



Grimsby Power Inc.  
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EB-2021-0027  
Exhibit 3

# **EXHIBIT 3**

## **OPERATING REVENUE**

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# LOAD AND REVENUE FORECAST

## 1.1 HISTORICAL & FORECAST VOLUMES

### *SUMMARY OF LOAD AND CUSTOMER/CONNECTION FORECAST*

The purpose of this evidence is to present the process used by Grimsby Power to prepare the weather normalized load and customer/connection forecast used to design the proposed 2022 distribution rates.

In summary, as a starting point Grimsby Power used the same regression analysis methodology approved by the Ontario Energy Board (the "Board") in its 2016 Cost of Service ("COS") application (EB-2015-0072) and updated the analysis for actual power purchases to the end of the 2020. As described below, the regression analysis and variables were refined to produce a regression in which predicted volumes are more aligned with actual volumes. Additionally, manual adjustments have been made to account for known increases to load in the bridge and test years.

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

Based on the Board's approval of this methodology in a number of previous cost of service applications as well as the discussion that follows, Grimsby Power submits the load forecasting methodology is reasonable at this time for the purposes of this Application.

The following provides the material to support the weather normalized load forecast used by Grimsby Power in this Application. Table 3 - 1, Table 3 - 3, Table 3 - 4, and Table 3 - 5 below provide a summary of the weather normalized load and customer & connection forecast used in this Application.

**Table 3 - 1**  
**Summary of Load and Customer/Connection Forecast**

Year	Billed Excluding Embedded (GWh)	Growth (GWh)	Percent Change	Customer/ Connection Count	Growth	Percent Change (%)
Billed Energy (GWh) and Billed Energy (MWh)						
2016 Approved	183,793			14,011		
2011	181,292			12,726		
2012	187,280	5,988	3.2%	13,064	339	2.6%
2013	186,748	(532)	-0.3%	13,202	137	1.0%
2014	183,851	(2,897)	-1.6%	13,512	311	2.3%
2015	184,214	363	0.2%	13,799	287	2.1%
2016	181,150	(3,063)	-1.7%	13,858	58	0.4%
2017	172,903	(8,247)	-4.8%	13,955	97	0.7%
2018	183,946	11,042	6.0%	14,170	215	1.5%
2019	180,379	(3,566)	-2.0%	14,318	148	1.0%
2020	187,612	7,233	3.9%	14,423	105	0.7%
2020 Normalized	185,793			14,423		
2021 Forecast	194,969	9,176	4.7%	14,592	170	1.2%
2022 Forecast	200,260	5,291	2.6%	14,945	352	2.4%

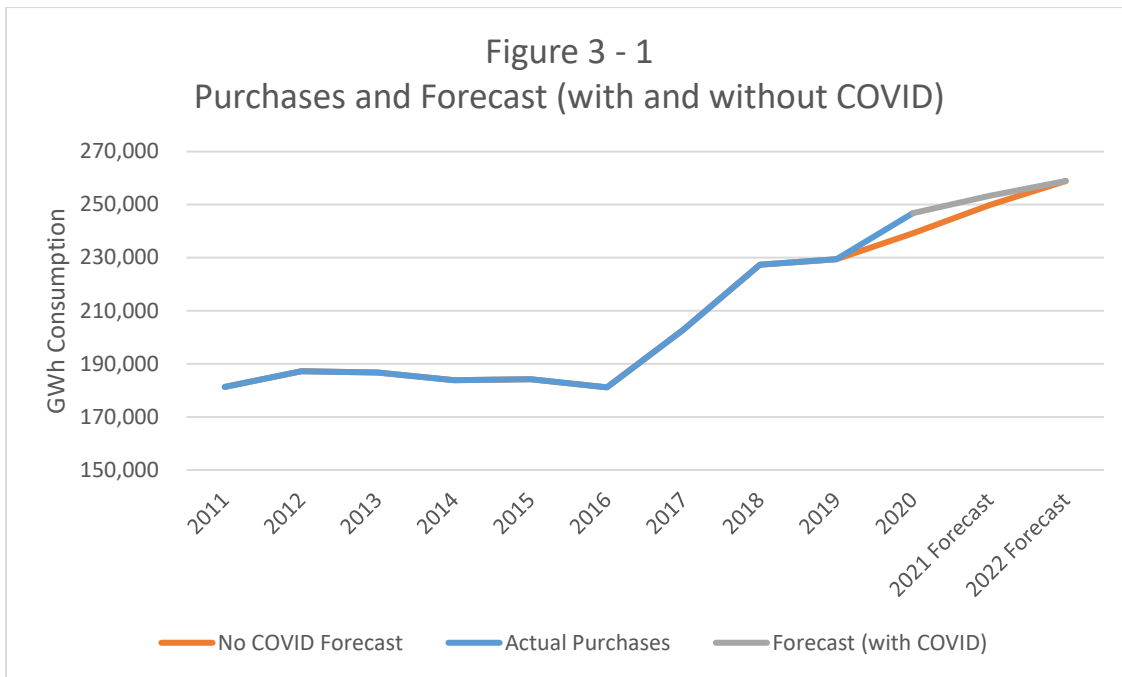
In the above Table 3 - 1, 2011 to 2020 reflect actual purchases and weather conditions in the year. The years 2020, 2021, and 2022 are weather normalized. The COVID-19 pandemic has had an impact on 2020 Actual consumption and is also reflected in the 2020 Normalized and 2021 Forecast volumes. The COVID-19 pandemic has caused an increase to Residential consumption and smaller declines to General Service < 50 kW and General Service 50 to 4,999 kW consumption, resulting in an overall system increase. As discussed later in this section, the impacts of COVID-19 are forecast to end by the start of the 2022 test year.

1 Table 3 - 2 provides a summary of forecast load included the Embedded Distributor  
2 and the impact of the COVID-19 pandemic.

3 **Table 3 - 2**  
4 **Summary of Load with Embedded and COVID Impact**

Year	Billed Excluding Embedded	Embedded	Total	COVID Impact	Total Excluding COVID
	MWh				
2016 Approved	183,793		183,793		183,793
2011	181,292		181,292		181,292
2012	187,280		187,280		187,280
2013	186,748		186,748		186,748
2014	183,851		183,851		183,851
2015	184,214		184,214		184,214
2016	181,150		181,150		181,150
2017	172,903	29,983	202,886		202,886
2018	183,946	43,381	227,326		227,326
2019	180,379	49,069	229,448		229,448
2020	187,612	59,182	246,794	7,648	239,146
2020 Normalized	185,793	58,078	243,871	7,337	236,534
2021 Forecast	194,969	58,369	253,337	3,519	249,818
2022 Forecast	200,260	58,660	258,920		258,920

5 The impact of COVID-19 is demonstrated in the Figure 3 - 1 below.



Grimsby Power is proposing a modification to the definitions of a General Service < 50 kW and General Service 50 to 4,999 kW rate classes such that customers are considered General Service <50 kW if their average peak demand is less than 50 kW. Under the current definition, customers that exceed 50 kW in any month are classified as General Service 50 to 4,999 kW customers. The result of this redefinition is a shift of the lowest demand (and lowest consumption) General Service 50 to 4,999 kW customers to the General Service < 50 kW rate class. This change has the impact of increasing average consumption and demand of the General Service 50 to 4,999 kW class as well as increasing the average consumption of General Service < 50 kW customers.

For the purposes of developing the load forecast, historic customer, load, and demand data for the customers that were General Service 50 to 4,999 kW customers but will be General Service < 50 kW customers in the future have been restated as if those customers were General Service < 50 kW customers since 2011.

Customer/Connection values are on a 1-month average basis. Street lights and unmetered scattered load values are measured as connections. Counts are provided on an average year basis.

1 Actual and forecasted billed consumption by rate class are provided in Table 3 - 3.

2 **Table 3 - 3**

3 **Billed Energy by Rate Class**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load	Embedded	Total
Billed Energy (MWh)							
2016 Approved	95,033	19,518	68,212	663	367		183,793
2011	92,485	20,506	66,328	1,585	386		181,292
2012	93,908	20,378	71,032	1,582	380		187,280
2013	92,184	20,813	71,846	1,528	376		186,748
2014	91,571	20,917	69,773	1,219	371		183,851
2015	93,263	21,318	68,550	718	365		184,214
2016	95,863	21,017	63,206	719	345		181,150
2017	89,264	20,644	61,933	723	339	29,983	202,886
2018	96,930	21,056	64,879	741	338	43,381	227,326
2019	94,076	21,683	63,542	743	336	49,069	229,448
2020	102,206	20,676	63,662	740	328	59,182	246,794
2020 Normalized	102,090	20,652	63,617	740	328	58,078	245,505
2021 Forecast	97,600	22,679	73,624	746	320	58,369	253,337
2022 Forecast	98,117	22,618	78,462	752	311	58,660	258,920

4

5 Actual and forecasted billed demands for the applicable rate classes are provided in

6 Table 3-4.

**Table 3 - 4**

**Billed Demand by Rate Class**

Year	General Service 50 to 4,999 kW	Street Lighting	Embedded	Total
Billed Demand (kW)				
2016 Approved	182,713	1,983	139,279	323,974
2011	165,747	4,413		164,441
2012	189,763	4,350		188,240
2013	193,465	4,232		191,868
2014	187,934	3,460		185,391
2015	185,370	1,990		181,402
2016	181,814	1,987		177,909
2017	179,354	2,000	117,813	293,564
2018	186,545	2,048	144,421	327,696
2019	183,660	2,065	143,708	324,034
2020	180,462	2,055	167,588	345,719
2020 Normalized	175,953	2,054	164,461	342,469
2021 Forecast	209,592	2,071	165,284	376,947
2022 Forecast	223,982	2,087	166,110	392,180



1 Actual and forecasted customer counts by rate class, or connection counts for the  
2 Street Lighting and Unmetered Scattered Load classes, are provided in Table 3 - 5.

3 **Table 3 - 5**  
4 **Customer/Connection Counts by Rate Class**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load	Embedded	Total
	Customers	Customers	Customers	Connections	Connections	Customers	Customers/Connections
2016 Approved	10,402	772	111	2,653	72	1	14,011
2011	9,369	669	106	2,503	80		12,726
2012	9,643	686	108	2,549	78		13,064
2013	9,716	691	110	2,609	76		13,202
2014	9,961	725	109	2,644	74		13,512
2015	10,227	759	108	2,634	71		13,799
2016	10,279	768	111	2,631	69		13,858
2017	10,361	776	114	2,635	67	1	13,955
2018	10,544	778	117	2,664	66	1	14,170
2019	10,673	790	111	2,677	66	1	14,318
2020	10,766	798	108	2,687	63	1	14,423
2021 Forecast	10,899	828	94	2,709	61	1	14,592
2022 Forecast	11,213	845	96	2,730	60	1	14,945

5  
6

1 Actual and forecasted consumption per customer (or connection count) are provided  
2 in Table 3 - 6.

3 **Table 3 - 6**

4 **Average Use by Customer/Device by Rate Class**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load	Embedded
	kWh/ Customer	kWh/ Customer	kWh/ Customer	kWh/ Connection	kWh/ Connection	kWh/ Customer
2011	9,872	30,675	626,969	633	4,831	
2012	9,739	29,687	658,216	620	4,896	
2013	9,488	30,135	652,159	586	4,967	
2014	9,193	28,867	638,658	461	5,034	
2015	9,119	28,072	635,454	273	5,133	
2016	9,326	27,363	569,422	273	5,034	
2017	8,616	26,594	541,888	274	5,040	29,983,391
2018	9,193	27,059	552,950	278	5,100	43,380,634
2019	8,815	27,438	571,160	277	5,114	49,068,645
2020	9,494	25,904	589,688	275	5,222	59,182,120
2020 Normalized	9,483	25,874	589,275	275	5,222	58,078,111
2021 Forecast	8,955	27,390	781,548	275	5,222	58,368,502
2022 Forecast	8,750	26,759	821,329	275	5,222	58,660,344

5  
6 The increase in consumption per General Service < 50 kW customer has increased as a  
7 result of the change in the definition of the rate classes. The increase in consumption per  
8 General Service 50 to 4,999 kW customer is a result of the addition of two large customers  
9 in the bridge year and the rate class definitions.

