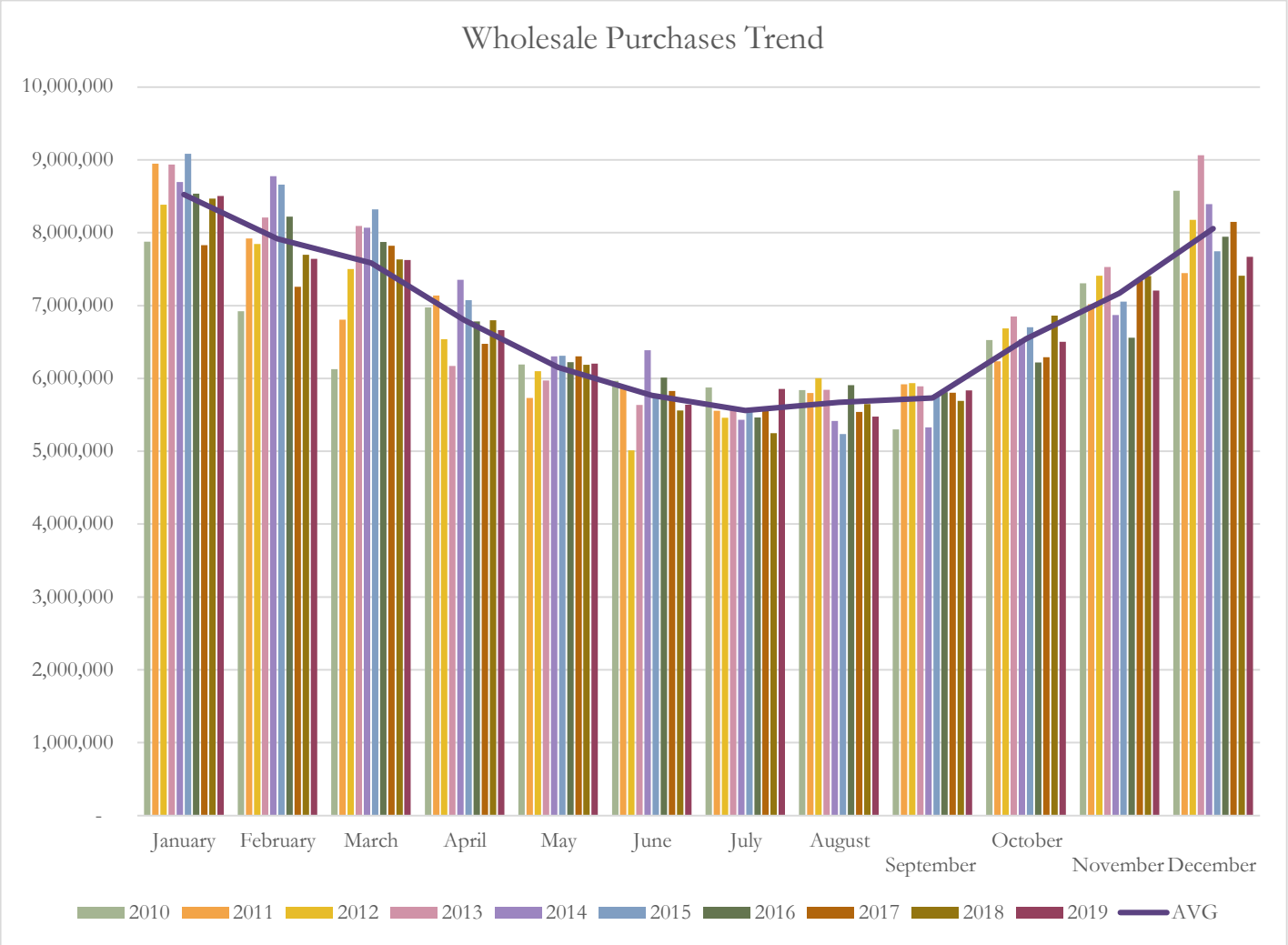
3.1.6 OVERVIEW OF WHOLESALE PURCHASES

HPDCL is fully embedded into the Hydro One service territory, shares 2 feeders with Hydro One but owns one feeder for a unique HPDCL circuit, as such the utility purchases its electricity from Hydro One (from 2 feeders) and from the IESO (1 feeder).

The following table outlines the unadjusted monthly wholesale purchases:

Table 3 - Wholesale Purchases 2010-2019

Wholesale	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*AVG*
January	7,877,934	8,946,669	8,385,129	8,938,428	8,698,192	9,084,303	8,537,368	7,831,224	8,469,085	8,506,377	8,527,471
February	6,923,499	7,921,364	7,845,578	8,209,750	8,777,587	8,662,865	8,222,641	7,257,252	7,697,770	7,640,418	7,915,872
March	6,126,461	6,808,616	7,503,491	8,094,362	8,067,658	8,319,670	7,874,264	7,823,794	7,634,007	7,624,926	7,587,725
April	6,975,021	7,136,876	6,539,070	6,171,276	7,355,167	7,074,689	6,784,349	6,476,316	6,798,534	6,661,885	6,797,318
May	6,192,325	5,732,243	6,100,225	5,970,163	6,303,616	6,311,020	6,223,059	6,303,348	6,189,401	6,203,517	6,152,892
June	5,966,146	5,876,887	5,011,748	5,636,891	6,386,105	5,747,647	6,011,795	5,828,459	5,558,339	5,641,360	5,766,538
July	5,877,652	5,555,950	5,461,517	5,598,405	5,431,065	5,545,420	5,462,353	5,574,283	5,249,714	5,856,572	5,561,293
August	5,838,235	5,798,395	6,002,405	5,844,163	5,417,147	5,236,264	5,907,969	5,539,667	5,647,720	5,474,622	5,670,659
September	5,299,732	5,918,461	5,933,883	5,891,223	5,326,981	5,789,144	5,811,907	5,803,536	5,691,156	5,837,391	5,730,341
October	6,525,309	6,234,104	6,685,854	6,851,089	6,541,069	6,703,968	6,219,124	6,292,609	6,864,716	6,503,153	6,542,100
November	7,304,633	7,019,349	7,408,803	7,530,000	6,870,430	7,052,945	6,557,191	7,348,241	7,406,424	7,207,521	7,170,554
December	8,576,299	7,445,070	8,178,514	9,066,138	8,395,195	7,746,797	7,946,921	8,147,969	7,409,344	7,670,981	8,058,323
Total	79,483,246	80,393,984	81,056,217	83,801,888	83,570,212	83,274,732	81,558,942	80,226,697	80,616,209	80,828,723	81,481,085



HPDCL's load has seen a slight increase over the past ten years with the largest total wholesale load being in (2010). Wholesale purchases, on the whole, have increased by 1.69% since 2010. The main reason for the increase was due to 2010 being impacted by the economic crash of 2008 which had major impact in the wood manufacturing industry in the area.

3.1.7 OVERVIEW OF VARIABLES USED

In HPDCL's case, variation in monthly electricity consumption is influenced by 5 main factors – weather (e.g. (1) ***HDD-heating*** and (2) ***CDD-cooling***), which is by far the most dominant effect on most systems; the (3) ***spring and fall flag***; a utility specific variable called (4) "***Shutdown***" which was used in the last Board approved forecast and lastly (5) ***the number of days in the month*** and reflects the seasonal shutdown of the main intermediate customer. Specifics relating to each variable used in the regression analysis are presented in the next section.

Variables Tested and Rational for including and excluding variables

During the process of testing the regression analysis, many different variables and times periods are tested to arrive at the best R-Squared. The utility's rational behind selecting or dropping certain variables involves a "no-worse" rational. In other words, if a variable is justified and does not worsen the results, it is generally kept as one of the regression variables. In this case, the Days per Month only slightly improved the R-Square. However, the utility still opted to keep them as part of the regression analysis.

The list of variables tested include *Customer Numbers, Number of Days in Month, Spring/Fall Flag, Employment, Employment Rate, Full-Time Employment, Labour Force, Participation Rate, Part-time Employment, Population, Unemployment and Unemployment Rate*. HPDCL ultimately selected the following four variables to end up with an Adjusted R-Square of 90.35%

Heating and Cooling:

To determine the relationship between observed weather and energy consumption, monthly weather observations describing the extent of heating or cooling required within the month are necessary. Environment Canada publishes monthly observations on heating degree days (HDD) and cooling degree days (CDD) for selected weather stations across Canada. Heating degree-days for a given day are the number of Celsius degrees that the mean temperature is below 18°C. Cooling degree-days for a given day are the number of Celsius degrees that the mean temperature is above 18°C. For HPDCL, the monthly HDD and CDD as reported in Kapuskasing were used. HPDCL has adopted the 10-year average from 2010 to 2019 as the definition of

weather normal. Our view is that a ten-year average based on the most recent ten calendar years available is a reasonable compromise that likely reflects the "average" weather experienced in recent years. Many other LDCs have also adopted this definition for the purposes of cost-of-service rebasing. The following table outlines the monthly weather data used in the regression analysis.

Table 4 - HDD and CDD as reported at Kapuskasing

HDD	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**10yr Avg**
January	979.5	1145.0	992.8	1072.1	1184.5	1139.3	997.7	885.5	1071.8	1155.5	1062.4
February	847.1	915.2	839.6	961.1	1003.9	1151.5	986.2	854.5	905.9	992.8	945.8
March	599.5	875.7	595.8	792.9	1017.5	879.1	779.8	850.9	854.9	841.6	808.8
April	371.4	526.5	506.2	592.8	608.6	526.9	599.3	482.8	649.2	536.0	540.0
May	217.2	263.5	230.2	311.5	272.7	262.6	271.6	296.8	239.7	340.1	270.6
June	134.2	104.0	51.4	138.3	91.0	113.7	129.9	110.3	111.1	146.1	113.0
July	27.9	24.2	23.7	62.4	86.8	37.2	46.1	60.9	14.2	29.8	41.3
August	48.2	56.7	79.2	66.6	84.0	54.4	40.5	127.4	78.9	58.9	69.5
September	243.6	180.9	213.2	191.8	213.8	120.6	143.6	166.2	210.4	209.9	189.4
October	426.2	349.4	395.2	389.2	422.3	459.6	380.9	340.7	527.7	399.5	409.1
November	609.2	574.0	639.4	668.1	777.7	545.9	511.5	676.9	765.2	747.4	651.5
December	862.4	918.7	910.6	1157.5	898.4	723.7	907.8	1082.9	890.3	963.4	931.6
Total	979.5	1145.0	992.8	1072.1	1184.5	1139.3	997.7	885.5	1071.8	1155.5	1062.4

CDD	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**10yr Avg**
January	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
February	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
March	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
April	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
May	35.3	4.8	12.6	0.0	2.6	0.0	4.3	1.2	4.8	0.0	6.6
June	8.7	9.5	31.8	13.4	24.1	7.1	22.0	2.5	17.7	12.5	14.9
July	57.5	65.2	56.3	44.4	15.4	50.1	39.4	27.8	87.4	64.7	50.8
August	54.4	26.5	24.9	34.2	17.3	27.7	40.3	8.4	30.2	13.6	27.8
September	0.0	2.8	10.5	0.0	3.0	30.1	5.0	12.7	14.7	2.5	8.1
October	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
November	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
December	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Spring Fall Flag and Days in Month:

HPDCL also tested a "Spring/Fall Flag" and "Days in Month" variable. Although the variables did not yield particularly strong results, it did slightly improve the R-Square, and therefore HPDCL

opted to keep it as a variable. The variable accounts for the seasonal increase in consumption in the summer and winter months.

Using a combination of wholesale purchases and variables listed above, a multiple regression analysis was used to develop an equation describing the relationship between monthly actual wholesale kWh and the explanatory variables. HPDCL also used a correlation function to examine the relationship between the variables included in the analysis.

To project the adjusted wholesale purchases for the bridge and test year, the model uses, for the most part, a simple average of the last ten years of historical data. HPDCL has applied this method of prediction to all variables.