10

Actual and forecasted demand per customer (or connection count) for the applicable classes are provided in Table 3 - 7.

**Table 3 - 7**

**Average Demand by Customer/Connection by Rate Class**

Year	General Service 50 to 4,999 kW	Street Lighting	Embedded
	kWh/ Customer	kWh/ Connection	kWh/ Customer
2011	1,567	1.763	
2012	1,758	1.707	
2013	1,756	1.622	
2014	1,720	1.309	
2015	1,718	0.755	
2016	1,638	0.755	
2017	1,569	0.759	115,729
2018	1,590	0.769	144,421
2019	1,651	0.772	143,708
2020	1,672	0.765	167,588
2020 Normalized	1,630	0.764	164,461
2021 Forecast	2,225	0.764	165,284
2022 Forecast	2,345	0.764	166,110

## 1.2 LOAD FORECAST METHODOLOGY

Grimsby Power's weather normalized load forecast is developed in a three-step process. First, a total system weather normalized purchased energy forecast (excluding embedded purchases) is developed based on a multivariate regression model that incorporates historical load, CDM activity, weather, and other variables that impact electricity usage. Second, the weather normalized purchased energy forecast is adjusted by a historical loss factor to produce a weather normalized billed energy forecast. Finally, the forecast of billed energy by rate class is developed based on a forecast of customer numbers and historical usage per customer, plus adjustments for load growth above average historic growth. For the rate classes that have weather sensitive load their forecasted billed energy is adjusted to ensure that the total billed energy forecast by rate class is equivalent to the total weather normalized billed energy forecast that has been determined from the regression model. The forecast of

1 customers by rate class is determined using a geometric mean analysis. For those rate  
2 classes that use kW for the distribution volumetric billing determinant an adjustment  
3 factor is applied to the class energy forecast based on the historical relationship  
4 between kW and kWh. The following will explain the forecasting process in more detail.

#### 5 **Purchased kWh Load Forecast**

6 An equation to predict total system purchased energy is developed using a multivariate  
7 regression model with the following independent variables: weather (heating and  
8 cooling degree days), calendar variables (days in month, seasonal), COVID variables,  
9 and the number of customers in the rates classes excluding street lighting connections.  
10 The regression model uses monthly kWh and monthly values of independent variables  
11 from January 2011 to December 2020 to determine the monthly regression  
12 coefficients. The dependent variable is system purchases, excluding embedded  
13 distributor purchases, plus cumulative CDM. Cumulative CDM is then removed from  
14 predicted purchases.

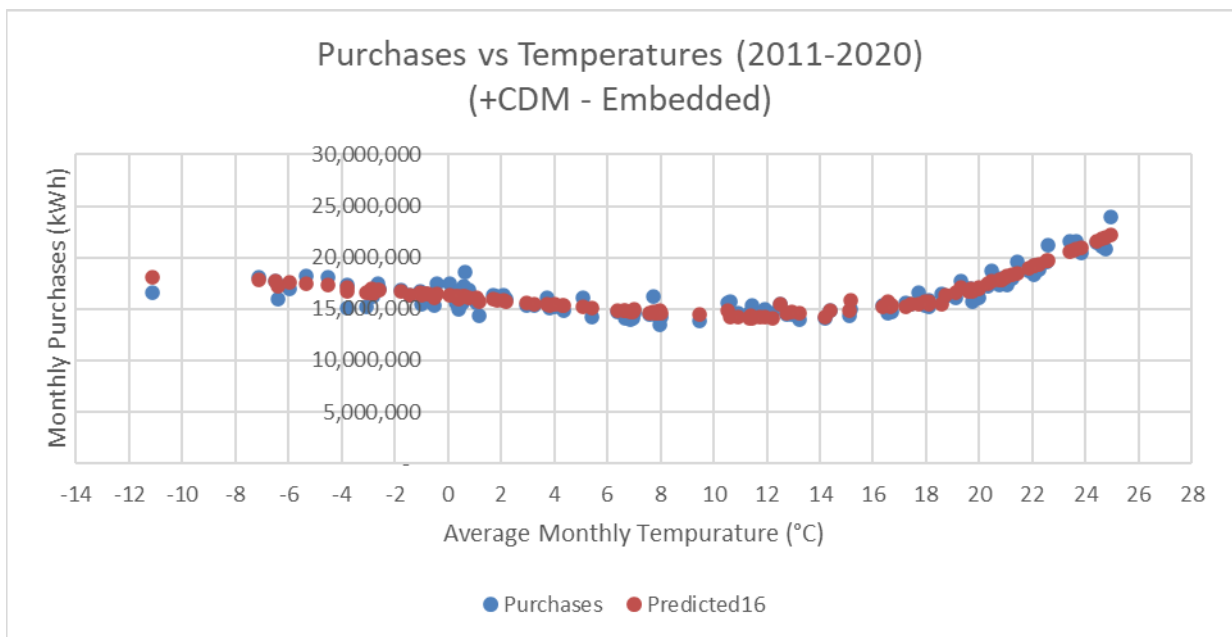
15 With regards to weather normalization, Grimsby Power submits that it is appropriate  
16 to use the year period of January 2011 to December 2020 to calculate normalized  
17 weather since it is consistent with a time period outlined in the filing requirements and  
18 it is reflective of more recent weather conditions. The average weather conditions over  
19 this period are applied in the prediction formula to determine a weather normalized  
20 forecast. In accordance with the filing requirement, Grimsby Power has also provided  
21 sensitivity analysis showing the impact on the 2022 forecast of purchases. This  
22 analysis assumes weather normal conditions are based on a 20-year trend of weather  
23 data.

24 The multivariate regression model has determined drivers of year-over-year changes  
25 in Grimsby Power's load growth are weather, "calendar" factors and number of  
26 customers. Additionally, purchases in 2020 are influenced by the COVID-19 pandemic  
27 so additional COVID variables are used in 2020 so the coefficients of the remaining  
28 variables are not influenced by anomalous data in 2020. The COVID variables do not  
29 persist to 2022.

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

Grimsby Power considered a range of HDD and CDD base temperatures from 10°C to 20°C to analyse the weather variables that most closely predict total system purchases. HDD and CDD variables with a base of 16°C were found to be the most predictive. Figure 3-2 shows actual and predicted consumption (plus CDM and excluding the Embedded Distributor) for each month from January 2011 to December 2020. The adjusted  $R^2$  for the regression with only HDD at 16°C and CDD at 16°C as dependent variables is 0.9139.

**Figure 3 - 2**  
**Weather Variable Regression Results**



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

1 The third main factor is the total number of customers in the rate classes street lighting  
2 connections.

3 For 2020, the impact of COVID-19 had a material impact on consumption of the  
4 Residential, General Service < 50 and General Service 50 to 4,999 classes. The extent  
5 to which to purchases from March 2020 to December 2020 were higher than typical  
6 consumption was found to be related to the weather variables in those months. A set  
7 of COVID/weather interaction variables were considered to capture the incremental  
8 consumption caused by people working from home and more generally staying at  
9 home due to lockdowns.

10 These variables, "HDD COVID" and "CDD COVID" are equal to the relevant HDD and  
11 CDD variables (at 16°C) from March 2020 to December 2020 and equal to 0 in all  
12 other months. The coefficients reflect incremental heating and cooling load consumed  
13 in 2020 that are not expected to continue in the test year. These variables continue to  
14 April 2021 but are set to 0 in all other months, so the incremental loads caused by  
15 COVID-19 are not included in the forecast for the 2022 test year. A COVID flag variable  
16 equal, to 1 from March 2020 to April 2021 and 0 in all other months, was tested but  
17 found to be inferior to the COVID/weather interaction variables when analyzed  
18 separately and was statistically insignificant when the COVID Flag and COVID/weather  
19 variables were analysed jointly.

20 The following outlines the predication model used by Grimsby Power to predict weather  
21 normal purchases for 2021 and 2022.

22 Grimsby Power Monthly Predicted kWh Purchases (Including CDM, less Embedded)

23 = Heating Degree Days \* 6,190  
24 + Cooling Degree Days \* 29,602  
25 + Number of Days in the Month \* 496,156  
26 + Spring Flag \* (680,295)  
27 + HDD COVID \* 1,959  
28 + CDD COVID \* 6,052  
29 + Number of Customers \* 623  
30 + Constant of (10,293,084).

1 This prediction model differs from the model used in Grimsby Power's 2016 COS in five  
2 ways:

3 1) The dependent variable of Total Purchases has been replaced with Total  
4 Purchases plus cumulative CDM. Cumulative CDM is then removed from the  
5 predicted volumes. This methodology better accounts for the persisting impacts  
6 of CDM and is consistent with methodologies used in other LDC load forecasts.

7 2) Heating Degree Days and Cooling Degree Days use 16°C as the base  
8 temperature. The 2016 model used 18°C, which is the base temperature used  
9 in Environment Canada's definition of HDD and CDD and other base  
10 temperatures were not considered.

11 3) The Spring/Fall Flag used in 2016 has been replaced with a Spring Flag. When  
12 separate Spring Flag and Fall Flag variables were tested, the Fall Flag was found  
13 not to be statistically significant.

14 4) Covid/Weather interaction variables have been added to account for atypical  
15 consumption in 2020. The variables were introduced so other variables are not  
16 influenced by atypical consumption in 2020, which could skew coefficients and  
17 the resulting 2022 forecast if unaccounted for.<sup>1</sup>

18 5) There is a manual adjustment to add known consumption and demand growth  
19 in 2021 and 2022 that exceeds historic trends.

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

22 The sources of data for the various data points are:

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<sup>1</sup> For example, as people stayed home from work in the summer months there was a higher cooling load in 2020. Without the COVID/CDD variable, the incremental cooling load in 2020 would result in a higher CDD coefficient. Applying normalized CDD (10-year average CDD) to the higher CDD coefficient would result in a higher 2022 forecast, in which the higher 2020 cooling load is implicitly assumed (to some extent) to continue to 2022. This implicit assumption is removed by including explanatory variables that exist in the relevant 2020 months but are not present in the 2022 test year.

1 a) Environment Canada website for monthly heating degree days and cooling  
2 degree days. Data for the Hamilton CS weather station was used. 16° C is the  
3 base numbers from which heating degree days and cooling degree days are  
4 measured.

5 b) The calendar provided information related to number of days in the month and  
6 the spring flag.

7 c) Grimsby Power's billing system provided the number of customers. The  
8 customer count used in the purchases forecast (before the manual adjustment)  
9 does not include the customers for which consumption and/or demand are  
10 manually adjusted at a later stage.

11 The prediction formula has the following statistical results (Table 3 - 8) which generally  
12 indicate the formula has a good fit to the actual data set.



1  
2

**Table 3 - 8**  
**Statistical Results**

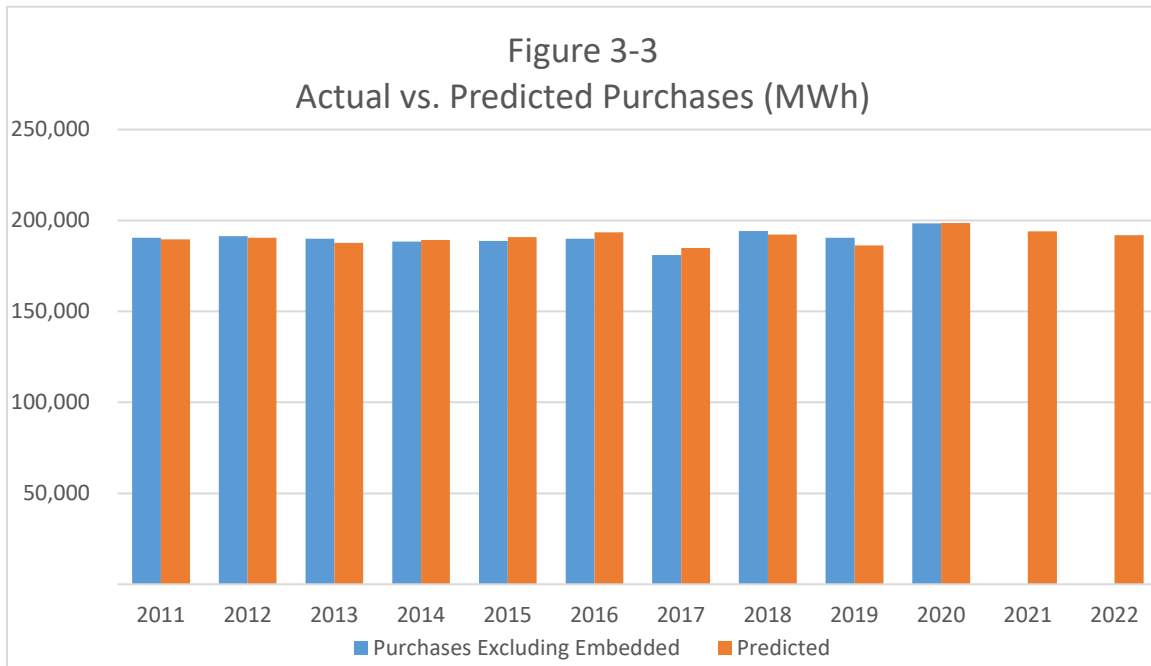
Statistic	Value
R Square	97.58%
Adjusted R Squared	97.43%
F Test	531.0
MAPE (Monthly)	1.68%
Durbin-Watson	2.10
T-stats by Coefficient <sup>2</sup>	
Constant	-5.914
Heating Degree Days	26.352
Cooling Degree Days	42.028
Number of Days in Month	13.995
Spring Flag	-7.059
HDD (COVID)	3.386
CDD (COVID)	4.557
Number of Customers	6.165

3 The statistical results are improved relative to the results of the 2016 COS forecast.  
 4 In the 2016 COS forecast, the Adjusted R-Squared was 89.2% and the monthly Mean  
 5 Average Percentage Error (MAPE monthly) was 3.0%.  
 6 The annual results of the above prediction formula compared to the actual annual  
 7 purchases from 2011 to 2020 are shown in Figure 3-3 below.

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<sup>2</sup> T-Stats are considered statistically significant if the value is greater (in absolute value) than 1.98 (at 5% significance level) or 2.62 (at 1% significant level).

1



2

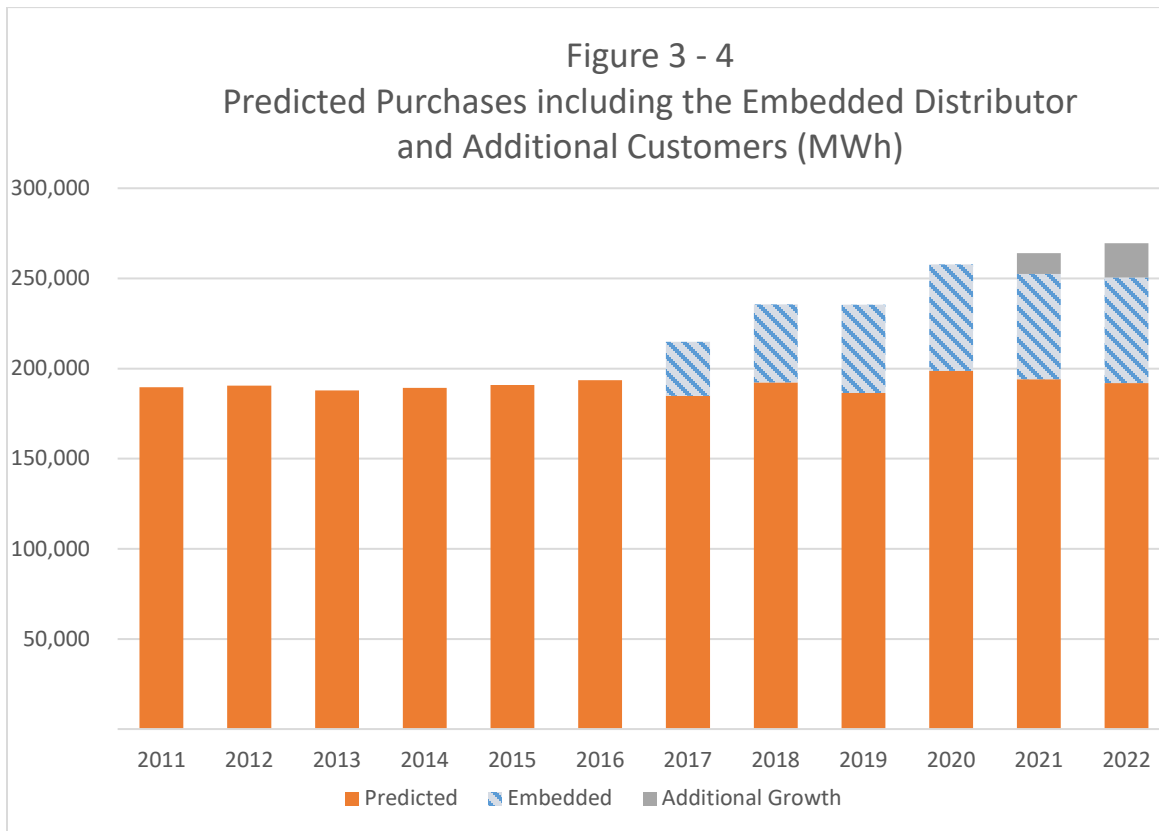
3 Table 3 - 9 below outlines the data that supports the above chart. In addition, the  
 4 predicted total system purchases for Grimsby Power are provided for 2021 and 2022  
 5 on a weather normal basis. In addition, values for 2022 are provided on a 20-year  
 6 trend assumption for weather normalization.

**Table 3 - 9**  
**Total System Purchases**

Year	Actual (Excluding Embedded)	Predicted (Excluding Embedded)	% Difference	Embedded Distributor	Additional Growth	Total Predicted
<b>Purchased Energy (GWh)</b>						
2011	190,473	189,573	0.47%			189,573
2012	191,453	190,453	0.52%			190,453
2013	189,982	187,761	1.17%			187,761
2014	188,316	189,347	-0.55%			189,347
2015	188,795	190,814	-1.07%			190,814
2016	189,916	193,440	-1.86%			193,440
2017	181,087	184,880	2.09%	31,313		216,194
2018	194,270	192,271	-1.03%	45,305		237,575
2019	190,479	186,344	-2.17%	51,245		237,589
2020 – Actual	198,368	198,623	0.13%	61,807		260,430
2020 - Normalized		197,024		60,654		257,677
2021 – Bridge Year		194,016		60,957	12,188	267,161
2022 – Test Year		191,854		61,262	19,889	273,005
2022 - Test Year - 20 Year Trend		192,140		61,292	19,889	273,320

The weather normalized amount for 2022 is determined by using 2022 dependent variables in the prediction formula on a monthly basis along with the average monthly heating degree days and cooling degree days which have occurred from January 2011 to December 2020 (i.e. 10 years). The 2022 weather normal 20-year trend value reflects the trend in monthly heating degree days and cooling degree days which have occurred from January 2001 to December 2020.

Predicted Purchases including the Embedded Distributor and additional growth are provided in Figure 3 – 4.



1

## 2 ***Billed kWh Load Forecast***

3 To determine the total weather normalized energy billed forecast, the total system  
4 weather normalized purchases forecast is adjusted by a historical loss factor. The  
5 historical loss factor used is 4.56% which represents the average loss factor from 2016  
6 to 2020.

## 7 ***Billed kWh Load Forecast and Customer/Connection Forecast by Rate Class***

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

11 The next step in the forecasting process is to determine a customer/connection  
12 forecast. The customer/connection forecast is based on reviewing historical  
13 customer/connection data that is available as shown in the following Table 3 - 10.

**Table 3 - 10**

**Historical Customer/Connection Data**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load	Total
<b>Number of Customers/Connections</b>						
2011	9,369	669	106	2,503	80	9,369
2012	9,643	686	108	2,549	78	9,643
2013	9,716	691	110	2,609	76	9,716
2014	9,961	725	109	2,644	74	9,961
2015	10,227	759	108	2,634	71	10,227
2016	10,279	768	111	2,631	69	10,279
2017	10,361	776	114	2,635	67	10,361
2018	10,544	778	117	2,664	66	10,544
2019	10,673	790	111	2,677	66	10,673
2020	10,766	798	108	2,687	63	10,766

From the historical customer/connection data the growth rate in customer/connection can be evaluated which is provided on the following Table 3 - 11.

**Table 3 - 11**

**Growth Rate in Customer/Connections**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load
<b>Growth Rate in Customers/Connections</b>					
2012	2.9%	2.7%	2.0%	1.9%	-3.0%
2013	0.8%	0.6%	2.1%	2.4%	-2.5%
2014	2.5%	4.9%	-0.8%	1.3%	-2.6%
2015	2.7%	4.8%	-1.3%	-0.4%	-3.5%
2016	0.5%	1.1%	2.9%	-0.1%	-3.7%
2017	0.8%	1.1%	3.0%	0.2%	-1.9%
2018	1.8%	0.2%	2.7%	1.1%	-1.4%
2019	1.2%	1.6%	-5.2%	0.5%	-0.8%
2020	0.9%	1.0%	-3.0%	0.4%	-4.4%
<b>Geomean</b>	<b>1.0%</b>	<b>2.0%</b>	<b>0.3%</b>	<b>0.8%</b>	<b>-2.6%</b>

Generally, the factor resulting from the geometric mean analysis from 2011 to 2020 is applied to the 2020 customer/connection numbers to determine the forecast of

customer/connections in 2021. The geometric mean factor is applied once again to the 2022 value to determine the 2022 forecast.

Customer growth based on the geometric mean of historic growth rates has been adjusted to account for a new subdivision that is forecast to increase Residential and General Service customers beyond the typical growth rate. The subdivision is forecast to add 42 Residential customers in 2021, 337 Residential customers in 2022, 2 General Service < 50 kW customers in 2022, and 2 General Service 50 to 4,999 kW customers in 2022. Forecast customers are added evenly in each month. The addition of these customers results in the growth rates provided in Table 3 - 12.