Origin of variables

- HDD: Stats Canada
- CDD: Stats Canada
- Labour Force Stats Canada
- Spring/Fall Computed by the utility
- Shutdown Computed by the utility

3.1.8 REGRESSION RESULTS

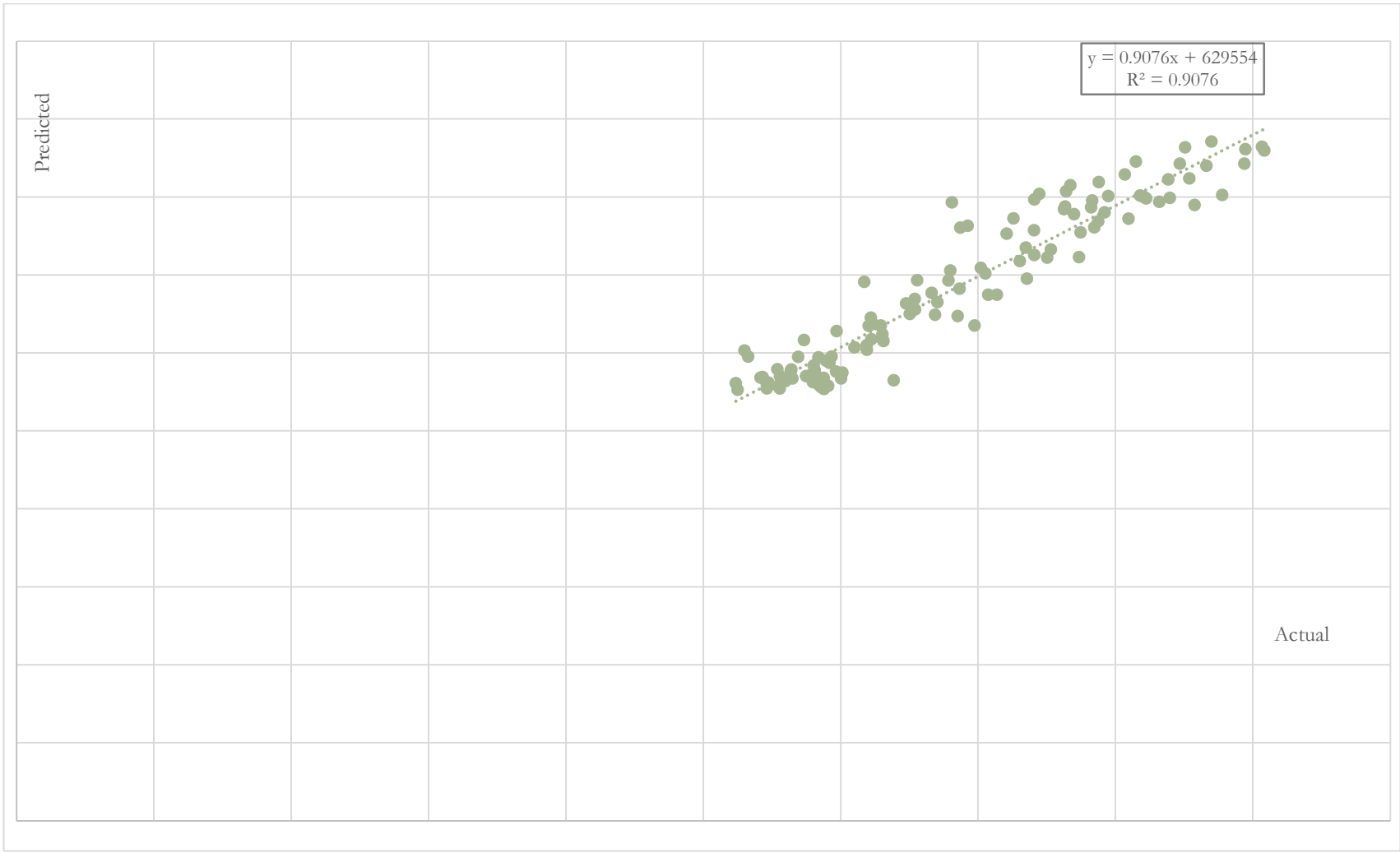
Table 5 - Correlation/Regression Results below presents the regression results used to determine the load forecast

Table 5 - Correlation/Regression Results

Equation Parameters			95% Confidence/Autocorrelation	
R Squared	0.9076	90.35% of the change in WS can be explained by	1.772	Durbin-Watson Statistic
Adjusted R Squared	0.9035	the change in the 5 independent variables	1.63 - 1.77	No autocorrelation detected
Standard Error	330959.0938	to +/- on result of Regression Equation	2.290	Critical F-Statistic - 95% Confidence
F - Statistic	223.8565	Therefore analysis IS Significant	89.62%	Confidence to which analysis holds

Predicted

Multiple Regression Equation					Independent Analysis			Auto Correlation	Multicollinearity	
	Coefficients	Standard Error	t Stat	p Value	R Squared	Coefficient	Intercept	Dl=1.69 Du=1.72 DW-Stat	Adjusted R-Squared against other Indep	Variables With RSQ at > 90%
Intercept	3,330,089.920	1,240,380.604	2.685	0.83%						
HDD	2,531.467	205.834	12.299	0.00%	90.23%	2770.27	5417970.00	0.32	83.16%	
CDD	308.700	2,922.428	0.106	91.61%	32.08%	-35875.94	7128728.50	1.15	60.58%	
Days in month	76,092.899	39,843.097	1.910	5.87%	1.76%	-174809.75	12132188.00	2.98	7.98%	
Spring/Fall	-224,606.561	133,149.459	-1.687	9.44%	73.12%	-1840222.00	7884151.00	0.69	78.08%	
Shutdown	23,788.928	129,099.442	0.184	85.41%	25.36%	1433654.75	5615976.00	1.20	59.20%	


y = 0.9076x + 629554
R² = 0.9076
Predicted
Actual

The resulting regression equation yields an adjusted R-squared of 0.9035. When actual annual wholesale values are compared to annual values predicted by the regression equation, the mean absolute percentage error (MAPE) is 0.0064 per cent. More detailed model statistics can be found in the next section.

Once HPDCL calculated its preferred Regression Results, the Load Forecast model then uses the coefficients from the regression results to adjust the wholesale purchases. Table 6 as seen below, demonstrates the results of this adjustment. The table shows a comparison of the actual and predicted wholesale purchases.

Table 6 - Wholesale vs. Adjusted using the coefficients from the regression results

Year	Wholesale	year over year	Predicted	year over year	Wholesale vs Predicted	
2010	79,483,246		81,469,975		2.50%	2.50%
2011	80,393,984	1.15%	80,301,179	-1.43%	-0.12%	0.12%
2012	81,056,217	0.82%	82,731,011	3.03%	2.07%	2.07%
2013	83,801,888	3.39%	83,282,501	0.67%	-0.62%	0.62%
2014	83,570,212	-0.28%	81,661,639	-1.95%	-2.28%	2.28%
2015	83,274,732	-0.35%	81,104,494	-0.68%	-2.61%	2.61%
2016	81,558,942	-2.06%	81,519,243	0.51%	-0.05%	0.05%
2017	80,226,697	-1.63%	82,445,517	1.14%	2.77%	2.77%
2018	80,616,209	0.49%	82,760,074	0.38%	2.66%	2.66%
2019	80,828,723	0.26%	81,781,523	-1.18%	1.18%	1.18%
					Mean	**1.74%**
					Median	**2.28%**

Table 7 as seen below, shows the results of the mean absolute deviation (MAD), the mean square error (MSE), the root mean square (RMSE) and the mean absolute Percentage error (MAPE).

Table 7 - MAP-MSE-MAPE

Period	Actual	Forecast	Error	Absolute Value of Error	Square of Error	Absolute Values of Errors

t	A_t	F_t	$A_t - F_t$	$\lvert A_t - F_t \rvert$	$(A_t - F_t)^2$	**Divided by Actual Values.** $\lvert (A_t - F_t)/A_t \rvert$
1	79,483,246	81,469,975	-1,986,729	1,986,729	3,947,093,627,080	0.0250
2	80,393,984	80,301,179	92,805	92,805	8,612,750,648	0.0012
3	81,056,217	82,731,011	-1,674,794	1,674,794	2,804,935,111,528	0.0207
4	83,801,888	83,282,501	519,387	519,387	269,762,792,292	0.0062
5	83,570,212	81,661,639	1,908,573	1,908,573	3,642,650,435,888	0.0228
6	83,274,732	81,104,494	2,170,238	2,170,238	4,709,934,234,941	0.0261
7	81,558,942	81,519,243	39,699	39,699	1,576,045,347	0.0005
8	80,226,697	82,445,517	-2,218,820	2,218,820	4,923,161,260,296	0.0277
9	80,616,209	82,760,074	-2,143,866	2,143,866	4,596,159,539,126	0.0266
10	Totals		-3293506.328	12754911.232	24903885797144.200	0.157

The mean absolute deviation (MAD) is the sum of absolute differences between the actual value and the forecast divided by the number of observations.

Mean square error (MSE) is probably the most commonly used error metric. It penalizes larger errors because squaring larger numbers has a greater impact than squaring smaller numbers. The MSE is the sum of the squared errors divided by the number of observations.

Mean Absolute Percentage Error (MAPE) is the average of absolute errors divided by actual observation values. MAPE is a statistical measure of how accurate a forecast system is. It measures this accuracy as a percentage, and can be calculated as the average absolute percent error for each time period minus actual values divided by actual values

In accordance with the Filing Requirements, HPDCL has also provided a 2021 forecast assuming twenty-year normal weather conditions. Table 8 below displays 20 years of historical Heating Degree Days and Cooling Degree Days. The impact of using both a 11-year average as well as a 20-year average to weather normalize wholesale purchases is presented in Table 9.

Table 8 - Forecast using a twenty-year weather normalization

	2000	*2001*	*2002*	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*2016*	*2017*	*2018*	*2019*	*10 year avg*	*20 Year avg*
HDD																						
Jan	1114.3	1011.7	1045.0	1144.5	1303.5	1163.2	930.4	995.3	979.5	1190.7	979.5	1145.0	992.8	1072.1	1184.5	1139.3	997.7	885.5	1071.8	1155.5	1062.4	1075.1
Feb	844.8	986.0	918.5	1039.6	882.1	863.7	952.5	1060.0	974.0	942.1	847.1	915.2	839.6	961.1	1003.9	1151.5	986.2	854.5	905.9	992.8	945.8	946.1
Mar	646.5	804.6	902.6	870.7	762.0	854.5	699.0	776.1	905.1	825.4	599.5	875.7	595.8	792.9	1017.5	879.1	779.8	850.9	854.9	841.6	808.8	806.7
Apr	511.9	455.0	537.9	621.0	571.4	418.7	420.9	506.5	456.4	517.2	371.4	526.5	506.2	592.8	608.6	526.9	599.3	482.8	649.2	536.0	540.0	520.8
May	269.8	186.6	356.7	234.1	355.6	255.8	205.7	235.6	341.4	346.1	217.2	263.5	230.2	311.5	272.7	262.6	271.6	296.8	239.7	340.1	270.6	274.7
Jun	185.5	113.6	126.4	106.2	145.9	46.9	97.5	107.2	113.3	124.7	134.2	104.0	51.4	138.3	91.0	113.7	129.9	110.3	111.1	146.1	113.0	114.9
Jul	82.9	77.0	41.4	62.4	63.3	38.0	49.0	45.1	50.1	77.6	27.9	24.2	23.7	62.4	86.8	37.2	46.1	60.9	14.2	29.8	41.3	50.0
Aug	92.8	68.8	52.9	73.0	139.8	45.3	105.6	73.6	69.7	105.2	48.2	56.7	79.2	66.6	84.0	54.4	40.5	127.4	78.9	58.9	69.5	76.1
Sep	240.0	228.5	158.3	169.9	135.7	151.8	224.5	184.9	207.2	149.5	243.6	180.9	213.2	191.8	213.8	120.6	143.6	166.2	210.4	209.9	189.4	187.2
Oct	377.9	410.5	526.5	445.1	398.5	368.8	445.2	346.2	400.5	477.3	426.2	349.4	395.2	389.2	422.3	459.6	380.9	340.7	527.7	399.5	409.1	414.4
Nov	620.3	546.1	776.2	626.9	585.5	685.8	586.5	684.7	612.5	485.8	609.2	574.0	639.4	668.1	777.7	545.9	511.5	676.9	765.2	747.4	651.5	636.3
Dec	1131.4	784.4	871.7	876.1	1094.3	974.4	778.7	987.6	1088.9	958.2	862.4	918.7	910.6	1157.5	898.4	723.7	907.8	1082.9	890.3	963.4	931.6	943.1
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	10 year avg	20 year avg
CDD																						
Jan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Feb	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mar	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Apr	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
May	3.9	1.3	0.0	1.6	0.0	2.2	17.7	9.7	0.0	0.0	35.3	4.8	12.6	0.0	2.6	0.0	4.3	1.2	4.8	0.0	6.6	5.1
Jun	5.4	25.6	23.1	27.5	2.8	52.2	28.6	42.7	12.0	31.9	8.7	9.5	31.8	13.4	24.1	7.1	22.0	2.5	17.7	12.5	14.9	20.1
Jul	21.9	46.1	75.3	15.1	28.4	83.5	55.1	36.2	14.5	7.4	57.5	65.2	56.3	44.4	15.4	50.1	39.4	27.8	87.4	64.7	50.8	44.6
Aug	8.9	53.6	31.4	44.9	3.9	35.9	17.9	29.6	12.6	22.1	54.4	26.5	24.9	34.2	17.3	27.7	40.3	8.4	30.2	13.6	27.8	26.9
Sep	0.0	5.6	26.8	14.7	13.6	20.1	0.9	6.2	11.2	8.1	0.0	2.8	10.5	0.0	3.0	30.1	5.0	12.7	14.7	2.5	8.1	9.4
Oct	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.5
Nov	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dec	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Table 9 - Forecast using a ten year vs. twenty-year weather normalization

Date	*Weather Normalized 10Year*	*Weather Normalized 20Year*
2020-January	2700926.12	2713552.462
2020-February	2458835.42	2447138.22
2020-March	2146938.23	2155389.779
2020-April	1695633.37	1692112.194
2020-May	1330914.06	1341309.258
2020-June	1411215.85	1413878.541
2020-July	1541517.84	1542265.754
2020-August	1454716.68	1455393.874
2020-September	1297211.72	1294047.275
2020-October	1520413.98	1530932.102
2020-November	1896231.26	1899799.76
2020-December	2433102.65	2486419.354

3.1.9 DETERMINATION OF CUSTOMER FORECAST

HPDCL has used a simple geometric mean function to determine the forecasted number of customers of 2020 and 2021. The geometric mean is more appropriate to use when dealing with percentages and rates of change. Although the formula is somewhat simplistic, it is reasonably representative of HPDCL's natural customer growth. The geometric mean results were analyzed by HPDCL and then further adjusted for known particulars – in HPDCL's case the MicroFit related consumption was removed from the Wholesale Purchases. Historical customer counts and projected customer counts for 2020 and 2021 are presented in Table 10 below. A variance analysis of customer counts and projections is presented at 3.3.10.

Table 10 - Customer Forecast

	Residential		*General Service < 50 kW*		*General Service > 50 to 1499 kW*		*Intermediate*		*Sentinel*		*Street Lighting*	
Date	**Customers or Connections**	**Growth Rate**	**Customers or Connections**	**Growth Rate**	**Customers or Connections**	**Growth Rate**	**Customers or Connections**	**Growth Rate**	**Customers or Connections**	**Growth Rate**	**Customers or Connections**	**Growth Rate**
2010	2299		394		39		3		11		916	
2011	2295	0.9983	426	1.0811	37	0.9654	2	0.7778	10	0.9297	922	1.0066
2012	2293	0.9989	452	1.0592	40	1.0649	2	0.8571	10	1.0084	924	1.0026
2013	2284	0.9960	455	1.0081	39	0.9874	2	1.0000	10	1.0000	931	1.0067
2014	2278	0.9977	456	1.0011	41	1.0426	2	1.0000	10	1.0000	941	1.0113
2015	2261	0.9923	453	0.9941	42	1.0327	2	1.0000	13	1.2833	942	1.0010
2016	2257	0.9981	453	0.9991	43	1.0198	2	1.0000	10	0.7922	953	1.0118
2017	2257	1.0001	450	0.9950	42	0.9748	2	1.0000	11	1.1066	961	1.0079
2018	2253	0.9983	457	1.0148	36	0.8588	2	1.0000	12	1.0667	962	1.0015
2019	2255	1.0008	462	1.0104	36	0.9977	2	1.0000	12	1.0000	962	1.0000
Geomean		*0.9978*		*1.0177*		*0.9921*		*0.9559*		*1.0132*		*1.0055*
2020	2250		470		36		2		12		967	
2021	2245		478		35		2		12		973	
In the section below, LDCs can adjust the computed customer count for the Bridge and Test Year for special circumstances such as new subdivision or loss of customer or other utility specific reasons.												
2020	2250	0.9978	470	1.0177	36	0.9921	2	0.9559	12	1.0132	967	1.0055
2021	2250	1.0036	478	1.0177	35	0.9921	2	0.9559	12	1.0132	973	1.0055

3.1.10 DETERMINATION OF WEATHER NORMALIZED FORECAST

Allocation to specific weather sensitive rate classes (Residential, GS<50, GS>50) is based on the share (%) of each classes' actual retail kWh (exclusive of distribution losses) and a share of actual wholesale kWh. Weather normalized wholesale kWh, for historical years, are allocated to these classes based on these historical shares. Forecast values for 2021 are allocated based on the most recent year's 2019]) actual share. For those rate classes that use kW consumption as a billing determinant, sales for these customer classes are then converted to kW based on the historical volumetric relationship between kWh and kW. The utility then forecasts a consumption per customer and adds new customer's load to the total consumption for the class.

Allocation to specific non-weather sensitive rate classes (GS>50, Intermediate, Sentinel and Streetlights) is based on an average of demand/customer. The utility then uses an appropriate historical average to determine an average demand per customer. This average is then applied to the customer count for the bridge and test year.

Explanations for material changes in the definition of or major changes over time, explanations of the bridge and test year forecasts by rate class, variance analysis between the last OEB-approved and the actual and weather-normalized actual results are presented at Section 3.3.1 Variance Analysis of Load Forecast.

3.1.11 LOAD FORECAST BY CLASS.

The following section presents class specific adjusted historical and forecast values for those classes that have weather sensitive load. Historic class, specific kWh consumption is allocated based on each class' share in wholesale kWh, exclusive of distribution losses. Forecast class values are allocated based on a 10-year average of historical ratio.

Table 11 - Residential Forecast (Weather Sensitive)

Year	Residential Actual kWh	Total Actual Wholesale	Ratio%	Predicted Wholesale	Residential Weather Normal	Per customer
2010	24,736,853	79,483,246	30.92%	80,006,949	24,736,853	10,759
2011	24,621,320	80,393,984	30.22%	81,469,975	24,621,320	10,727
2012	23,813,833	81,056,217	29.66%	80,301,179	23,813,833	10,387
2013	25,300,382	83,801,888	30.58%	82,731,011	25,300,382	11,080
2014	25,241,629	83,570,212	30.31%	83,282,501	25,241,629	11,079
2015	23,678,804	83,274,732	29.00%	81,661,639	23,678,804	10,474
2016	22,546,128	81,558,942	27.80%	81,104,494	22,546,128	9,992
2017	21,777,281	80,226,697	26.71%	81,519,243	21,777,281	9,666
2018	22,434,635	80,616,209	27.21%	82,445,517	22,434,635	9,950
2019	22,186,869	80,828,723	26.81%	82,760,074	22,186,869	9,862
2020			28.92%	81,781,523	23,652,429	10,513
2021			28.92%	81,781,523	23,652,429	10,536

Table 12 - General Service <50 Forecast (Weather Sensitive)

Year	Actual kWh	Total Wholesale	Ratio%	Predicted Wholesale	Weather Normal	Per customer
2010	11,499,854	79,483,246	14.37%	80,006,949	11,499,854	29,163
2011	11,814,687	80,393,984	14.50%	81,469,975	11,814,687	27,712
2012	11,024,461	81,056,217	13.73%	80,301,179	11,024,461	24,413
2013	11,359,856	83,801,888	13.73%	82,731,011	11,359,856	24,953
2014	11,110,938	83,570,212	13.34%	83,282,501	11,110,938	24,379
2015	10,713,015	83,274,732	13.12%	81,661,639	10,713,015	23,645
2016	10,266,745	81,558,942	12.66%	81,104,494	10,266,745	22,681
2017	10,334,459	80,226,697	12.68%	81,519,243	10,334,459	22,944
2018	11,004,125	80,616,209	13.35%	82,445,517	11,004,125	24,075
2019	10,694,021	80,828,723	12.92%	82,760,074	10,694,021	23,156
2020			13.44%	81,781,523	10,991,463	23,385
2021		*Avg*	13.44%	81,781,523	10,991,463	22,978

Table 13 - General Service >50 (kWh) (Weather Sensitive)

Year	Actual kWh	Total Wholesale	Ratio%	Predicted Wholesale	Weather Normal	Per customer
2010	17,450,896	79,483,246	21.81%	80,006,949	17,450,896	452,291
2011	21,470,204	80,393,984	26.35%	81,469,975	21,470,204	576,381
2012	23,664,082	81,056,217	29.47%	80,301,179	23,664,082	596,573
2013	23,218,142	83,801,888	28.06%	82,731,011	23,218,142	592,804
2014	23,609,369	83,570,212	28.35%	83,282,501	23,609,369	578,189
2015	25,486,582	83,274,732	31.21%	81,661,639	25,486,582	604,425
2016	25,437,497	81,558,942	31.36%	81,104,494	25,437,497	591,570
2017	24,933,472	80,226,697	30.59%	81,519,243	24,933,472	594,834
2018	24,388,623	80,616,209	29.58%	82,445,517	24,388,623	677,462
2019	24,264,710	80,828,723	29.32%	82,760,074	24,264,710	675,584
2020			28.61%	81,781,523	23,398,367	656,667
2021		*Avg*	28.61%	81,781,523	23,398,367	661,914

Table 14 - General Service >50 Demand (kW) (Non-Weather Sensitive)

Year	kWh	kW	KW/kWh Ratio
2010	17,450,896	50,867	0.00291
2011	21,470,204	59,643	0.00278
2012	23,664,082	64,939	0.00274
2013	23,218,142	65,160	0.00281
2014	23,609,369	66,539	0.00282
2015	25,486,582	71,584	0.00281
2016	25,437,497	69,687	0.00274
2017	24,933,472	69,073	0.00277
2018	24,388,623	66,209	0.00271
2019	24,264,710	66,925	0.00276
2020	23,398,367	65,172	0.00279
2021	23,398,367	65,172	0.00279
	23,398,367	65,172	0.00279
Avg			

Table 15 - Intermediate (kW) (Non-Weather Sensitive)

Intermediate

Year	kWh	kW	Customer	kWh per customer	KW per customer	KW/kWh Ratio
2010	18,965,408	61,632	3	6,321,803	20,544	0.00325
2011	19,113,182	60,417	2	8,191,364	25,893	0.00316
2012	20,375,091	62,501	2	10,187,546	31,251	0.00307
2013	21,805,339	61,716	2	10,902,670	30,858	0.00283
2014	23,201,291	62,667	2	11,600,646	31,334	0.00270
2015	20,176,329	58,405	2	10,088,164	29,203	0.00289
2016	20,606,236	56,343	2	10,303,118	28,171	0.00273
2017	19,768,633	56,200	2	9,884,316	28,100	0.00284
2018	19,994,465	56,067	2	9,997,233	28,033	0.00280
2019	20,144,203	60,137	2	10,072,102	30,069	0.00299
2020	19,969,100	57,468	2	9,984,550	28,734	0.00288
2021	19,969,100	57,468	2	9,984,550	28,734	0.00288
Avg			*2*	*9,984,550*	*28,733*	*0.00288*

Table 16 - Street Lighting (Non-Weather Sensitive)

Year	kWh	kW	Connection	kWh per connection	KW per connection	KW/kWh Ratio
2010	1,008,500	3,089	916	1,101	3.37	0.00306
2011	1,008,758	3,095	922	1,094	3.36	0.00307
2012	1,021,182	3,131	924	1,105	3.39	0.00307
2013	1,026,377	3,148	931	1,103	3.38	0.00307
2014	1,030,212	3,153	941	1,095	3.35	0.00306
2015	1,031,237	3,159	942	1,095	3.35	0.00306
2016	565,469	2,105	953	593	2.21	0.00372
2017	448,057	1,356	961	466	1.41	0.00303
2018	448,820	1,359	962	467	1.41	0.00303
2019	448,820	1,359	962	467	1.41	0.00303
2020	451,236	1,366	967	467	1.41	0.00303
2021	453,699	1,373	973	467	1.41	0.00303
Avg				*467*	*1.41*	*0.00303*

Table 17 - Sentinel (Non-Weather Sensitive)

Year	kWh	kW	Connection	kWh per connection	KW per connection	KW/kWh Ratio
2010	21,979	72	11	1,101	6.7500	0.00328
2011	21,276	72	10	1,094	7.2605	0.00338
2012	21,276	72	10	1,105	7.2000	0.00338
2013	21,276	72	10	1,103	7.2000	0.00338
2014	21,288	72	10	1,095	7.2000	0.00338
2015	16,557	46	13	1,095	3.5839	0.00278
2016	12,863	36	10	593	3.5146	0.00278
2017	8,920	25	11	793	2.2025	0.00278
2018	9,452	26	12	788	2.1880	0.00278
2019	9,452	26	12	788	2.1880	0.00278
2020	9,598	27	12	789	2.1928	0.00278
2021	9,724	27	12	789	2.1928	0.00278
				789	*2.19283*	*0.00278*

3.1.12 FINAL NORMALIZED LOAD FORECAST

Table 18 below presents historical and projected weather normalized Load Forecast by customer class.