**Table 3 - 12**  
**Customer/Connection Forecast**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load
<b>Forecast number of Customers/Connections</b>					
2021	1.2%	2.0%	0.3%	0.8%	-2.6%
2022	2.9%	2.1%	1.4%	0.8%	-2.6%

The next step in the process is to review the historical customer/connection usage and to reflect this usage per customer in the forecast. Table 3 - 13 below provides the average annual usage per customer by rate class from 2011 to 2020.

**Table 3 - 13**
**Historical Annual Usage per Customer**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load
<b>Annual kWh Usage Per Customer/Connection</b>					
2011	9,872	30,046	722,594	633	4,831
2012	9,739	29,093	756,335	620	4,896
2013	9,488	29,536	747,100	586	4,967
2014	9,193	28,320	732,529	461	5,034
2015	9,119	27,563	730,222	273	5,133
2016	9,326	26,873	651,606	273	5,034
2017	8,616	26,123	617,532	274	5,040
2018	9,193	26,581	627,865	278	5,100
2019	8,815	26,960	653,384	277	5,114
2020	9,494	25,457	677,553	275	5,222

Consumption/customer has declined for most rate classes since 2011. The most recent consumption per customer volumes are used as a first approximation of forecast consumption per customer in 2021 and 2022, however, consumption in 2020 is not typical for some rate classes due to the COVID-19 pandemic so consumption per customer volumes in 2019 are used as the starting point for the Residential, General Service < 50 kW and General Service 50 to 4,999 kW rate classes. The volumes used are provided in Table 3 - 14.

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

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load
<b>Forecast Annual kWh Usage per Customers/Connection</b>					
2021	8,815	26,960	653,384	275	5,222
2022	8,815	26,960	653,384	275	5,222

The preceding information is used to determine the non-normalized weather billed energy forecast by applying the forecast number of customer/connection from Table 3 - 12 by the forecast of annual usage per customer/connection from Table 3 - 14. The

1 resulting non-normalized weather billed energy forecast is shown in the following Table  
2 3 - 15.

3 **Table 3 - 15**

4 **Non-normalized Weather Billed Energy Forecast**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load	Embedded	TOTAL
<b>Non-normalized Weather Billed Energy Forecast (MWh)</b>							
2021 (Not Normalized)	95,873	22,324	61,550	746	320	58,369	<b>239,181</b>
2020 (Not Normalized)	96,862	22,759	61,710	752	311	58,660	<b>241,054</b>

5 The non-normalized weather billed energy forecast is then adjusted in order to be  
6 aligned with the total purchases forecast, which accounts for normalized weather and  
7 some impacts of COVID-19 (in 2021 only).

8 As previously determined, the billed energy forecast is 241.8 (GWh) for 2021 and  
9 241.5 (GWh) for 2022. These volumes do not include the additional customers.

10 The difference between the non-normalized and normalized forecast adjustments is  
11 2.5 GWh in 2021 (i.e. 241.7 – 239.2) and -1.2 GWh in 2022 (i.e. 239.9 – 241.1). The  
12 difference is assumed to be the adjustment needed to move the forecast to a weather  
13 normal basis and this amount will be assigned to those rate classes that are weather  
14 sensitive. Based on the weather normalization work completed by Hydro One for  
15 Grimsby Power for the cost allocation study, which has been used to support this  
16 Application, it was determined that the weather sensitivity by rate classes is as follows  
17 in Table 3 - 16.

18 **Table 3 - 16**

19 **Weather Sensitivity by Rate Class**

Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load
<b>Weather Sensitivity</b>				
65%	65%	40%	0%	0%

20 The weather sensitivity assumptions are consistent with that assumed in Grimsby  
21 Power 2016 COS application.



The difference between the non-normalized and normalized forecast of 2.5 GWh in 2021 and -1.2 GWh in 2022 has been assigned on a pro rata basis to each rate class based on the above level of weather sensitivity. Table 3 - 17 provides weather normalized annual usage per customer for 2011 to 2020.

**Table 3 - 17**  
**Weather Normal Annual Usage per Customer**

Year	Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Street Lighting	Unmetered Scattered Load
<b>Annual kWh Usage Per Customer/Connection</b>					
2011	9,837	30,566	625,599	633	4,831
2012	9,742	29,699	658,379	620	4,896
2013	9,616	30,543	657,590	586	4,967
2014	9,325	29,282	644,305	461	5,034
2015	9,148	28,160	636,678	273	5,133
2016	9,104	26,711	561,079	273	5,034
2017	8,707	26,876	545,421	274	5,040
2018	9,061	26,670	548,057	278	5,100
2019	8,827	27,475	571,638	277	5,114
2020	9,483	25,874	589,275	275	5,222

Grimsby Power expects load growth to be higher between 2020 and 2022 than the historic average due to new developments and two new large customers. Forecast consumption and demand of these new customers has been manually added to the total purchases forecast to account for this growth. This additional growth is added at this stage so that it is incremental to volumes forecast based on purchases

The additional growth has been added from two sources: new developments and two large General Service 50 to 4,999 kW customers that are materially increasing consumption demand in the test and bridge years. The forecast of consumption from the new developments is calculated by multiplying Forecast Annual Consumption per customer from Table 3 - 14 by the average number of customers added from the class.

One of the two new large customers completed construction in 2021 and has had relatively steady consumption in 2021. Consumption and demand for the remaining months of 2021 and all of 2022 are assumed to be equal to average consumption and

demand from January to June 2021. A certain level of consumption is included in the purchases forecast, so the amount of consumption and demand added is net of the customer's typical historic consumption.

The second customer currently has facilities under construction. This construction has been delayed by the COVID-19 pandemic and the schedule to meet its forecast capacity is not known. Demand included in the forecast is based on the customer's planned demand of 2.4 MW by the end of 2022. The customer plans to increase demand in 2021 and 2022 but the timing and extent of the demand increase are not fully known at this time. The demand forecast for the bridge and test years assumes the customer's demand will increase gradually from current low demand to 2.4 MW in October 2022 and continue at 2.4 MW for the remainder of 2022. Forecast consumption for this customer has been calculated by applying the forecast General Service 50 to 4,999 kW rate class kW/kWh ratio to forecast demand. Additional consumption growth is provided in Table 3 - 18.

**Table 3 - 18**  
**Additional Growth Manual Adjustment**

		Residential	General Service < 50 kW	General Service 50 to 4,999 kW	Total
2021	Average New Customers	22.8			
	Forecast Consumption / Customer (kWh)	8,814.6			
	New Large Customer Consumption (kWh)			10,762,230	
	<b>Total 2021 (kWh)</b>	<b>200,533</b>		10,762,230	<b>10,962,763</b>
2022	Average New Customers	224.5	1.1	1.1	
	Forecast Consumption / Customer (kWh)	8,814.6	26,960.3	653,384.1	
	New Large Customer Consumption (kWh)			17,035,479	
	<b>Total 2022 (kWh)</b>	<b>1,979,254</b>	<b>29,207</b>	<b>17,035,479</b>	<b>19,751,773</b>

**Billed KW Load Forecast**

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

The following Table 3 - 19 outlines the annual demand units by applicable rate class.

**Table 3 - 19**

**Historical Annual kW per Applicable Rate Class**

Year	General Service 50 to 4,999 kW	Street Lighting	Embedded	TOTAL
<b>Billed Annual kW</b>				
2011	165,747	4,413		164,441
2012	189,763	4,350		188,240
2013	193,465	4,232		191,868
2014	187,934	3,460		185,391
2015	185,370	1,990		181,402
2016	181,814	1,987		177,909
2017	179,354	2,000	115,729	291,480
2018	186,545	2,048	144,421	327,696
2019	183,660	2,065	143,708	324,034
2020	180,462	2,055	167,588	345,719

The following Table 3 - 20 shows the historical ratio of kW/kWh and the ratios considered to apply to forecast consumption volumes.

**Table 3 - 20**

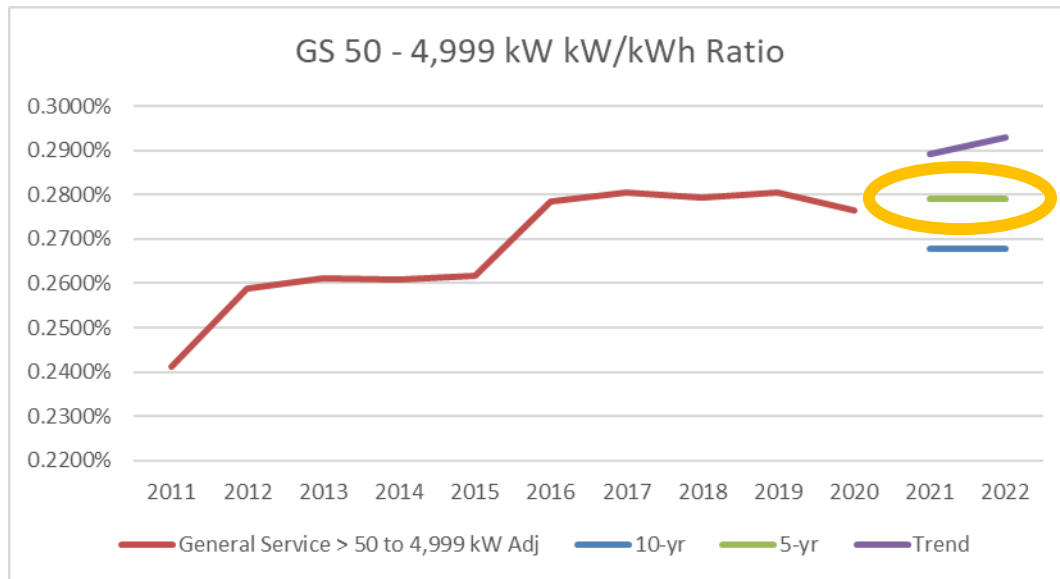
**Historical kW/kWh Ratio per Applicable Rate Class**

Year	General Service 50 to 4,999 kW	Street Lighting	Embedded
<b>Ratio of kW to kWh</b>			
2011	0.2413%	0.2784%	
2012	0.2589%	0.2751%	
2013	0.2612%	0.2769%	
2014	0.2607%	0.2839%	
2015	0.2617%	0.2770%	
2016	0.2783%	0.2762%	
2017	0.2805%	0.2766%	0.3860%
2018	0.2793%	0.2762%	0.3329%
2019	0.2805%	0.2781%	0.2929%
2020	0.2766%	0.2777%	<b>0.2832%</b>
Average 2011 to 2020	0.2679%	<b>0.2776%</b>	0.3237%
Average 2016 to 2020	<b>0.2791%</b>	0.2770%	0.3237%
Trend	0.2930%	0.2772%	0.2018%

The 5-year average from 2016 to 2020 was used for the General Service > 50 to 4,999 kW as it best reflects the ratio in recent years. This is demonstrated in Figure 3-4 below.

**Figure 3 - 4**

**General Service 50 to 4,999 kW Ratios**



The 10-year average ratio is applied to the Street Lighting class. The ratio for this class has been relatively consistent over the 2011 to 2020 period and the 10-year average is very close to the actual 2020 ratio. The Embedded Distributor ratio has declined considerably since 2017 but was relatively consistent in 2019 and 2020. Neither the average ratio or the trend ratio are similar to the ratio in 2019 and 2020 so the 2020 ratio is used.