Table 18 - Final Load Forecast

	Year	2015	2016	2017	2018	2019	2020	2021
Residential	Cust/Conn	2,261	2,257	2,257	2,253	2,255	2,250	2,250
	kWh	23,678,804	22,546,128	21,777,281	22,434,635	22,186,869	23,652,429	23,652,429
	kW							
GS < 50 kW	Cust/Conn	453	453	450	457	462	470	478
	kWh	10,713,015	10,266,745	10,334,459	11,004,125	10,694,021	10,991,463	10,991,463
	kW							
GS > 50 to 1499 kW	Cust/Conn	42	43	42	36	36	36	35
	kWh	25,486,582	25,437,497	24,933,472	24,388,623	24,264,710	23,398,367	23,398,367
	kW	71,584	69,687	69,073	66,209	66,925	65,172	65,172
Intermediate	Cust/Conn	2	2	2	2	2	2	2
	kWh	19,768,633	19,768,633	19,768,633	19,994,465	20,144,203	19,969,100	19,969,100
	kW	58,405	56,343	56,200	56,067	60,137	57,468	57,468
Sentinel	Cust/Conn	13	10	11	12	12	12	12
	kWh	16,557	12,863	8,920	9,452	9,452	9,598	9,724
	kW	46	36	25	26	26	27	27
Street Lighting	Cust/Conn	942	953	961	962	962	967	973
	kWh	1,031,237	565,469	448,057	448,820	448,820	451,236	453,699
	kW	3,159	2,105	1,356	1,359	1,359	1,366	1,373
Total	**Cust/Conn**	**3,713**	**3,717**	**3,723**	**3,722**	**3,728**	**3,737**	**3,750**
	kWh	**80,694,828**	**78,597,335**	**77,270,822**	**78,280,120**	**77,748,075**	**78,472,193**	**78,474,783**
	kW	**133,194**	**128,171**	**126,654**	**123,660**	**128,447**	**124,032**	**124,040**

3.2 IMPACT AND PERSISTENCE FROM HISTORICAL CDM PROGRAMS

3.2.1 LOAD FORECAST CDM ADJUSTMENT WORK FORM

HPDCL assumes that its conservation efforts are embedded in its load and as a result, the Test Year load forecast needs not be adjusted for the impacts on energy purchases arising from CDM programs undertaken by HPDCL's customers.

3.2.2 ALLOCATION OF CDM RESULTS

N/A

3.3 ACCURACY OF LOAD FORECAST AND VARIANCE ANALYSIS

3.3.1 VARIANCE ANALYSIS OF LOAD FORECAST

Table 19 below shows the yearly change in consumption for the Residential class.

Table 19 - Residential Variance

Year	Cust	% chg.	kWh	% chg.
2010	2,299		24,736,853	
2011	2,295	0%	24,621,320	0%
2012	2,293	0%	23,813,833	-3%
2013	2,284	0%	25,300,382	6%
2014	2,278	0%	25,241,629	0%
2015	2,261	-1%	23,678,804	-6%
2016	2,257	0%	22,546,128	-5%
2017	2,257	0%	21,777,281	-3%
2018	2,253	0%	22,434,635	3%
2019	2,255	0%	22,186,869	-1%
2020	2,250	0%	23,652,429	7%
2021	2,250	0%	23,652,429	0%

The number of residential customers slowly decreased 2010. The consumption has also seen a slow decrease over the same period. The main reason for the decrease is the migration of population from rural to more urban areas. Hearst is a small town located far from large urban centers which, throughout the years, young (post-secondary students) and older (retirees) generations tends to move near bigger cities. Additionally, the birth to death ratio in the area is less than 1.0.

As explained in Section 3.1.9 Determination of Customer Forecast, HPDCL has used a simple 10-year (2009-2019]) geometric mean function to determine the forecasted number of customers for 2020. The methodology behind the 2020 projections are explained in detailed at Section 31.3.

Table 20 below shows the yearly change in consumption for the GS<50 kW class.

Table 20 - GS < 50 kW Variance

Year	Cust	% chg.	kWh	% chg.
2010	394		11,499,854	
2011	426	8%	11,814,687	3%
2012	452	6%	11,024,461	-7%
2013	455	1%	11,359,856	3%
2014	456	0%	11,110,938	-2%
2015	453	-1%	10,713,015	-4%
2016	453	0%	10,266,745	-4%
2017	450	0%	10,334,459	1%
2018	457	1%	11,004,125	6%
2019	462	1%	10,694,021	-3%
2020	470	2%	10,991,463	3%
2021	478	2%	10,991,463	0%

The number of customers in the GS<50 kW class have remained steady over the past ten years with a slight increase per year. The projected consumption for 2021 is in line with historical consumption. The fact that the consumption is not increasing at the same rate as the customer count reflects the effects of CDM on small commercial businesses.

Table 21 - GS>50 Variance below shows the yearly change in consumption for the GS>50kW class.

Table 21 - GS>50 Variance

Year	Cust	% chg.	kWh	% chg.	kW	% chg.
2010	39		17,450,896		50,867	
2011	37	-3%	21,470,204	23%	59,643	17%
2012	40	6%	23,664,082	10%	64,939	9%
2013	39	-1%	23,218,142	-2%	65,160	0%
2014	41	4%	23,609,369	2%	66,539	2%
2015	42	3%	25,486,582	8%	71,584	8%
2016	43	2%	25,437,497	0%	69,687	-3%
2017	42	-3%	24,933,472	-2%	69,073	-1%
2018	36	-14%	24,388,623	-2%	66,209	-4%
2019	36	0%	24,264,710	-1%	66,925	1%
2020	36	-1%	23,398,367	-4%	65,172	-3%
2021	35	-1%	23,398,367	0%	65,172	0%

Similar to the GS<50kW, the number of customers in the GS>50 kW class have also remained relatively steady over the past 10 years. The projected consumption for 2020 is lower than the ones from the past six years due to the reduction attributed to CDM targets.. The Load Forecast model uses a 11-year average to determine the projections.

HPDCL does not anticipate any new GS>50 customers in 2020 and 2021 and instead is forecasting a loss of one customer.

Table 22 – Intermediate Variance below shows the yearly change in consumption for the GS>50kW class.

Table 22 – Intermediate Variance

Year	Cust	% chg.	kWh	% chg.	kW	% chg.
2010	3		18,965,408		61,632	
2011	2	-22%	19,113,182	1%	60,417	-2%
2012	2	-14%	20,375,091	7%	62,501	3%
2013	2	0%	21,805,339	7%	61,716	-1%
2014	2	0%	23,201,291	6%	62,667	2%
2015	2	0%	20,176,329	-13%	58,405	-7%
2016	2	0%	20,606,236	2%	56,343	-4%
2017	2	0%	19,768,633	-4%	56,200	0%
2018	2	0%	19,994,465	1%	56,067	0%
2019	2	0%	20,144,203	1%	60,137	7%
2020	2	-4%	19,969,100	-1%	57,468	-4%
2021	2	-4%	19,969,100	0%	57,468	0%

Similar to the GS<50kW, the number of customers in the Intermediate class have also remained relatively steady over the past 10 years both in respect to customer count and consumption. The projected consumption for 2021 is in line with the historical trend. The Load Forecast model uses a 10-year average to determine the projections.

HPDCL does not anticipate any new Intermediate customers in 2020 and 2021.

Table 23 -Streetlights Variance below shows the yearly change in consumption for the Streetlight class.

Table 23 -Streetlights Variance

Year	Cust	% chg.	kWh	% chg.	kW	% chg.
2010	916		1,008,500		3,089	
2011	922	1%	1,008,758	0%	3,095	0%
2012	924	0%	1,021,182	1%	3,131	1%
2013	931	1%	1,026,377	1%	3,148	1%
2014	941	1%	1,030,212	0%	3,153	0%
2015	942	0%	1,031,237	0%	3,159	0%
2016	953	1%	565,469	-45%	2,105	-33%
2017	961	1%	448,057	-21%	1,356	-36%
2018	962	0%	448,820	0%	1,359	0%
2019	962	0%	448,820	0%	1,359	0%
2020	967	1%	453,699	1%	1,373	1%
2021	973	1%	453,699	0%	1,373	0%

Connection count and consumption for the Streetlight class has been consistent since 2010. The Load Forecast model uses a 10-year (2010-2019) average to determine the projections.

Table 24 - Sentinel Variance below shows the yearly change in consumption for the Sentinel class.

Table 24 - Sentinel Variance

Year	Cust	% chg.	kWh	% chg.
2010	11		21,979	
2011	10	-7%	21,276	-3%
2012	10	1%	21,276	0%
2013	10	0%	21,276	0%
2014	10	0%	21,288	0%
2015	13	28%	16,557	-22%
2016	10	-21%	12,863	-22%
2017	11	11%	8,920	-31%
2018	12	7%	9,452	6%
2019	12	0%	9,452	0%
2020	12	1%	9,598	2%
2021	12	1%	9,724	1%

HPDCL does not anticipates any changes in Sentinel connection for the 2021 Test year. The Load Forecast model uses a 10-year average to determine the projections. The methodology behind the projections for 2020 are explained in detailed at Section 3.3.1.

In summary, for customer counts HPDCL expects a slight decrease in the residential class from 2020 to 2021 but HPDCL opted to keep the predicted 2250 residential customers in place for 2021 rather than adopt the results of the customer forecast of 2245. HPDCL predicts a slight increase in the GS<50 kW class. HPDCL projects no material changes in the GS 50-4999kW, Intermediate, Streetlights and Sentinel.

HPDCL notes that has little control over its Board Approved Load Forecast as the OEB dictates the manner in which the forecast is determined (i.e., using a multivariate regression analysis based on multi-year historical values.) In other words, the Load Forecasting process is formulaic in natures and year over year variances are outside of the utility's control. That said HPDCL notes that all classes have remained relatively unchanged since the utility's Board Approved [BA] Load Forecast.

The overall decline in consumption can be explained by the decline in customer count, changes in weather patterns and the effects of energy efficiencies.

Table 25 – 2015 Board Approved VS 2021 below, presents variances between actuals and 2015 Board Approved. As shown in the table below, the trend in Residential customer count decreased between the last Board Approved and its 2021 forecast. Most classes saw a moderate decrease in consumption in 2021.

Table 25 – 2015 Board Approved VS 2021

	Year	2015 Board Approved	2021	Var
Residential	Fixed	$11.93	$29.11	$17.18
	Variable	$0.0126	$0.0000	-$0.0126
	Cust/Conn	2274	2250	-24
	kWh	24683471	23701551	-981920
	Revenues	$636,558	$785,762	$149,205
General Service < 50 kW	Fixed	$18.30	$22.45	$4.15
	Variable	$0.0062	$0.0076	$0.0014
	Cust/Conn	464	478	14
	kWh	11308999	11014291	-294708
	Revenues	$172,010	$210,497	$38,487
General Service > 50 kW - 4999 kW	Fixed	$54.82	$65.50	$10.68
	Variable	$1.7252	$2.0562	$0.3310
	Cust/Conn	41	35	-6
	kWh	22929718	23446962	517244
	kW	65759	65307	-452
	Revenues	$140,419	$162,068	$21,649
Intermediate	Fixed	$223.01	$236.69	$13.68
	Variable	$1.1461	$1.3476	$0.2015
	Cust/Conn	2	2	0
	kWh	21627886	19969100	-1658786
		61820	57468	-4352
	Revenues	$76,204	$82,633	$6,429
Sentinel	Fixed	$7.50	$11.54	$4.04
	Variable	$8.0087	$12.3371	$4.3284
	Cust/Conn	15	12	-3
	kWh	19410	9724	-9686
	kW	70	27	-43
	Revenues	$1,911	$2,039	$128
Streetlighting	Fixed	$4.56	$4.44	-$0.12
	Variable	$2.5261	$2.4606	-$0.0655
	Cust/Conn	947	973	26
	kWh	901688	453699	-447989
	kW	4803	1373	-3430
	Revenues	$63,953	$55,218	-$8,735
Total	**Cust/Conn**	**3743**	**3750**	**7**
	kWh	**81471172**	**78595328**	**-2875844**
	kW	**941020**	**1120435**	**179415**
	$	$1,091,054	$1,298,217	$207,163

Table 26 – Variance Analysis of Revenues as per RRR and FS

Operating Revenues	*Distribution Revenues*	*Other Revenue*	*Total Operating Revenues*	*Year over Year variances*	
2015 BA	$1,058,101	$229,503	$1,287,604		
2015	$1,352,864	$108,664	$1,461,527	$173,923	**2015BA – 2015**
2016	$1,124,977	$170,833	$1,295,809	-$165,718	**2015-2016**
2017	$1,167,290	$155,332	$1,322,622	$26,813	**2016-2017**
2018	$1,210,941	$277,588	$1,488,529	$165,906	**2017-2018**
2019	$1,239,660	$286,521	$1,526,181	$37,652	**2018-2019**
2020	$1,176,843	$317,750	$1,494,593	-$31,588	**2019-2020**
2021	$1,233,292	$235,382	$1,468,674	-$25,919	**2020-2021**

Table 27 – OEB Appendix 2-IA/2 IB

	Calendar Year		Customers / Connections			Consumption (kWh) [3]				Demand (kW or kVA)				Revenues	
	(for [Hist Year 3] Cost of Service)					Weather-actual	Weather-normalized			Weather-actual	Weather-normalized			Weather-actual	Weather-normalized
Historical															
Historical															
Historical															
Historical															
Historical															
Bridge Year (Forecast)															
Test Year (Forecast)															

Due to its length when printed, HPDCL has filed the OEB Appendix 2-IB at Appendix A of this Exhibit.

Table 28 - Average per customer use below presents the actual average use per customer, by customer class, and historical and adjusted forecast average use per customer generated using the load forecast. As can be seen from the results below, the predicted use per customer follows the trend created from its historical usage per customer.

Table 28 - Average per customer use

	Residential	*GS<50*	*GS>50*		*Intermediate*		*Sentinel*		*Street Lighting*	
Year	**kWh/cust**	**kWh/cust**	**kWh/cust**	**kW/cust**	**kWh/cust**	**kW/cust**	**kWh/conn**	**kW/conn**	**kWh/conn**	**kW/conn**
2010	10,759	29,163	452,291	1,318	6,321,803	20,544	1,101	7	1,101	3
2011	10,727	27,712	576,381	1,601	8,191,364	25,893	1,094	7	1,094	3
2012	10,387	24,413	596,573	1,637	10,187,546	31,251	1,105	7	1,105	3
2013	11,080	24,953	592,804	1,664	10,902,670	30,858	1,103	7	1,103	3
2014	11,079	24,379	578,189	1,630	11,600,646	31,334	1,095	7	1,095	3
2015	10,474	23,645	604,425	1,698	10,088,164	29,203	1,095	4	1,095	3
2016	9,992	22,681	591,570	1,621	10,303,118	28,171	593	4	593	2
2017	9,666	22,944	594,834	1,648	9,884,316	28,100	793	2	466	1
2018	9,950	24,075	677,462	1,839	9,997,233	28,033	788	2	467	1
2019	9,862	23,156	675,584	1,863	10,072,102	30,069	788	2	467	1
2020	10,513	23,385	656,667	1,829	10,444,657	30,058	789	2	467	1
2021	10,536	22,978	661,914	1,844	10,925,967	31,443	789	2	467	1

The next section details a variance analysis of the utility's past and projected revenues.

3.3.2 VARIANCE ANALYSIS OF DISTRIBUTION REVENUES

The tables below provide details of the Final Customer and Volume Load Forecast for each of the years. This summary of the billing determinants by rate class will be used to develop HPDCL's proposed rates.

Table 29 - Revenues at proposed rates

Proposed Rates at Proposed Test Year Load

	Test Year Projected Revenue from Proposed Variable Charges							
Customer Class Name	**Variable Distribution Rate**	**per**	**Test Year Volume**	**Gross Variable Revenue**	**Transform. Allowance Rate**	**Transform. Allowance kW's**	**Transform. Allowance $'s**	**Net Variable Revenue**
Residential	$0.0000	kWh	23,652,429	$0.00		0	$0.00	$0.00
General Service < 50 kW	$0.0076	kWh	10,991,463	$83,365.12		0	$0.00	$83,365.12
General Service > 50 to 4999 kW	$2.0739	kW	65,172	$135,160.60	-0.45	67,244	-$30,259.80	$104,900.80
Intermediate	$1.3417	kW	57,468	$77,107.31	-0.45	60,194	-$27,087.30	$50,020.01
Sentinel	$12.2368	kW	27	$330.54		0	$0.00	$330.54
Street Lighting	$2.4450	kW	1,373	$3,357.71		0	$0.00	$3,357.71
Total Variable Revenue			**34,767,932**	**$299,321.28**		127438	-$114,694.20	$241,974.18

Proposed Rates at Proposed Test Year Load

	Test Year Projected Revenue from Proposed Fixed Charges							
Customer Class Name	**Fixed Rate**	**Customers (Connections)**	**Fixed Charge Revenue**	**Variable Revenue**	**TOTAL**	**% Fixed Revenue**	**% Variable Revenue**	**% Total Revenue**
Residential	$28.9308	2,250	$781,053.97	$0.00	$781,053.97	100.00%		63.33%
General Service < 50 kW	$22.3169	470	$125,870.90	$83,365.12	$209,236.02	60.16%	39.84%	16.97%
General Service > 50 to 4999 kW	$60.9505	36	$26,061.46	$104,900.80	$130,962.26	19.90%	80.10%	10.62%
Intermediate	$236.6900	2	$5,430.32	$50,020.01	$55,450.33	9.79%	90.21%	4.50%
Sentinel	$11.4449	12	$1,669.78	$330.54	$2,000.31	83.48%	16.52%	0.16%
Street Lighting	$4.4138	967	$51,231.37	$3,357.71	$54,589.08	93.85%	6.15%	4.43%
Total Fixed Revenue		**3,737**	**$991,317.80**	**$241,974.18**	**$1,233,291.97**			100%

3.4 OTHER REVENUES

3.4.1 OVERVIEW OF OTHER REVENUE

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

Other Distribution Revenues includes items such as:

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

HPDCL is not proposing changes to the MicroFit Service Charges.

OEB APPENDIX 2-H OTHER OPERATING REVENUES

A detailed breakdown by USoA account is shown in Table 30 – OEB Appendix 2-H presented on the next page. Year over year variance analysis follow at Section 3.4.2 - Other Revenue Variance Analysis.

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Table 30 – OEB Appendix 2-H

Reporting Basis

		2015	2015	2016	2017	2018	2019	2020	2021
	USoA Description	**Board Approved**							
4235	**4235-Miscellaneous Service Revenues**	$0	-$16,915	-$16,365	-$14,085	-$14,355	-$9,110	-$9,000	-$10,000
4225	**4225-Late Payment Charges**	-$21,704	-$12,885	-$12,427	-$11,679	-$12,108	-$12,807	-$14,000	-$12,000
4082	4082-Retail Services Revenues	-$3,944	-$4,731	-$4,157	-$4,146	-$3,334	-$5,625	-$4,000	-$4,000
4084	4084-Service Transaction Requests (STR) Revenues	-$29	-$56	-$13	-$6	-$14	-$3	$0	$0
4086	4086-SSS Administration Revenue	-$10,956	-$10,856	-$8,057	-$8,078	-$8,207	-$7,582	-$8,000	-$8,000
4210	4210-Rent from Electric Property	-$28,962	-$29,007	-$29,007	-$29,007	-$37,045	-$40,214	-$40,250	-$65,682
4215	4215-Other Utility Operating Income	-$13,519	$0	$0	$0	$0	$0	$0	$0
4245	4245-Government Assistance Directly Credited to Income	$0	-$557	-$959	-$1,474	-$2,046	-$2,682	$0	$0
4305	4305-Regulatory Debits	$0	$0	$37,088	$37,088	$0	$0	$0	$0
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$100,000	-$42,672	-$126,942	-$124,495	-$137,241	-$93,937	-$105,000	-$107,100
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$0	$27,462	$66,176	$77,211	$82,330	$48,070	$70,000	$71,400
4340	4340-Profits and Losses from Financial Instrument Investments	$0	$6,227	$2,287	$13,220	$56,169	-$4,546	$0	$0
4355	4355-Gain on Disposition of Utility and Other Property	$0	$0	$0	-$17,101	-$34,740	$0	$0	$0
4360	4360-Loss on Disposition of Utility and Other Property	$0	$2,045	$832	$4,496	$333	$737	$0	$0
4375	4375-Revenues from Non-Utility Operations	$0	-$121,923	-$104,479	-$97,122	-$489,411	-$832,846	-$850,000	-$150,000
4380	4380-Expenses of Non-Utility Operations	$0	$91,015	$95,941	$91,080	$380,890	$741,367	$712,500	$125,000
4405	4405-Interest and Dividend Income	-$50,388	-$11,454	-$82,978	-$83,465	$0	-$80,552	-$70,000	-$75,000
	Total	-$229,503	-$183,059	-$183,059	-$167,562	-$218,781	-$299,730	-$317,750	-$235,382
	Specific Service Charges	$0	-$16,365	-$16,365	-$14,085	-$14,355	-$9,110	-$9,000	-$10,000
	Late Payment Charges	-$21,704	-$12,427	-$12,427	-$11,679	-$12,108	-$12,807	-$14,000	-$12,000
	Other Distribution/Operating Revenues	-$57,410	-$42,192	-$42,192	-$42,711	-$50,648	-$56,106	-$52,250	-$77,682
	Other Income or Deductions	-$150,388	-$112,075	-$112,075	-$99,088	-$141,670	-$221,707	-$242,500	-$135,700
	Total	-$229,503	-$183,059	-$183,059	-$167,562	-$218,781	-$299,730	-$317,750	-$235,382

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3.4.2 OTHER REVENUE VARIANCE ANALYSIS

Table 32 to 45 below presents year over year variances of other operating revenues:

Table 31 - Variance Analysis of Other Operating Revenues

2015BA Actual-2015 Actual

	Reporting Basis			Var Analysis	Var Analysis
		2015	2015	$	%
	USoA Description	**Board Approved**			
4235	**4235-Miscellaneous Service Revenues**	$0	-$16,915	-$16,915	
4225	**4225-Late Payment Charges**	-$21,704	-$12,885	$8,820	40.64%
4082	4082-Retail Services Revenues	-$3,944	-$4,731	-$787	19.95%
4084	4084-Service Transaction Requests (STR) Revenues	-$29	-$56	-$26	89.99%
4086	4086-SSS Administration Revenue	-$10,956	-$10,856	$100	0.91%
4090	4090-Electric Services Incidental to Energy Sales	$0	$0	$0	
	Total	**-$36,633**	**-$45,442**	**-$8,808**	
4210	4210-Rent from Electric Property	-$28,962	-$29,007	-$45	0.15%
4215	4215-Other Utility Operating Income	-$13,519	$0	$13,519	100.00%
4245	4245-Government Assistance Directly Credited to Income	$0	-$557	-$557	
	Total	**-$42,481**	**-$29,564**	**$12,917**	
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$100,000	-$42,672	$57,328	57.33%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$0	$27,462	$27,462	
4340	4340-Profits and Losses from Financial Instrument Investments	$0	$6,227	$6,227	
4360	4360-Loss on Disposition of Utility and Other Property	$0	$2,045	$2,045	
4375	4375-Revenues from Non-Utility Operations	-$81,000	-$121,923	-$40,923	50.52%
4380	4380-Expenses of Non-Utility Operations	$81,000	$91,015	$10,015	12.36%
	Total	**-$100,000**	**-$37,846**	**$62,154**	
4405	4405-Interest and Dividend Income	-$50,388	-$11,454	$38,934	77.27%
	Total	**-$50,388**	**-$11,454**	**$38,934**	**77.27%**
	Total	-$229,503	-$124,306	$105,197	

	Specific Service Charges	$0	-$16,915	-$16,915	
	Late Payment Charges	-$21,704	-$12,885	$8,820	40.64%
	Other Distribution/Operating Revenues	-$57,410	-$45,206	$12,204	21.26%
	Other Income or Deductions	-$150,388	-$49,300	$101,088	67.22%
	Total	-$229,503	-$124,306	$105,197	45.84%

Account 4325: In the year 2015, there was considerably less jobbing completed due to multiple main drivers:

1. There were fewer customer requests for jobbing.
2. Our workforce wasn't able to do as much as usual due to staffing (In a standard year, staff includes 4 licensed Powerlinemen, but in 2015 with the Leadhand retiring, only 2 licensed Powerline and one apprentice were working).

3. A full street light retrofit (>900 units,) shown in account #4375 & #4380, was time consuming.
4. Increase capital work required for outside plant was required after 2014 Distribution System Plan assessment.

Account 4405 variance regarding interest income: this is due to the approval of the smart meter disposal in 2015 which decreased this account by $44,230.74.