The selected ratios were applied to the weather normalized billed energy forecast in Table 3 - 3 to provide the forecast of kW by rate class.

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

**Table 3 - 21**

**kW Forecast by Applicable Rate Class**

Year	General Service 50 to 4,999 kW	Street Lighting	Embedded Distributor	TOTAL
Total Predicted Billed kW				
2021 Bridge - Normalized	209,592	2,071	165,284	376,947
2022 Test - Normalized	223,982	2,087	166,110	392,180

***Embedded Distributor Class***

Consumption of Grimsby Power's embedded distributor, Niagara Peninsula Energy Inc. is forecast separately from other rate classes because the class has not existed in the full 2011 to 2020 timeframe and the consumption and demand volumes have increased considerably since 2017. Annual consumption growth from 2020 to 2021 and 2022 is based on an assumed 0.5% growth rate. This growth rate is the midpoint of high and low growth rate forecasts provided by Niagara Peninsula Energy. The growth rate is applied to weather-normalized 2020 consumption.

**Table 3 - 22**

**Embedded Distributor kWh Forecast**

Year	NPEI kWh	NPEI kWh Weather Normal
2017	29,983,391	30,868,410
2018	43,380,634	41,797,869
2019	49,068,645	50,714,842
2020	59,182,120	58,078,111
Annual Growth Rate		0.50%
2021		58,368,502
2022		58,660,344

The Embedded Distributor weather-normalized forecast is derived with a regression, which produces the following formula:

Embedded Distributor Monthly Predicted kWh Purchases

= Cooling Degree Days \* 15,103

+ Trend \* 57,484

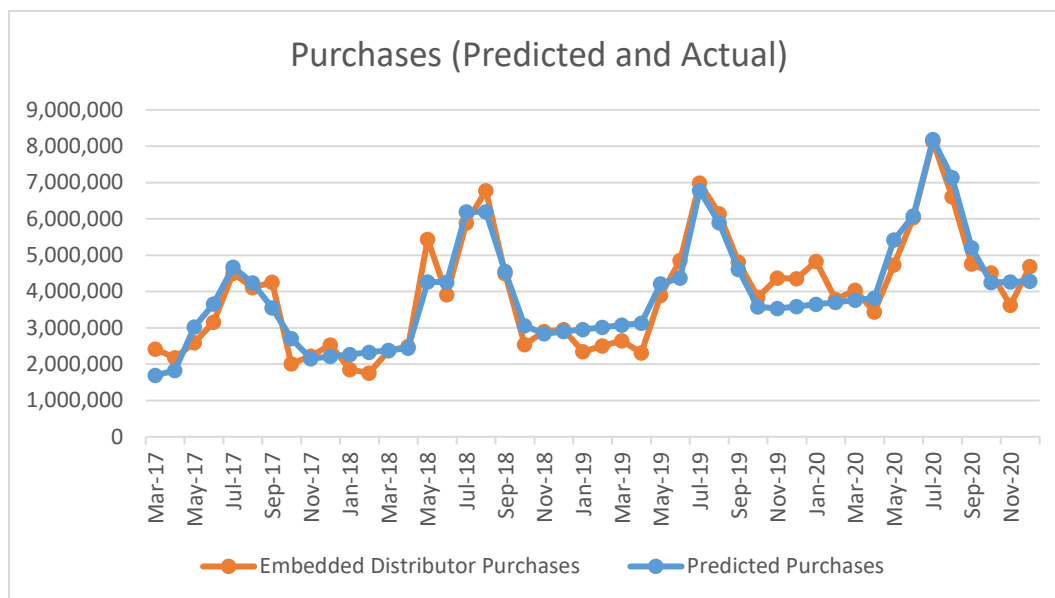
+ May Flag \* 851,224

+ Constant of 1,635,363.

Heating Degree Days was not found to be statistically significant. This formula was used to adjust actual 2020 consumption to weather normal 2020 consumption by replacing actual Cooling Degree Days with 10-year average Cooling Degree Days.

**Figure 3 - 5**

**Embedded Distributor Predicted Purchases kWh**



Niagara Peninsula Energy is billed on a gross load basis so the Embedded Distributor's forecast demand is adjusted to reach the grossed-up value used as the billing determinant. This adjustment is made to account for an embedded Wind generator on the circuit supplying Niagara Peninsula Energy. The load from the Wind generator lowers the amount that needs to be transformed for Niagara Peninsula Energy Inc. at the Niagara West Transformation Corporation station.

The following outlines the kW forecast for the Embedded Distributor.

**Table 3 - 23**

**Embedded Distributor kW Forecast**

Year	kW Before Adjustment	Gross-Up	kW After Adjustment	Gross Up %
Embedded Distributor kW Forecast				
2017 Actual	115,729	18,650	134,379	16.1%
2018 Actual	144,421	26,484	170,905	18.3%
2019 Actual	143,708	20,696	164,405	14.4%
2020 Actual	167,588	17,542	185,130	10.5%
2021 - Forecast	165,284	24,513	189,796	14.8%
2022 - Forecast	166,110	24,635	190,745	14.8%

The 2021 and 2022 forecast for the Embedded Distributor was determined by applying the 3-year average Gross Up percentage (14.8%) to the kW forecast as per Table 3 - 21.

### 1.3 CDM ADJUSTMENT

Following the cancellation of the Conservation First Framework as of April 2019, Grimsby Power does not have any CDM activities in 2020, 2021, or 2022. The load forecast does not include a manual CDM adjustment and no LRAMVA threshold is proposed as part of this application.



# 1 ACCURACY OF LOAD FORECAST AND VARIANCE ANALYSIS

## 2 2.1 VARIANCE ANALYSIS OF LOAD FORECAST

3 **Table 3 - 24**  
4 **Summary and Variances of Actual and Forecast Data**

	2016 Approved	2016	2017	2018	2019	2020	2021 Bridge	2022 Test
<b>Residential Rate Class</b>								
# of Customers	10,402	10,279	10,361	10,544	10,673	10,766	10,899	11,213
kWh	95,033,193	95,863,366	89,264,141	96,930,170	94,075,701	102,206,305	97,600,439	98,116,964
<b>Variance Analysis</b>								
# of Customers		0.50%	0.80%	1.76%	1.23%	0.87%	1.24%	2.88%
kWh		2.79%	-6.88%	8.59%	-2.94%	8.64%	-4.51%	0.53%

5

	2016 Approved	2016	2017	2018	2019	2020	2021 Bridge	2022 Test
<b>General Service &lt; 50 kW Rate Class</b>								
# of Customers	772	768	776	778	790	798	828	845
kWh	19,517,850	18,967,932	18,815,506	19,250,752	19,815,114	19,109,685	22,679,128	22,618,334
<b>Variance Analysis</b>								
# of Customers		1.14%	1.06%	0.25%	1.55%	1.00%	3.76%	2.08%
kWh		-1.48%	-0.80%	2.31%	2.93%	-3.56%	18.68%	-0.27%

6

	2016 Approved	2016	2017	2018	2019	2020	2021 Bridge	2022 Test
<b>General Service 50 – 4,999 kW Rate Class</b>								
# of Customers	111	111	114	117	111	108	94	96
kWh	68,212,241	65,254,591	63,761,778	66,685,041	65,409,335	65,227,676	73,623,545	78,461,633
kW	182,713	181,814	179,354	186,545	183,660	180,462	209,592	223,982
<b>Variance Analysis</b>								
# of Customers		2.90%	2.97%	2.66%	-5.18%	-2.96%	-12.78%	1.41%
kWh		-7.59%	-2.29%	4.58%	-1.91%	-0.28%	12.87%	6.57%
kW		-1.92%	-1.35%	4.01%	-1.55%	-1.74%	16.14%	6.87%

7

8

	2016 Approved	2016	2017	2018	2019	2020	2021 Bridge	2022 Test
<b>Street Lighting Rate Class</b>								
# of Customers	2,653	2,631	2,635	2,664	2,677	2,687	2,709	2,730
kWh	662,630	719,487	722,926	741,475	742,610	739,993	745,868	751,790
kW	1,983	1,987	2,000	2,048	2,065	2,055	2,071	2,087
<b>Variance Analysis</b>								
# of Customers		-0.10%	0.15%	1.10%	0.49%	0.37%	0.80%	0.79%
kWh		0.16%	0.48%	2.57%	0.15%	-0.35%	0.79%	0.79%
kW		-0.13%	0.65%	2.40%	0.83%	-0.48%	0.76%	0.79%

1

	2016 Board Approved	2016	2017	2018	2019	2020	2021 Bridge	2022 Test
<b>Unmetered Scattered Load Rate Class</b>								
# of Customers	72	69	67	66	66	63	61	60
kWh	366,642	344,840	338,746	338,064	336,466	328,310	319,640	311,198
<b>Variance Analysis</b>								
# of Customers		-3.69%	-1.89%	-1.36%	-0.75%	-4.43%	-2.64%	-2.64%
kWh		-5.55%	-1.77%	-0.20%	-0.47%	-2.42%	-2.64%	-2.64%

2

	2016 Board Approved	2016	2017	2018	2019	2020	2021 Bridge	2022 Test
<b>Embedded Rate Class</b>								
# of Customers	1		1	1	1	1	1	1
kWh			29,983,391	43,380,634	49,068,645	59,182,120	58,368,502	58,660,344
kW	139,279		134,379	170,905	164,405	185,130	189,796	190,745
<b>Variance Analysis</b>								
# of Customers		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
kWh		44.68%	13.11%	20.61%	-1.37%	20.61%	-1.37%	0.50%
kW		27.18%	-3.80%	12.61%	2.52%	12.61%	2.52%	0.50%

3 The following discussion provides a year over year variance analysis on Grimsby  
4 Power's distribution revenue and billing determinants. Customer counts are on an  
5 average basis, calculated as the average of each month. The variance analysis will  
6 compare 2016 Actual to 2016 Board Approved; 2017 Actual to 2016 Actual; 2018 Actual  
7 to 2017 Actual; 2019 Actual to 2018 Actual; 2020 Actual to 2019 Actual; 2021 Bridge  
8 Year to 2020 Actual and 2022 Test Year to 2021 Bridge Year. The billing determinant  
9 variance analysis is based on data outlined in Table 3 - 22. The overall variance analysis  
10 has been provided based on Grimsby Power's materiality of \$50,000; the materiality  
11 calculation being noted earlier in Exhibit 1 of this Application.

**2016 Actual vs. 2016 Board Approved**

**Table 3 - 25**

**Distribution Revenue**

**2016 Actual vs. 2016 Board Approved**

Distribution Revenues	2016 Board Approved	2016 Actual	2016 Actual vs. 2016 Board Approved
Residential	\$ 3,975,291	\$ 3,183,685	\$ (791,606)
GS < 50 kW	\$ 684,601	\$ 522,458	\$ (162,143)
GS 50 to 4,900 kW	\$ 893,955	\$ 605,369	\$ (288,586)
Street Lighting	\$ 103,980	\$ 79,361	\$ (24,619)
USL	\$ 52,571	\$ 22,121	\$ (30,450)
Embedded	\$ 389,259	\$ 21,307	\$ (367,952)
<b>Total</b>	<b>\$ 6,099,657</b>	<b>\$ 4,434,302</b>	<b>\$ (1,665,355)</b>

Grimsby Power's rates are usually effective January 1<sup>st</sup> of each year, however, actual revenues in 2016 are based on rates that were effective September 1, 2016. Actual 2016 revenues are materially lower than 2016 Board Approved revenues because revenues in 2016 are predominantly based on 2015 rates that were set prior to Grimsby Power's 2016 rebasing application.