Table 32 - Variance Analysis of Other Operating Revenues

2015 Actual-2016 Actual

	Reporting Basis			**Var Analysis**	**Var Analysis**
		2015	**2016**	**$**	**%**
	USoA Description				
4235	**4235-Miscellaneous Service Revenues**	-$16,915	-$16,365	$550	3.25%
4225	**4225-Late Payment Charges**	-$12,885	-$12,427	$457	3.55%
4082	4082-Retail Services Revenues	-$4,731	-$4,157	$574	12.13%
4084	4084-Service Transaction Requests (STR) Revenues	-$56	-$13	$43	77.03%
4086	4086-SSS Administration Revenue	-$10,856	-$8,057	$2,799	25.79%
4090	4090-Electric Services Incidental to Energy Sales	$0	$0	$0	
	Total	**-$45,442**	**-$41,018**	**$4,423**	
4210	4210-Rent from Electric Property	-$29,007	-$29,007	$0	0.00%
4245	4245-Government Assistance Directly Credited to Income	-$557	-$959	-$402	72.06%
	Total	**-$29,564**	**-$29,966**	**-$402**	
4305	4305-Regulatory Debits	$0	$37,088	$37,088	
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$42,672	-$126,942	-$84,270	197.48%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$27,462	$66,176	$38,714	140.97%
4340	4340-Profits and Losses from Financial Instrument Investments	$6,227	$2,287	-$3,941	63.28%
4360	4360-Loss on Disposition of Utility and Other Property	$2,045	$832	-$1,212	59.29%
4375	4375-Revenues from Non-Utility Operations	-$121,923	-$104,479	$17,444	14.31%
4380	4380-Expenses of Non-Utility Operations	$91,015	$95,941	$4,926	5.41%
	Total	**-$37,846**	**-$29,097**	**$8,749**	
4405	4405-Interest and Dividend Income	-$11,454	-$82,978	-$71,524	624.42%
	Total	**-$11,454**	**-$82,978**	**-$71,524**	**624.42%**
	Total	-$124,306	-$183,059	-$58,753	

	Specific Service Charges	-$16,915	-$16,365	$550	3.25%
	Late Payment Charges	-$12,885	-$12,427	$457	3.55%
	Other Distribution/Operating Revenues	-$45,206	-$42,192	$3,014	6.67%
	Other Income or Deductions	-$49,300	-$112,075	-$62,775	127.33%
	Total	-$124,306	-$183,059	-$58,753	47.27%

Account 4305 represents the cost for the IFRS transition.

Account 4325 and 4330 represent a return to normal jobbing activities since 2015 was not a typical year.

Account 4405 in 2016 represented a near typical year in interest earned but the main driver of the difference is due to smart meter disposal impact with caused a reduction of $44,231 in 2015.

Table 33 - Variance Analysis of Other Operating Revenues

2016 Actual-2017 Actual

	Reporting Basis			Var Analysis	Var Analysis
		2016	2017	$	%
	USoA Description				
4235	**4235-Miscellaneous Service Revenues**	-$16,365	-$14,085	$2,280	13.93%
4225	**4225-Late Payment Charges**	-$12,427	-$11,679	$749	6.02%
4082	4082-Retail Services Revenues	-$4,157	-$4,146	$11	0.26%
4084	4084-Service Transaction Requests (STR) Revenues	-$13	-$6	$7	52.94%
4086	4086-SSS Administration Revenue	-$8,057	-$8,078	-$21	0.26%
4090	4090-Electric Services Incidental to Energy Sales	$0	$0	$0	
	Total	**-$41,018**	**-$37,993**	**$3,025**	
4210	4210-Rent from Electric Property	-$29,007	-$29,007	$0	0.00%
4245	4245-Government Assistance Directly Credited to Income	-$959	-$1,474	-$515	53.75%
	Total	**-$29,966**	**-$30,481**	**-$515**	
4305	4305-Regulatory Debits	$37,088	$37,088	$0	0.00%
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$126,942	-$124,495	$2,447	1.93%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$66,176	$77,211	$11,035	16.68%
4340	4340-Profits and Losses from Financial Instrument Investments	$2,287	$13,220	$10,933	478.10%
4355	4355-Gain on Disposition of Utility and Other Property	$0	-$17,101	-$17,101	
4360	4360-Loss on Disposition of Utility and Other Property	$832	$4,496	$3,663	440.06%
4375	4375-Revenues from Non-Utility Operations	-$104,479	-$97,122	$7,358	7.04%
4380	4380-Expenses of Non-Utility Operations	$95,941	$91,080	-$4,861	5.07%
	Total	**-$29,097**	**-$15,623**	**$13,474**	
4405	4405-Interest and Dividend Income	-$82,978	-$83,465	-$487	0.59%
	Total	**-$82,978**	**-$83,465**	**-$487**	**0.59%**
	Total	-$183,059	-$167,562	$15,497	

	Specific Service Charges	-$16,365	-$14,085	$2,280	13.93%
	Late Payment Charges	-$12,427	-$11,679	$749	6.02%
	Other Distribution/Operating Revenues	-$42,192	-$42,711	-$519	1.23%
	Other Income or Deductions	-$112,075	-$99,088	$12,987	11.59%
	Total	-$183,059	-$167,562	$15,497	8.47%

Account 4340 shows the impacts of transactions completed within our mutual funds' investments (recorded sales and purchases).

Account 4355 & 4360 were impacted by the elimination of Long-Term Load Transfer as required by OEB regulation.

Table 34 - Variance Analysis of Other Operating Revenues

2017 Actual-2018 Actual

	Reporting Basis			Var Analysis	Var Analysis
		2017	2018	$	%
	USoA Description				
4235	**4235-Miscellaneous Service Revenues**	-$14,085	-$14,355	-$270	1.92%
4225	**4225-Late Payment Charges**	-$11,679	-$12,108	-$429	3.68%
4082	4082-Retail Services Revenues	-$4,146	-$3,334	$812	19.58%
4084	4084-Service Transaction Requests (STR) Revenues	-$6	-$14	-$8	137.50%
4086	4086-SSS Administration Revenue	-$8,078	-$8,207	-$130	1.61%
	Total	**-$37,993**	-$38,019	-$26	
4210	4210-Rent from Electric Property	-$29,007	-$37,045	-$8,039	27.71%
4245	4245-Government Assistance Directly Credited to Income	-$1,474	-$2,046	-$572	38.79%
	Total	**-$30,481**	-$39,091	-$8,611	
4305	4305-Regulatory Debits	$37,088	$0	-$37,088	100.00%
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$124,495	-$137,241	-$12,747	10.24%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$77,211	$82,330	$5,119	6.63%
4335	4335-Profits and Losses from Financial Instrument Hedges	$0	$0	$0	
4340	4340-Profits and Losses from Financial Instrument Investments	$13,220	$56,169	$42,949	324.88%
4355	4355-Gain on Disposition of Utility and Other Property	-$17,101	-$34,740	-$17,639	103.14%
4360	4360-Loss on Disposition of Utility and Other Property	$4,496	$333	-$4,162	92.59%
4375	4375-Revenues from Non-Utility Operations	-$97,122	-$489,411	-$392,290	403.92%
4380	4380-Expenses of Non-Utility Operations	$91,080	$380,890	$289,810	318.19%
	Total	**-$15,623**	-$141,670	-$126,048	
4405	4405-Interest and Dividend Income	-$83,465	-$70,363	-$13,102	15.70%
	Total	**-$83,465**	-$70,363	-$13,102	15.70%
	Total	-$167,562	-$289,144	-$121,582	

	Specific Service Charges	-$14,085	-$14,355	-$270	1.92%
	Late Payment Charges	-$11,679	-$12,108	-$429	3.68%
	Other Distribution/Operating Revenues	-$42,711	-$50,648	-$7,937	18.58%
	Other Income or Deductions	-$99,088	-$212,034	-$112,946	113.99%
	Total	-$167,562	-$289,144	-$121,582	72.56%

Account 4210 represents an increase in pole attachments for the year, which also increased the amount of "pole make-ready" work completed to facilitate the increase in pole attachments as shown in account 4325 and 4330.

Account 4305 shows a return to a typical year in 2018, the difference is due to previous year's IFRS transition costs.

Account 4325 and 4330 show an increase due to pole attachment project which required HPDC to complete "pole make-ready" work on many poles.

Account 4340 shows the impacts of transactions completed within our mutual funds investments (recorded sales and purchases). A transfer of broker occurred during the year.

Account 4355 was impacted by the loss of a vehicle due to a non at-fault accident in which the truck was deemed a total loss.

Account 4375 and 4380 show a material increase due to management of two LDC Provincial programs, namely a Conservative Demand Management program and the Affordability Fund Program which account for $402,308 in revenues (account 4375) and $294,921 in expenses (account 4330).

Table 35 - Variance Analysis of Other Operating Revenues

2018 Actual-2019 Actual

	Reporting Basis			Var Analysis	Var Analysis
		2018	2019	$	%
	USoA Description				
4235	**4235-Miscellaneous Service Revenues**	-$14,355	-$9,110	$5,245	36.54%
4225	**4225-Late Payment Charges**	-$12,108	-$12,807	-$699	5.78%
4082	4082-Retail Services Revenues	-$3,334	-$5,625	-$2,290	68.68%
4084	4084-Service Transaction Requests (STR) Revenues	-$14	-$3	$11	77.19%
4086	4086-SSS Administration Revenue	-$8,207	-$7,582	$626	7.62%
	Total	-$38,019	**-$35,127**	$2,892	
4210	4210-Rent from Electric Property	-$37,045	-$40,214	-$3,169	8.55%
4245	4245-Government Assistance Directly Credited to Income	-$2,046	-$2,682	-$636	31.07%
	Total	-$39,091	**-$42,896**	-$3,805	
4305	4305-Regulatory Debits	$0	$0	$0	
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$137,241	-$93,937	$43,304	31.55%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$82,330	$48,070	-$34,260	41.61%
4340	4340-Profits and Losses from Financial Instrument Investments	$56,169	-$4,546	-$60,715	108.09%
4355	4355-Gain on Disposition of Utility and Other Property	-$34,740	$0	$34,740	100.00%
4360	4360-Loss on Disposition of Utility and Other Property	$333	$737	$404	121.23%
4375	4375-Revenues from Non-Utility Operations	-$489,411	-$832,846	-$343,434	70.17%
4380	4380-Expenses of Non-Utility Operations	$380,890	$741,367	$360,477	94.64%
	Total	-$141,670	**-$141,155**	$515	
4405	4405-Interest and Dividend Income	-$70,363	-$80,552	-$10,189	14.48%
	Total	-$70,363	**-$80,552**	-$10,189	
	Total	-$289,144	-$299,730	-$10,586	

	Specific Service Charges	-$14,355	-$9,110	$5,245	36.54%
	Late Payment Charges	-$12,108	-$12,807	-$699	5.78%
	Other Distribution/Operating Revenues	-$50,648	-$56,106	-$5,458	10.78%
	Other Income or Deductions	-$212,034	-$221,707	-$9,673	4.56%
	Total	-$289,144	-$299,730	-$10,586	3.66%

Account 4210 represents a slight increase of third-party attachments for the year 2019 which is a result of the "pole make-ready" work completed in 2018 and shown in account 4325 and 4330.

Account 4325 and 4330 represents a value near a typical year; as already described 2018 was higher due to a specific project which required "pole make-ready" work.

Account 4340 is showing a significant decrease which represents more stable transaction within our mutual funds' investments. The variance is due to having an unusual amount in 2018.

Account 4355 represents the return to normal for 2019 since the value in 2018 relates to a vehicle total loss due to a non-at-fault accident.

Account 4375 and 4380 show material increases due to the ongoing management of LDC Provincial programs, namely a Conservative Demand Management program and the Affordability Fund Program which account for $697,798 in revenues (account 4375) and $612,441 in expenses (account 4330).

Table 36 - Variance Analysis of Other Operating Revenues

2019 Actual-2020 Forecast

	Reporting Basis			Var Analysis	Var Analysis
		2019	2020	$	%
	USoA Description				
4235	**4235-Miscellaneous Service Revenues**	-$9,110	-$9,000	$110	-1.21%
4225	**4225-Late Payment Charges**	-$12,807	-$14,000	-$1,193	9.32%
4082	4082-Retail Services Revenues	-$5,625	-$4,000	$1,625	-28.89%
4084	4084-Service Transaction Requests (STR) Revenues	-$3	$0	$3	-100.00%
4086	4086-SSS Administration Revenue	-$7,582	-$8,000	-$418	5.51%
	Total	**-$35,127**	**-$35,000**	$127	
4210	4210-Rent from Electric Property	-$40,214	-$40,250	-$36	0.09%
4245	4245-Government Assistance Directly Credited to Income	-$2,682	$0	$2,682	-100.00%
	Total	**-$42,896**	**-$40,250**	$2,646	
4305	4305-Regulatory Debits	$0	$0		
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$93,937	-$105,000	-$11,063	11.78%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$48,070	$70,000	$21,930	45.62%
4340	4340-Profits and Losses from Financial Instrument Investments	-$4,546	$0	$4,546	-100.00%
4355	4355-Gain on Disposition of Utility and Other Property	$0	$0		
4360	4360-Loss on Disposition of Utility and Other Property	$737	$0	-$737	-100.00%
4375	4375-Revenues from Non-Utility Operations	-$832,846	-$850,000	-$17,154	2.06%
4380	4380-Expenses of Non-Utility Operations	$741,367	$712,500	-$28,867	-3.89%
	Total	**-$141,155**	**-$172,500**	-$31,345	
4405	4405-Interest and Dividend Income	-$80,552	-$70,000	$10,552	-13.10%
	Total	**-$80,552**	**-$70,000**	$10,552	
	Total	-$299,730	-$317,750	-$18,020	6.01%

	Specific Service Charges	-$9,110	-$9,000	$110	-1.21%
	Late Payment Charges	-$12,807	-$14,000	-$1,193	9.32%
	Other Distribution/Operating Revenues	-$56,106	-$52,250	$3,856	-6.87%
	Other Income or Deductions	-$221,707	-$242,500	-$20,793	9.38%
	Total	-$299,730	-$317,750	-$18,020	6.01%

Table 37 - Variance Analysis of Other Operating Revenues

2019 Actual-2020 Actual

	Reporting Basis			Var Analysis	Var Analysis
		2020	2021	$	%
	USoA Description				
4235	**4235-Miscellaneous Service Revenues**	-$9,000	-$10,000	-$1,000	11.11%
4225	**4225-Late Payment Charges**	-$14,000	-$12,000	$2,000	14.29%
4082	4082-Retail Services Revenues	-$4,000	-$4,000	$0	0.00%
4086	4086-SSS Administration Revenue	-$8,000	-$8,000	$0	0.00%
	Total	**-$35,000**	**-$34,000**	**$1,000**	
4210	4210-Rent from Electric Property	-$40,250	-$65,682	-$25,432	63.19%
	Total	**-$40,250**	**-$65,682**	**-$25,432**	
4325	4325-Revenues from Merchandise Jobbing, Etc.	-$105,000	-$107,100	-$2,100	2.00%
4330	4330-Costs and Expenses of Merchandising Jobbing, Etc.	$70,000	$71,400	$1,400	2.00%
4375	4375-Revenues from Non-Utility Operations	-$850,000	-$150,000	$700,000	82.35%
4380	4380-Expenses of Non-Utility Operations	$712,500	$125,000	-$587,500	82.46%
	Total	**-$172,500**	**-$60,700**	**$111,800**	
4405	4405-Interest and Dividend Income	-$70,000	-$75,000	-$5,000	7.14%
	Total	**-$70,000**	**-$75,000**	**-$5,000**	**7.14%**
	Total	-$317,750	-$235,382	$82,368	

	Specific Service Charges	-$9,000	-$10,000	-$1,000	11.11%
	Late Payment Charges	-$14,000	-$12,000	$2,000	14.29%
	Other Distribution/Operating Revenues	-$52,250	-$77,682	-$25,432	48.67%
	Other Income or Deductions	-$242,500	-$135,700	$106,800	44.04%
	Total	-$317,750	-$235,382	$82,368	25.92%

Account 4375 and 4380: The significant drop in revenue and expense is due to the termination of both the CDM and Affordability Fund Programs which means no more revenues and expenses are forecast to be incurred.

3.4.3 PROPOSED SPECIFIC SERVICE CHARGES

HPDCL is not proposing any changes to the current specific services charges including MicroFit service charge.

There are no classes or discrete customer groups that may be materially impacted by changes to other rates and charges.

3.4.4 REVENUE FROM AFFILIATE TRANSACTIONS, SHARED SERVICES, CORPORATE COST ALLOCATION.

. Historical transactions are discussed in Exhibit 4 of this application.

APPENDICES

Appendix A	OEB Appendix 2-IB

Appendix A

OEB Appendix 2-IB

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

This sheet is to be filled in accordance with the instructions documented in section 2.3.2 of Chapter 2 of the Filing Requirements for Distribution Rate Applications, in terms of one set of tables per customer class.

Color coding for Cells: Data input | Drop-down List | No data entry required | Blank or calculated value

Distribution System (Total)

	Calendar Year (for 2021 Cost of Service		Consumption (kWh) [3]				
				Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2015*		Actual	83,274,732.19	81,661,639.12	OEB-approved	
Historical	*2016*		Actual	81,558,942.07	81,104,493.90		
Historical	*2017*		Actual	80,226,696.75	81,519,242.63		
Historical	*2018*		Actual	80,616,208.80	82,445,516.54		
Historical	*2019*		Actual	80,828,722.60	82,760,074.36		
Bridge Year	*2020*		Forecast		81,781,523.28		
Test Year	*2021*		Forecast		81,781,523.28		

Variance Analysis	**Year**	**Year-over-year**		**Versus OEB-approved**
	2015			
	2016	-2.1%	-0.7%	
	2017	-1.6%	0.5%	
	2018	0.5%	1.1%	
	2019	0.3%	0.4%	
	2020		-1.2%	
	2021		0.0%	
	Geometric Mean	-1.0%	0.0%	

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 2021 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	*2015*	Actual	2,261	OEB-approved		Actual	23,678,804.00	23,678,804.00	OEB-approved		Actual	10,473.87	10,473.87	OEB-approved	
Historical	*2016*	Actual	2,257			Actual	22,546,128.10	22,546,128.10			Actual	9,991.64	9,991.64		
Historical	*2017*	Actual	2,257			Actual	21,777,280.87	21,777,280.87			Actual	9,649.49	9,649.49		
Historical	*2018*	Actual	2,253			Actual	22,434,635.27	22,434,635.27			Actual	9,958.04	9,958.04		
Historical	*2019*	Actual	2,255			Actual	22,186,869.01	22,186,869.01			Actual	9,840.42	9,840.42		
Bridge Year	*2020*	Forecast	2,250			Forecast		23,652,428.88			Forecast	0.00	10,513.24		
Test Year	*2021*	Forecast	2,250			Forecast		23,652,428.88			Forecast	0.00	10,512.68		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved
	2015			*2015*				*2015*			
	2016	-0.2%		*2016*	-4.8%	-4.8%		*2016*	-4.6%	-4.6%	
	2017	0.0%		*2017*	-3.4%	-3.4%		*2017*	-3.4%	-3.4%	
	2018	-0.2%		*2018*	3.0%	3.0%		*2018*	3.2%	3.2%	
	2019	0.1%		*2019*	-1.1%	-1.1%		*2019*	-1.2%	-1.2%	
	2020	-0.2%		*2020*		6.6%		*2020*		6.8%	
	2021	0.0%		*2021*		0.0%		*2021*		0.0%	
	Geometric Mean	-0.1%		Geometric Mean	-2.1%	0.0%		Geometric Mean	-2.1%	0.1%	

	Calendar Year (for 2021 Cost of Service)	Revenues			
Historical	*2015*	Actual	$ 636,588	OEB-approved	
Historical	*2016*	Actual	$ 607,122		
Historical	*2017*	Actual	$ 618,690		
Historical	*2018*	Actual	$ 639,061		
Historical	*2019*	Actual	$ 656,324		
Bridge Year (Foreca	*2020*	Forecast	$ 781,054		
Test Year (Forecast	*2021*	Forecast	$ 781,054		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016	-4.6%	
	2017	1.9%	
	2018	3.3%	
	2019	2.7%	
	2020	19.0%	
	2021	0.0%	
	Geometric Mean	4.2%	

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

	Calendar Year (for 2021 Cost of Service	Customers			Consumption (kWh) [3] Actual (Weather actual)	Consumption (kWh) Weather-normalized		Consumption (kWh) Weather-normalized	Consumption (kWh) per Customer Actual (Weather actual)	Consumption (kWh) per Customer Weather-normalized		Consumption (kWh) per Customer Weather-normalized
Historical	*2015*	Actual	453	OEB-approved	Actual	10,713,015.00	10,713,015.00	OEB-approved	Actual	23,644.69	23,644.69	OEB-approved
Historical	*2016*	Actual	453		Actual	10,266,744.69	10,266,744.69		Actual	22,680.58	22,680.58	
Historical	*2017*	Actual	450		Actual	10,334,459.25	10,334,459.25		Actual	22,944.22	22,944.22	
Historical	*2018*	Actual	457		Actual	11,004,124.85	11,004,124.85		Actual	24,074.66	24,074.66	
Historical	*2019*	Actual	462		Actual	10,694,020.57	10,694,020.57		Actual	23,155.58	23,155.58	
Bridge Year	*2020*	Forecast	470		Forecast		10,991,463.15		Forecast	0.00	23,385.44	
Test Year	*2021*	Forecast	478		Forecast		10,991,463.15		Forecast	0.00	22,978.46	

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved
	2015			*2015*				*2015*			
	2016	-0.1%		*2016*	-4.2%	-4.2%		*2016*	-4.1%	-4.1%	
	2017	-0.5%		*2017*	0.7%	0.7%		*2017*	1.2%	1.2%	
	2018	1.5%		*2018*	6.5%	6.5%		*2018*	4.9%	4.9%	
	2019	1.0%		*2019*	-2.8%	-2.8%		*2019*	-3.8%	-3.8%	
	2020	1.8%		*2020*		2.8%		*2020*		1.0%	
	2021	1.8%		*2021*		0.0%		*2021*		-1.7%	
	Geometric Mean	1.1%		Geometric Mean	-0.1%	0.5%		Geometric Mean	-0.7%	-0.6%	

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual	$ 172,010	OEB-approved	
Historical	*2016*	Actual	$ 163,059		
Historical	*2017*	Actual	$ 165,748		
Historical	*2018*	Actual	$ 173,654		
Historical	*2019*	Actual	$ 175,197		
Bridge Year (Foreca	*2020*	Forecast	$ 209,236		
Test Year (Forecast	*2021*	Forecast	$ 209,236		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016	-5.2%	
	2017	1.6%	
	2018	4.8%	
	2019	0.9%	
	2020	19.4%	
	2021	0.0%	
	Geometric Mean	4.0%	

3 **Customer Class:** GS 50-1499kW

Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kW

	Calendar Year (for 2021 Cost of Service	Customers				Consumption (kW) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2015*	Actual	42	OEB-approved		Actual	71,584.33	71,584.33	OEB-approved		Actual	1,697.65	1,697.65	OEB-approved	
Historical	*2016*	Actual	43			Actual	69,687.00	69,687.00			Actual	1,620.63	1,620.63		
Historical	*2017*	Actual	42			Actual	69,073.19	69,073.19			Actual	1,647.87	1,647.87		
Historical	*2018*	Actual	36			Actual	66,209.04	66,209.04			Actual	1,839.14	1,839.14		
Historical	*2019*	Actual	36			Actual	66,925.14	66,925.14			Actual	1,863.34	1,863.34		
Bridge Year	*2020*	Forecast	36			Forecast		65,171.77			Forecast	0.00	1,829.02		
Test Year	*2021*	Forecast	35			Forecast		65,171.77			Forecast	0.00	1,843.64		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved
	2015			*2015*				*2015*			
	2016	2.0%		*2016*	-2.7%	-2.7%		*2016*	-4.5%	-4.5%	
	2017	-2.5%		*2017*	-0.9%	-0.9%		*2017*	1.7%	1.7%	
	2018	-14.1%		*2018*	-4.1%	-4.1%		*2018*	11.6%	11.6%	
	2019	-0.2%		*2019*	1.1%	1.1%		*2019*	1.3%	1.3%	
	2020	-0.8%		*2020*		-2.6%		*2020*		-1.8%	
	2021	-0.8%		*2021*		0.0%		*2021*		0.8%	
	Geometric Mean	-3.5%		Geometric Mean	-2.2%	-1.9%		Geometric Mean	3.2%	1.7%	

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual	$ 140,419	OEB-approved	
Historical	*2016*	Actual	$ 148,511		
Historical	*2017*	Actual	$ 149,308		
Historical	*2018*	Actual	$ 141,793		
Historical	*2019*	Actual	$ 144,934		
Bridge Year (Foreca	*2020*	Forecast	$ 144,211		
Test Year (Forecast	*2021*	Forecast	$ 161,015		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016	5.8%	
	2017	0.5%	
	2018	-5.0%	
	2019	2.2%	
	2020	-0.5%	
	2021	11.7%	
	Geometric Mean	2.8%	