**Table 3 - 26**

**Billing Determinants**

**2016 Actual vs. 2016 Board Approved**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2016 Approved	2016 Actual	Diff.	2016 Approved	2016 Actual	2016 Approved	2016 Actual	
Residential	10,402	10,279	(123)	95,033,193	95,863,366			830,173
GS < 50 kW	772	768	(4)	19,517,850	18,967,932			(549,918)
GS 50 to 4,900 kW	111	111	-			182,713	181,814	(899)
Street Lighting	2,653	2,631	(22)			1,983	1,987	4
USL	72	69	(3)	366,642	344,840			(21,801)
Embedded	1	0	(1)			139,279		(139,279)
<b>Total</b>	<b>14,011</b>	<b>13,858</b>	<b>(153)</b>	<b>114,917,685</b>	<b>115,176,138</b>	<b>323,974</b>	<b>183,801</b>	

Actual 2016 GS<50 kW volumes are 2.82% lower than 2016 Approved because of a mild winter (lower than average HDD) and lower customer count. USL consumption was 5.95% lower than 2016 Approved due to a lower than forecast customer count. The actual volumes of all other classes are within 1% of board approved volumes.

**2017 Actual vs. 2016 Actual**

**Table 3 - 27**

**Distribution Revenue**

**2017 Actual vs. 2016 Actual**

Distribution Revenues	2016 Actual	2017 Actual	2016 Actual vs. 2017 Actual
Residential	\$ 3,183,685	\$ 3,389,323	\$ 205,638
GS < 50 kW	\$ 526,807	\$ 592,125	\$ 65,317
GS 50 to 4,900 kW	\$ 574,627	\$ 756,566	\$ 181,940
Street Lighting	\$ 79,361	\$ 84,172	\$ 4,811
USL	\$ 22,121	\$ 32,976	\$ 10,855
Embedded	\$ 21,307	\$ 383,372	\$ 362,065
<b>Total</b>	<b>\$ 4,407,908</b>	<b>\$ 5,238,534</b>	<b>\$ 830,626</b>

In 2017 Grimsby Power saw an increase of \$830,626 over 2016. There was a material increase because the majority of 2016 Actual revenue is based on 2015 rates, as discussed above.

**Table 3 - 28**

**Billing Determinants**

**2017 Actual vs. 2016 Actual**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2016 Actual	2017 Actual	Diff.	2016 Actual	2017 Actual	2016 Actual	2017 Actual	
Residential	10,279	10,361	82	95,863,366	89,264,141			(6,599,224)
GS < 50 kW	768	776	8	18,967,932	18,815,506			(152,426)
GS 50 to 4,900 kW	111	114	3			181,814	179,354	(2,460)
Street Lighting	2,631	2,635	4			1,987	2,000	13
USL	69	67	(2)	344,840	338,746			(6,094)
Embedded	0	1	1			-	134,379	134,379
<b>Total</b>	<b>13,858</b>	<b>13,956</b>	<b>98</b>	<b>108,418,394</b>	<b>108,418,394</b>	<b>183,801</b>	<b>315,732</b>	

Heating Degree Days and Cooling Degree Days in 2017 were each lower-than-average degree days, resulting in lower weather-related load from the weather-sensitive classes. Residential class volumes were 6.9% lower in 2017 than 2016, mainly as a result of lower heating and cooling load. Lower weather load also had an impact on GS 50 to 4,999 kW demand, which was 1.35% lower in 2017 than 2016. USL consumption was 1.8% lower in 2017 than 2016 due to lower connection counts. Actual 2017 volumes of all other classes are within 1% of 2016 volumes.

**2018 Actual vs. 2017 Actual**

**Table 3 - 29**

**Distribution Revenue**

**2018 Actual vs. 2017 Actual**

Distribution Revenues	2017 Actual	2018 Actual	2017 Actual vs. 2018 Actual
Residential	\$ 3,389,323	\$ 3,525,660	\$ 136,337
GS < 50 kW	\$ 592,125	\$ 607,309	\$ 15,185
GS 50 to 4,900 kW	\$ 756,566	\$ 788,629	\$ 32,062
Street Lighting	\$ 84,172	\$ 86,013	\$ 1,841
USL	\$ 32,976	\$ 36,971	\$ 3,995
Embedded	\$ 383,372	\$ 439,103	\$ 55,731
<b>Total</b>	<b>\$ 5,238,534</b>	<b>\$ 5,483,684</b>	<b>\$ 245,151</b>

The 2018 IRM application resulted in an increase to the volumetric and fixed rates in all rate classes. Residential revenue increased by 4% due primarily to increasing rates and an increased customer count. Embedded Distributor revenues increased as its demand increased materially from 2017 to 2018.

**Table 3 - 30**

**Billing Determinants**

**2018 Actual vs. 2017 Actual**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2017 Actual	2018 Actual	Diff.	2017 Actual	2018 Actual	2017 Actual	2018 Actual	
Residential	10,361	10,544	183	89,264,141	96,930,170			7,666,029
GS < 50 kW	776	778	2	18,815,506	19,250,752			435,246
GS 50 to 4,900 kW	114	117	3			179,354	186,545	7,191
Street Lighting	2,635	2,664	29			2,000	2,048	49
USL	67	66	(1)	338,746	338,064			(682)
Embedded	1	1	-			134,379	170,905	36,526
<b>Total</b>	<b>13,956</b>	<b>14,171</b>	<b>215</b>	<b>108,424,488</b>	<b>116,519,669</b>	<b>315,732</b>	<b>359,498</b>	

Overall in 2018 there was some growth in customer counts, particularly the residential class. Heating and cooling loads were greater in 2018 than 2017 as HDD and CDD data in 2018 was greater than average and materially higher than 2017, which was low. Residential consumption increased by 8.59% due to higher customer counts and the increase in heating and cooling loads. The Embedded Distributor increased demand by 27.2% from 2017 to 2018.

**2019 Actual vs. 2018 Actual**

**Table 3 - 31**  
**Distribution Revenue**  
**2019 Actual vs. 2018 Actual**

Distribution Revenues	2018 Actual	2019 Actual	2018 Actual vs. 2019 Actual
Residential	\$ 3,525,660	\$ 3,615,585	\$ 89,926
GS < 50 kW	\$ 607,309	\$ 630,972	\$ 23,662
GS 50 to 4,900 kW	\$ 788,629	\$ 776,239	\$ (12,389)
Street Lighting	\$ 86,013	\$ 87,598	\$ 1,585
USL	\$ 36,971	\$ 37,431	\$ 460
Embedded	\$ 439,103	\$ 435,703	\$ (3,400)
<b>Total</b>	<b>\$ 5,483,684</b>	<b>\$ 5,583,528</b>	<b>\$ 99,844</b>

The 2019 IRM application resulted in an increase to the volumetric and fixed rates in all rate classes. The residential rate class was the only rate class with a material variance over the 2018 Actual. The increase relates to a material increase in the number of customers.

**Table 3 - 32**  
**Billing Determinants**  
**2019 Actual vs. 2018 Actual**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2018 Actual	2019 Actual	Diff.	2018 Actual	2019 Actual	2018 Actual	2019 Actual	
Residential	10,544	10,673	129	96,930,170	94,075,701			(2,854,470)
GS < 50 kW	778	790	12	19,250,752	19,815,114			564,362
GS 50 to 4,900 kW	117	111	(6)			186,545	183,660	(2,884)
Street Lighting	2,664	2,677	13			2,048	2,065	17
USL	66	66	-	338,064	336,466			(1,597)
Embedded	1	1	-			170,905	164,405	(6,500)
<b>Total</b>	<b>14,171</b>	<b>14,318</b>	<b>147</b>	<b>116,519,669</b>	<b>114,228,879</b>	<b>359,498</b>	<b>350,130</b>	

Overall in 2019 there was some growth in customer count and a reduction in consumption. Residential consumption declined by 2.9% despite a 1.2% increase in customer count because cooling load declined considerably (CDD declined by 33%). General Service < 50 kW consumption increased due to a 1.5% increase in customers.

**2020 Actual vs. 2019 Actual**

**Table 3 - 33**  
**Distribution Revenue**  
**2020 Actual vs. 2019 Actual**

Distribution Revenues	2019 Actual	2020 Actual	2019 Actual vs. 2020 Actual
Residential	\$ 3,615,585	\$ 3,714,270	\$ 98,685
GS < 50 kW	\$ 626,713	\$ 627,535	\$ 822
GS 50 to 4,900 kW	\$ 811,603	\$ 810,086	\$ (1,518)
Street Lighting	\$ 87,598	\$ 89,331	\$ 1,733
USL	\$ 37,431	\$ 36,549	\$ (881)
Embedded	\$ 435,703	\$ 474,040	\$ 38,337
<b>Total</b>	<b>\$ 5,614,633</b>	<b>\$ 5,751,811</b>	<b>\$ 137,178</b>

The 2020 IRM application resulted in an increase to the volumetric and fixed rates in all rate classes. The residential rate class was the only rate class with a material variance over the 2019 Actual. The increase relates to an increase in the number of Residential customers.

**Table 3 - 34**  
**Billing Determinants**  
**2020 Actual vs. 2019 Actual**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2019 Actual	2020 Actual	Diff.	2019 Actual	2020 Actual	2019 Actual	2020 Actual	
Residential	10,673	10,766	93	94,075,701	102,206,305			8,130,604
GS < 50 kW	790	798	8	19,815,114	19,109,685			(705,429)
GS 50 to 4,900 kW	111	108	(3)			183,660	180,462	(3,198)
Street Lighting	2,677	2,687	10			2,065	2,055	(10)
USL	66	63	(3)	336,466	328,310			(8,156)
Embedded	1	1	-			164,405	185,130	20,725
<b>Total</b>	<b>14,318</b>	<b>14,423</b>	<b>105</b>	<b>114,227,282</b>	<b>121,644,301</b>	<b>350,130</b>	<b>367,647</b>	

Overall in 2020 there was some growth in customer count, a material increase in residential consumption and decline in General Service < 50 kW consumption and General Service 50 to 4,999 kW demand. The change is attributable to people working from home and more generally staying at home due to the COVID-19 pandemic. The 2020 summer was warmer than usual, and considerably warmer than 2019, which also contributes to the increases in Residential consumption. The Embedded Distributor is

also influenced by cooling load and COVID-19, which contributed to a 12.6% increase in Embedded Distributor demand from 2019 to 2020.

**2021 Bridge Year vs. 2020 Actual**

**Table 3 - 35**  
**Distribution Revenue**  
**2021 Bridge Year vs. 2020 Actual**

Distribution Revenues	2020 Actual	2021 Bridge	2020 Actual vs. 2021 Bridge
Residential	\$ 3,714,270	\$ 3,842,551	\$ 128,281
GS < 50 kW	\$ 627,535	\$ 722,597	\$ 95,062
GS 50 to 4,900 kW	\$ 810,086	\$ 879,767	\$ 69,681
Street Lighting	\$ 89,331	\$ 91,954	\$ 2,622
USL	\$ 36,549	\$ 36,205	\$ (344)
Embedded	\$ 474,040	\$ 491,429	\$ 17,389
<b>Total</b>	<b>\$ 5,751,811</b>	<b>\$ 6,064,503</b>	<b>\$ 312,692</b>

The residential rate class is forecast increase by 3.5% in 2021 as a result of higher customer counts and increasing fixed charges. The General Service < 50 kW revenue is forecast to increase as a result of the modifications to the definitions of the rate classes which will cause a shift of General Service 50 to 4,999 kW customers to the General Service < 50 kW rate class. The General Service 50 to 4,999 kW revenue is forecast to increase from an material increase in demand from two existing customers, which is partially offset by the General Service reclassifications.