4 **Customer Class:** Intermediate — Is the customer class billed on consumption (kWh) or demand (kW or kVA)? kW

	Calendar Year (for 2021 Cost of Service	Customers				Consumption (kW) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2015*	Actual	2	OEB-approved		Actual	58,405.14	58,405.14	OEB-approved		Actual	29,202.57	29,202.57	OEB-approved	
Historical	*2016*	Actual	2			Actual	56,342.98	56,342.98			Actual	28,171.49	28,171.49		
Historical	*2017*	Actual	2			Actual	56,199.82	56,199.82			Actual	28,099.91	28,099.91		
Historical	*2018*	Actual	2			Actual	56,066.54	56,066.54			Actual	28,033.27	28,033.27		
Historical	*2019*	Actual	2			Actual	60,137.31	60,137.31			Actual	30,068.66	30,068.66		
Bridge Year	*2020*	Forecast	2			Forecast		57,467.89			Forecast	0.00	28,733.95		
Test Year	*2021*	Forecast	2			Forecast		57,467.89			Forecast	0.00	28,733.95		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved
	2015			*2015*				*2015*			
	2016	0.0%		*2016*	-3.5%	-3.5%		*2016*	-3.5%	-3.5%	
	2017	0.0%		*2017*	-0.3%	-0.3%		*2017*	-0.3%	-0.3%	
	2018	0.0%		*2018*	-0.2%	-0.2%		*2018*	-0.2%	-0.2%	
	2019	0.0%		*2019*	7.3%	7.3%		*2019*	7.3%	7.3%	
	2020	0.0%		*2020*		-4.4%		*2020*		-4.4%	
	2021	0.0%		*2021*		0.0%		*2021*		0.0%	
	Geometric Mean	0.0%		Geometric Mean	1.0%	-0.3%		Geometric Mean	1.0%	-0.3%	

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual	$ 76,204	OEB-approved	
Historical	*2016*	Actual	$ 69,927		
Historical	*2017*	Actual	$ 70,986		
Historical	*2018*	Actual	$ 71,572		
Historical	*2019*	Actual	$ 77,399		
Bridge Year (Foreca	*2020*	Forecast	$ 75,334		
Test Year (Forecast	*2021*	Forecast	$ 82,298		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016	-8.2%	
	2017	1.5%	
	2018	0.8%	
	2019	8.1%	
	2020	-2.7%	
	2021	9.2%	
	Geometric Mean	1.6%	

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

	Calendar Year (for 2021 Cost of Service	Customers				Consumption (kW) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2015*	Actual	13	OEB-approved		Actual	45.99	45.99	OEB-approved		Actual	3.58	3.58	OEB-approved	
Historical	*2016*	Actual	10			Actual	35.73	35.73			Actual	3.51	3.51		
Historical	*2017*	Actual	11			Actual	24.78	24.78			Actual	2.20	2.20		
Historical	*2018*	Actual	12			Actual	26.26	26.26			Actual	2.19	2.19		
Historical	*2019*	Actual	12			Actual	26.26	26.26			Actual	2.19	2.19		
Bridge Year	*2020*	Forecast	12			Forecast		26.66			Forecast	0.00	2.19		
Test Year	*2021*	Forecast	12			Forecast		27.01			Forecast	0.00	2.19		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved
	2015			*2015*				*2015*			
	2016	-20.8%		*2016*	-22.3%	-22.3%		*2016*	-1.9%	-1.9%	
	2017	10.7%		*2017*	-30.7%	-30.7%		*2017*	-37.3%	-37.3%	
	2018	6.7%		*2018*	6.0%	6.0%		*2018*	-0.7%	-0.7%	
	2019	0.0%		*2019*	0.0%	0.0%		*2019*	0.0%	0.0%	
	2020	1.3%		*2020*		1.5%		*2020*		0.2%	
	2021	1.3%		*2021*		1.3%		*2021*		0.0%	
	Geometric Mean	-0.8%		Geometric Mean	-17.0%	-10.1%		Geometric Mean	-15.2%	-9.4%	

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual	$ 1,911	OEB-approved	
Historical	*2016*	Actual	$ 1,201		
Historical	*2017*	Actual	$ 1,232		
Historical	*2018*	Actual	$ 1,326		
Historical	*2019*	Actual	$ 1,344		
Bridge Year (Foreca	*2020*	Forecast	$ 1,386		
Test Year (Forecast	*2021*	Forecast	$ 2,022		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016	-37.2%	
	2017	2.6%	
	2018	7.6%	
	2019	1.4%	
	2020	3.1%	
	2021	45.9%	
	Geometric Mean	1.1%	

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

	Calendar Year (for 2021 Cost of Service	Customers				Consumption (kW) [3]					Consumption (kWh) per Customer				
							Actual (Weather actual)	Weather-normalized		Weather-normalized		Actual (Weather actual)	Weather-normalized		Weather-normalized
Historical	*2015*	Actual	942	OEB-approved		Actual	3,158.52	3,158.52	OEB-approved		Actual	3.35	3.35	OEB-approved	
Historical	*2016*	Actual	953			Actual	2,105.05	2,105.05			Actual	2.21	2.21		
Historical	*2017*	Actual	961			Actual	1,356.13	1,356.13			Actual	1.41	1.41		
Historical	*2018*	Actual	962			Actual	1,358.56	1,358.56			Actual	1.41	1.41		
Historical	*2019*	Actual	962			Actual	1,358.56	1,358.56			Actual	1.41	1.41		
Bridge Year	*2020*	Forecast	967			Forecast		1,365.83			Forecast	0.00	1.41		
Test Year	*2021*	Forecast	973			Forecast		1,373.29			Forecast	0.00	1.41		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved	Year	Year-over-year		Test Year Versus OEB-approved
	2015			*2015*				*2015*			
	2016	1.2%		*2016*	-33.4%	-33.4%		*2016*	-34.1%	-34.1%	
	2017	0.8%		*2017*	-35.6%	-35.6%		*2017*	-36.1%	-36.1%	
	2018	0.1%		*2018*	0.2%	0.2%		*2018*	0.0%	0.0%	
	2019	0.0%		*2019*	0.0%	0.0%		*2019*	0.0%	0.0%	
	2020	0.5%		*2020*		0.5%		*2020*		0.0%	
	2021	0.5%		*2021*		0.5%		*2021*		0.0%	
	Geometric Mean	0.6%		Geometric Mean	-24.5%	-15.3%		Geometric Mean	-25.0%	-15.9%	

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual	$ 63,953	OEB-approved	
Historical	*2016*	Actual	$ 57,470		
Historical	*2017*	Actual	$ 56,971		
Historical	*2018*	Actual	$ 57,544		
Historical	*2019*	Actual	$ 58,410		
Bridge Year (Foreca	*2020*	Forecast	$ 59,840		
Test Year (Forecast	*2021*	Forecast	$ 54,869		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016	-10.1%	
	2017	-0.9%	
	2018	1.0%	
	2019	1.5%	
	2020	2.4%	
	2021	-8.3%	
	Geometric Mean	-3.0%	

7 **Customer Class:** | Is the customer class billed on consumption (kWh) or demand (kW or kVA)? | kWh

	Calendar Year (for 2021 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	*2015*	Actual		OEB-approved		Actual			OEB-approved		Actual			OEB-approved	
Historical	*2016*	Actual				Actual					Actual				
Historical	*2017*	Actual				Actual					Actual				
Historical	*2018*	Actual				Actual					Actual				
Historical	*2019*	Actual				Actual					Actual				
Bridge Year	*2020*	Forecast				Forecast					Forecast				
Test Year	*2021*	Forecast				Forecast					Forecast				

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved
	2015			*2015*			*2015*		
	2016			*2016*			*2016*		
	2017			*2017*			*2017*		
	2018			*2018*			*2018*		
	2019			*2019*			*2019*		
	2020			*2020*			*2020*		
	2021			*2021*			*2021*		
	Geometric Mean			Geometric Mean			Geometric Mean		

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual		OEB-approved	
Historical	*2016*	Actual			
Historical	*2017*	Actual			
Historical	*2018*	Actual			
Historical	*2019*	Actual			
Bridge Year (Foreca	*2020*	Forecast			
Test Year (Forecast	*2021*	Forecast			

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	Geometric Mean		

8 **Customer Class:** | Is the customer class billed on consumption (kWh) or demand (kW or kVA)? | kWh

	Calendar Year (for 2021 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	*2015*	Actual		OEB-approved		Actual			OEB-approved		Actual			OEB-approved	
Historical	*2016*	Actual				Actual					Actual				
Historical	*2017*	Actual				Actual					Actual				
Historical	*2018*	Actual				Actual					Actual				
Historical	*2019*	Actual				Actual					Actual				
Bridge Year	*2020*	Forecast				Forecast					Forecast				
Test Year	*2021*	Forecast				Forecast					Forecast				

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved
	2015			*2015*			*2015*		
	2016			*2016*			*2016*		
	2017			*2017*			*2017*		
	2018			*2018*			*2018*		
	2019			*2019*			*2019*		
	2020			*2020*			*2020*		
	2021			*2021*			*2021*		
	Geometric Mean			Geometric Mean			Geometric Mean		

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual		OEB-approved	
Historical	*2016*	Actual			
Historical	*2017*	Actual			
Historical	*2018*	Actual			
Historical	*2019*	Actual			
Bridge Year (Foreca	*2020*	Forecast			
Test Year (Forecast	*2021*	Forecast			

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	Geometric Mean		

9 **Customer Class:** | Is the customer class billed on consumption (kWh) or demand (kW or kVA)? | kWh

	Calendar Year (for 2021 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	*2015*	Actual		OEB-approved		Actual			OEB-approved		Actual			OEB-approved	
Historical	*2016*	Actual				Actual					Actual				
Historical	*2017*	Actual				Actual					Actual				
Historical	*2018*	Actual				Actual					Actual				
Historical	*2019*	Actual				Actual					Actual				
Bridge Year	*2020*	Forecast				Forecast					Forecast				
Test Year	*2021*	Forecast				Forecast					Forecast				

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved
	2015			*2015*			*2015*		
	2016			*2016*			*2016*		
	2017			*2017*			*2017*		
	2018			*2018*			*2018*		
	2019			*2019*			*2019*		
	2020			*2020*			*2020*		
	2021			*2021*			*2021*		
	Geometric Mean			Geometric Mean			Geometric Mean		

	Calendar Year (for 2021 Cost of Service	Revenues			
Historical	*2015*	Actual		OEB-approved	
Historical	*2016*	Actual			
Historical	*2017*	Actual			
Historical	*2018*	Actual			
Historical	*2019*	Actual			
Bridge Year (Foreca	*2020*	Forecast			
Test Year (Forecast	*2021*	Forecast			

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	Geometric Mean		

10 **Customer Class:** | Is the customer class billed on consumption (kWh) or demand (kW or kVA)? | kWh

	Calendar Year (for 2021 Cost of Service	Customers			Consumption (kWh) [3]				Consumption (kWh) per Customer			
						Actual (Weather actual)	Weather-normalized			Actual (Weather actual)	Weather-normalized	
Historical	*2015*	Actual	OEB-approved		Actual			OEB-approved	Actual		OEB-approved	
Historical	*2016*	Actual			Actual				Actual			
Historical	*2017*	Actual			Actual				Actual			
Historical	*2018*	Actual			Actual				Actual			
Historical	*2019*	Actual			Actual				Actual			
Bridge Year	*2020*	Forecast			Forecast				Forecast			
Test Year	*2021*	Forecast			Forecast				Forecast			

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved	Year	Year-over-year	Test Year Versus OEB-approved
	2015			*2015*			*2015*		
	2016			*2016*			*2016*		
	2017			*2017*			*2017*		
	2018			*2018*			*2018*		
	2019			*2019*			*2019*		
	2020			*2020*			*2020*		
	2021			*2021*			*2021*		
	Geometric Mean			Geometric Mean			Geometric Mean		

	Calendar Year (for 2021 Cost of Service	Revenues		
Historical	*2015*	Actual	OEB-approved	
Historical	*2016*	Actual		
Historical	*2017*	Actual		
Historical	*2018*	Actual		
Historical	*2019*	Actual		
Bridge Year (Foreca	*2020*	Forecast		
Test Year (Forecast	*2021*	Forecast		

Variance Analysis	Year	Year-over-year	Test Year Versus OEB-approved
	2015		
	2016		
	2017		
	2018		
	2019		
	2020		
	2021		
	Geometric Mean		

Note: If there are more than ten (10) customer classes, please contact OEB Staff to add tables for additional customer classes.