1 **Table 3 - 36**  
2 **Billing Determinants**  
3 **2021 Bridge Year vs. 2020 Actual**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2020 Actual	2021 Bridge	Diff.	2020 Actual	2021 Bridge	2020 Actual	2021 Bridge	
Residential	10,766	10,899	133	102,206,305	97,600,439			(4,605,866)
GS < 50 kW	798	828	30	19,109,685	22,679,128			3,569,443
GS 50 to 4,900 kW	108	94	(14)			180,462	209,592	29,130
Street Lighting	2,687	2,709	22			2,055	2,071	16
USL	63	61	(2)	328,310	319,640			(8,670)
Embedded	1	1	-			185,130	189,796	4,667
<b>Total</b>	<b>14,423</b>	<b>14,592</b>	<b>169</b>	<b>121,644,301</b>	<b>120,599,207</b>	<b>367,647</b>	<b>401,459</b>	

4 Residential class consumption is forecast to decline by 4.5% from 2020 to 2021 as the  
5 impacts of COVID-19 decline in 2021. Changes in customer counts, consumption, and  
6 demand of the General Service < 50 kW is mainly the result of the change to the  
7 definition General Service rate classes. General Service 50 to 4,999 kW consumption  
8 and demand increase materially from known large increases from two customers.  
9 Consumption and demand of these classes are also forecast to increase relative to 2020  
10 as the impacts of COVID-19 decline.

11 **2022 Test Year vs. 2021 Bridge Year**

12 **Table 3 - 37**  
13 **Distribution Revenue**  
14 **2022 Test Year vs. 2021 Bridge Year**

Distribution Revenues	2021 Bridge	2022 Test	2021 Bridge vs. 2022 Test
Residential	\$ 3,842,551	\$ 4,144,325	\$ 301,773
GS < 50 kW	\$ 722,597	\$ 761,260	\$ 38,663
GS 50 to 4,900 kW	\$ 879,767	\$ 997,191	\$ 117,424
Street Lighting	\$ 91,954	\$ 97,218	\$ 5,264
USL	\$ 36,205	\$ 14,011	\$ (22,195)
Embedded	\$ 491,429	\$ 516,737	\$ 25,309
<b>Total</b>	<b>\$ 6,064,503</b>	<b>\$ 6,530,741</b>	<b>\$ 466,238</b>

15 The proposed Test Year distribution revenue is a reflection of the 2022 COS application  
16 and the proposed base revenue requirement of Grimsby Power. The variance in

distribution revenue over the Bridge Year is mainly a result of the proposed increases to fixed and variable distribution revenue in the Test Year. General Service 50 to 4,999 kW class revenues are forecast to increase with further demand increases from the two customers cited above. The increases of the General Service < 50 kW and General Service 50 to 4,999 kW classes are also caused, in part, by the assumption that the impacts of COVID-19 on consumption and demand that persist in 2021 will not continue to 2022. Unmetered Scattered Load class revenue is forecast to decline due to the results of the cost allocation model.

**Table 3 - 38**  
**Billing Determinants**

**2022 Test Year vs. 2021 Bridge Year**

Billing Determinants	Customers/Devices			kWh		kW		Volumetric Difference
	2021 Bridge	2022 Test	Diff.	2021 Bridge	2022 Test	2021 Bridge	2022 Test	
Residential	10,899	11,213	314	97,600,439	98,116,964			516,525
GS < 50 kW	828	845	17	22,679,128	22,618,334			(60,794)
GS 50 to 4,900 kW	94	96	2			209,592	223,982	14,390
Street Lighting	2,709	2,730	21			2,071	2,087	16
USL	61	60	(1)	319,640	311,198			(8,441)
Embedded	1	1	-			189,796	190,745	949
<b>Total</b>	<b>14,592</b>	<b>14,945</b>	<b>353</b>	<b>120,599,207</b>	<b>121,046,497</b>	<b>401,459</b>	<b>416,815</b>	

Year over year changes are a result of the inputs of the load forecast model which is explained in detail in Exhibit 3, Tab 1. Customer counts for the Residential, General Service < 50 kW, and General Service 50 to 4,999 kW are forecast to increase above average growth rates due to a new subdivision and known load increases from two General Service 50 to 4,999 kW customers.

## 2.2 REVENUE AT CURRENT AND PROPOSED RATES

**Table 3 - 39**

### **Distribution Revenue**

#### **At Current Rates**

<b>Distribution Revenues</b>	<b>Fixed Charge</b>	<b>Customers / Connections</b>	<b>Variable Charge</b>	<b>Consumption / Demand</b>	<b>Revenue</b>
Residential	\$29.38	11,213	\$-	98,116,964	\$3,953,255
GS < 50 kW	\$26.39	845	\$0.0203	22,618,334	\$726,747
GS 50 to 4,900 kW	\$219.11	96	\$3.2042	223,982	\$937,999
Street Lighting	\$2.44	2,730	\$6.1017	2,087	\$92,669
USL	\$38.85	60	\$0.0243	311,198	\$35,534
Embedded	\$17,333.83	1	\$1.4933	190,745	\$492,846
<b>Total</b>		<b>14,945</b>			<b>\$6,239,050</b>

**Table 3 - 40**

### **Distribution Revenue**

#### **At Proposed Rates**

<b>Distribution Revenues</b>	<b>Fixed Charge</b>	<b>Customers / Connections</b>	<b>Variable Charge</b>	<b>Consumption / Demand</b>	<b>Revenue</b>
Residential	\$30.80	11,213	\$-	98,116,964	\$4,144,325
GS < 50 kW	\$27.34	845	\$0.0214	22,618,334	\$761,260
GS 50 to 4,900 kW	\$245.37	96	\$3.3760	223,982	\$1,006,731
Street Lighting	\$2.56	2,730	\$6.3976	2,087	\$97,218
USL	\$15.31	60	\$0.0096	311,198	\$14,011
Embedded	\$21,531.07	1	\$1.3545	190,745	\$516,737
<b>Total</b>		<b>14,945</b>			<b>\$6,540,281</b>

## OTHER REVENUE

### 3.1 OVERVIEW OF OTHER REVENUE

Other Revenue, also referred to as Revenue Offsets, is deducted from the Service Revenue Requirement, resulting in the Base Revenue Requirement from which distribution rates are established. Other Revenue is comprised of all regulated and non-regulated revenue utility other than distribution and cost of power revenues and includes:

- Specific Service Charges
- Late Payment Charges
- Other Distribution Revenue
- Other Income or Deductions

#### *Analysis of Other Distribution Revenue*

Other Distribution Revenue consists of OEB-Approved Charges based on standardized rates as well as interest, revenue from work requested by customers, exchange gains and losses and gains and losses due to disposals.

Details of Grimsby Power's Other Distribution Revenue are provided in Attachment 1, which is OEB Appendix 2-H. A summary of Other Distribution Revenue is presented in Table 3-41 below:

1 **Table 3 - 41**  
 2 **Other Distribution Revenue**  
 3 **2016 Board Approved to 2022 Test Year**

USoA	USoA Description	2016 OEB Approved	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	Bridge Year	Test Year
4235	Specific Service Charges	72,450	67,403	77,513	83,476	77,977	75,350	77,346	78,460
4225	Late Payment Charges	60,000	63,561	47,476	44,220	38,436	21,618	23,000	30,000
4082	Retail Services Revenues		8,904	8,046	7,562	11,538	13,400	10,392	14,337
4084	Service Transaction Requests Revenues		132	82	55	116	85	113	192
4086	Distribution Services Revenue SSS Administration	35,701	32,384	32,895	33,605	34,109	34,496	34,969	35,019
4210	Rent from Electric Property	78,000	80,316	82,830	81,467	81,556	82,450	83,218	165,883
4220	Other Electric Revenues	-163	-11,263	2,234	-6,187	7,269	-12,255	-	
4245	Government and Other Assistance Directly Credited to Income		107,795	121,588	136,816	145,598	154,859	166,052	176,335
4325	Revenues from Merchandise, Jobbing, Etc.	15,000	5,729	4,867	2,937				
4355	Gain on Disposition of Utility and Other Property		-	5,278	5,000	1,716			
4360	Loss on Disposition of Utility and Other Property		-4,948	-220	-1,245		-18,733		
4362	Loss from Retirement of Utility and Other Property		-830						
4375	Revenues from Non-Utility Operations	486,662	472,077	302,037	419,181	119,010	4,847	23,066	1,200
4380	Expenses of Non-Utility Operations	-483,062	-427,461	-297,837	-294,126	-117,810	-6,470	-22,466	
4390	Miscellaneous Non-Operating Income	2,000	5,400	6,282	5,130	5,529	6,366	5,400	6,500
4398	Foreign Exchange Gains and Losses, Including Amortization		-2,389	-5,256	273	-1,864	-18,762		
4405	Interest and Dividend Income	35,000	16,441	19,342	28,768	35,142	21,759	26,000	20,000
	<b>Total</b>	<b>301,588</b>	<b>413,249</b>	<b>407,157</b>	<b>546,931</b>	<b>438,322</b>	<b>359,011</b>	<b>427,090</b>	<b>527,926</b>

4 **Year over Year Variance Analysis of Other Distribution Revenue**

5 The following Table 3 - 4238 identifies variances that either exceed the materiality  
 6 threshold of \$50,000, or where the total amount in the USofA account is significant  
 7 when compared to overall Other Distribution Revenues. The identified variances are  
 8 then explained in the subsequent sections of this exhibit.

**Table 3 - 42**
**Other Distribution Revenue Variances  
 2016 OEB Approved to 2022 Test Year**

	2016 OEB Approved	2016 Actual	Variance from 2016 Approved	2017 Actual	Variance from 2016 Actual	2018 Actual	Variance from 2017 Actual
Specific Service Charges	72,450	67,403	-5,047	77,513	10,110	83,476	5,963
Late Payment Charges	60,000	63,561	3,561	47,476	-16,085	44,220	-3,256
Other Revenue from Distribution	35,701	41,420	5,719	41,023	-397	41,222	199
Other Operating Revenues	77,837	176,848	99,011	206,652	29,804	212,096	5,444
Other Income or Deductions	55,600	64,019	8,419	34,493	-29,526	165,918	131,425
<b>Total Other Distribution Revenue</b>	<b>301,588</b>	<b>413,251</b>	<b>111,663</b>	<b>407,157</b>	<b>-6,094</b>	<b>546,932</b>	<b>139,775</b>

	2019 Actual	Variance from 2018 Actual	2020 Actual	Variance from 2019 Actual	2021 Bridge Year	Variance from 2020 Actual	2022 Test Year	Variance from 2021 Bridge
Specific Service Charges	77,977	-5,499	75,350	-2,627	77,346	1,996	78,460	1,114
Late Payment Charges	38,436	-5,784	21,618	-16,818	23,000	1,382	30,000	7,000
Other Revenue from Distribution	45,763	4,541	47,981	2,218	45,474	-2,507	49,548	4,074
Other Operating Revenues	234,423	22,327	225,054	-9,369	249,270	24,216	342,218	92,948
Other Income or Deductions	41,723	-124,195	-10,993	-52,716	32,000	42,993	27,700	-4,300
<b>Total Other Distribution Revenue</b>	<b>438,322</b>	<b>-108,610</b>	<b>359,010</b>	<b>-79,312</b>	<b>427,090</b>	<b>68,080</b>	<b>527,926</b>	<b>100,836</b>

**Other Distribution Revenues 2016 Board Approved vs. 2016 Actual**

The 2016 actual Other Distribution Revenue was \$111,663 higher than the 2016 OEB approved amount. The increase is caused by the addition of \$107,795 in Government and Other Assistance Directly Credited to Income (reflecting the amortization of Deferred Revenue associated with contributed capital) within Other Operating Revenues. All other component variances were less than the materiality threshold.

**Other Distribution Revenues 2017 Actual vs. 2016 Actual**

In 2017 Other Distribution Revenue was \$6,094 lower than the 2016 actual. The main driver of the decrease was Other Income and Deductions.

1 **Other Distribution Revenues 2018 Actual vs. 2017 Actual**

2 In 2018 Other Distribution Revenue was \$139,775 higher than the 2017 actual. The  
3 main driver of the increase was from Other Income or Deductions.

4 In 2018 Grimsby Power received a mid-term incentive from the IESO totaling \$120,854  
5 due to electricity savings from our joint CDM plan. The mid-term incentive was paid  
6 out to LDCs that achieved electricity savings greater than their midterm incentive  
7 threshold. This revenue was the main driver of the revenue difference between 2018  
8 and 2017.

9 **Other Distribution Revenues 2019 Actual vs. 2018 Actual**

10 In 2019 Other Distribution Revenue was \$108,610 less than the 2018 actual. The main  
11 driver of the increase was from Other Income or Deductions.

12 The main driver of the reduced revenue compared to 2018 was the absence of the mid-  
13 term incentive payment.

14 **Other Distribution Revenues 2020 Actual vs. 2019 Actual**

15 In 2020 Other Distribution Revenue decreased by \$79,312. The main drivers of the  
16 decrease were in late payment charges, other operating revenues and other income or  
17 deductions.

18 Late payment charges went down significantly in 2020 due to COVID-19. For several  
19 months of 2020 Grimsby Power stopped late payment charges due to the impact of the  
20 pandemic on its customers. Along with stopping the late payment charges more  
21 customers requested payment arrangements so that they could take more time to pay  
22 their invoice which also reduced late payment charges. In 2020 revenue from late  
23 payment charges went down by \$16,818.

24 Other operating revenues saw a \$9,369 reduction over 2019. It is a timing difference  
25 matter as the expenses for customer related jobs were booked at the end of the year  
26 and the invoice issued in the subsequent year when the revenue was booked.



1 Other income or deductions made up the bulk of the reduction in revenue.

2 In 2020 Grimsby Power's revenue was impacted by a \$16,898 reduction in revenue due  
3 to amounts booked to foreign exchange losses. A portion of the amount booked to  
4 foreign exchange losses was booked in error. The amount of \$16,967 was correctly  
5 transferred in 2021.

6 There was also a \$12,643 reduction in account 4405 due to decreased interest rates  
7 for regulatory accounts and decreased revenue from bank interest.

8 Further to those reductions, Grimsby Power also booked a loss due to the replacement  
9 of a defective transformer prior to the transformer being recognized as an asset in the  
10 amount of \$18,733.

11 **Other Distribution Revenues 2021 Bridge Year vs. 2020 Actual**

12 In the 2021 Bridge Year the Other Distribution Revenue is \$68,080 higher than the  
13 2020 Actual.

14 In the 2021 Bridge Year Grimsby Power did not make any allowances for gain or loss  
15 on disposal of fixed assets increasing the net revenue relative to 2020 actual by  
16 \$18,733, the actual losses on disposal in 2020.

17 The 2021 Bridge Year also assumes there will be no foreign exchange losses, which  
18 increases revenue by \$18,762 relative to 2020, and no revenue losses in 4220.  
19 Grimsby Power does not anticipate any timing differences in customer job process  
20 between the time the job is closed and expenses are booked and when the invoice is  
21 issued to the customer and revenue is booked in 2021 which results in an increase in  
22 net revenue by \$12,255 relative to 2020.

23 Lastly the 2021 Bridge year revenue assumes that revenue from interest will increase  
24 by \$4,241 over 2020 due to an increase in interest rates.



1 **Other Distribution Revenues 2022 Test Year vs. 2021 Bridge Year**

2 In the 2022 Test Year, Other Distribution Revenue is \$100,836 higher than the 2021  
3 Bridge Year. The increase in revenue in the 2022 Test year is primarily due to an  
4 increase in revenue for pole rentals and Government and Other Assistance Directly  
5 Credited to Income.

6 In the Cost of Service application, Grimsby Power is seeking to dispose of the balance  
7 in the pole attachment revenue variance account and begin booking all pole rental  
8 revenue to account 4210 instead of the variance in revenue over 2016 rates being  
9 booked to account 1508. In 2022 Grimsby Power expects to book \$82,664 more in  
10 revenue to 4210.

11 In the 2022 Test Year there is also \$7,000 higher revenue from late payment charges  
12 as the impact of the COVID-19 pandemic starts to subside.

13 **3.2 REVENUE FROM AFFILIATE TRANSACTIONS AND SHARED SERVICES**

14 GPI has business relationships with its affiliates and Shareholder for either the purchase  
15 of or provision of services. These entities are:

- 16
  - Niagara Power Inc.
- 17
  - FortisOntario/Canadian Niagara Power

18 GPI provides bookkeeping services to its parent - Niagara Power Inc. The bookkeeping  
19 service is at a fixed fee based on an estimate of number of hours required times a  
20 market based rate (\$/hour) based on GPI's own experience of purchases of similar  
21 services from third party service providers.

22 GPI purchases services from Canadian Niagara Power (CNP), a FortisOntario Company,  
23 – Customer Information System (CIS). The IT Maintenance Fee is the result of the rates  
24 (fixed and variable) paid by GPI to CNP for the CIS System as per the service agreement  
25 for this service.



1 As result of the 2016 Reorganization, GPI ceased to be related to Grimsby Hydro Inc.  
2 and 1938427 Ontario Inc. The two entities were moved from NPI to a Holdco company  
3 owned by the Town of Grimsby.

4 ***Corporate Cost Allocation***

5 GPI does not have any shared resources with any of its affiliates and therefore has no  
6 need for Corporate Cost Allocation.

7 ***New Specific Service Charges***

8 Grimsby Power is not applying for any new specific service charges.



etc. <sup>1</sup>							
<b>Total</b>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**Notes:**

- 1 List and specify any other interest revenue.
- 2 For applicants rebasing under IFRS for the first time, in the transition year (2014) to IFRS, the applicant is to present information in both MIFRS and CGAAP. In column N, present CGAAP transition year information.

Enter the number of "Other Operating Revenue" and "Other Income or Deductions" Accounts that require a detailed breakdown of the account components.

**4235-Specific Service Charges**

	2016 Actual <sup>2</sup>	2017 Actual <sup>2</sup>	2018 Actual <sup>2</sup>	2019 Actual <sup>2</sup>	2020 Actual	Bridge Year	Test Year
	2016	2017	2018	2019	2020	2021	2022
<b>Reporting Basis</b>							
Service Rev Arrears Certificate	\$ 825	\$ 435	\$ 405	\$ 300	\$ 165	\$ 300	\$ 300
Service Rev Statement of account	\$ 150	\$ 120	\$ 405	\$ 435	\$ 240	\$ 300	\$ 300
Service Rev Credit Reference & Easement	\$ 1,620	\$ 960	\$ 630	\$ 750	\$ 660	\$ 700	\$ 700
Service Revenue Returned Cheuque	\$ 1,185	\$ 915	\$ 1,575	\$ 1,605	\$ 840	\$ 800	\$ 800
Service Revenue Account Set Up Fee	\$ 37,740	\$ 41,910	\$ 46,200	\$ 38,280	\$ 36,180	\$ 36,000	\$ 36,000
Service Revenue Meter Interrogation	\$ 20,460	\$ 23,020	\$ 23,840	\$ 23,120	\$ 24,000	\$ 26,400	\$ 26,400
Service Revenue Reconnection Fee	\$ 2,690	\$ 1,335	\$ 390	\$ 900	\$ 1,075	\$ 750	\$ 1,300
Service Revenue FIT/Microfit	\$ 2,733	\$ 8,818	\$ 10,031	\$ 12,587	\$ 12,190	\$ 12,096	\$ 12,660
<b>Total</b>	\$ 67,403	\$ 77,513	\$ 83,476	\$ 77,977	\$ 75,350	\$ 77,346	\$ 78,460

**4086-SSS Administration Revenue**

	2016 Actual <sup>2</sup>	2017 Actual <sup>2</sup>	2018 Actual <sup>2</sup>	2019 Actual <sup>2</sup>	2020 Actual	Bridge Year	Test Year
	2016	2017	2018	2019	2020	2021	2022
<b>Reporting Basis</b>							
SSS Revenue Residential	\$ 29,834	\$ 30,282	\$ 30,987	\$ 31,486	\$ 31,841	\$ 32,286	\$ 32,352
SSS Revenue GS<50	\$ 2,087	\$ 2,141	\$ 2,144	\$ 2,153	\$ 2,192	\$ 2,196	\$ 2,204
SSS Revenue GS>50 - 4,999	\$ 261	\$ 273	\$ 278	\$ 276	\$ 277	\$ 292	\$ 280
SSS Revenue Street Lights	\$ 3	\$ 3	\$ 3	\$ 3	\$ 3	\$ 3	\$ 3
SSS Revenue USL	\$ 200	\$ 196	\$ 193	\$ 192	\$ 183	\$ 192	\$ 180
<b>Total</b>	\$ 32,384	\$ 32,895	\$ 33,605	\$ 34,109	\$ 34,496	\$ 34,969	\$ 35,019

**4220-Other Electric Revenues**

	2016 Actual <sup>2</sup>	2017 Actual <sup>2</sup>	2018 Actual <sup>2</sup>	2019 Actual <sup>2</sup>	2020 Actual	Bridge Year	Test Year
	2016	2017	2018	2019	2020	2021	2022
<b>Reporting Basis</b>							
Other Electric Revenues - Revenue Custom	\$ 64,991	\$ 237,470	\$ 46,706	\$ 23,915	\$ 14,045	\$ 19,502	\$ 17,471
Other Electric Revenues - Expense Custom	-\$ 76,254	-\$ 235,236	-\$ 52,894	-\$ 16,646	-\$ 26,300	-\$ 19,502	-\$ 17,471
<b>Total</b>	-\$ 11,263	\$ 2,234	-\$ 6,187	\$ 7,269	-\$ 12,255	\$ -	\$ -

**4375-Revenues Non Rate-Regulated Utility**

	2016 Actual <sup>2</sup>	2017 Actual <sup>2</sup>	2018 Actual <sup>2</sup>	2019 Actual <sup>2</sup>	2020 Actual	Bridge Year	Test Year
	2016	2017	2018	2019	2020	2021	2022
<b>Reporting Basis</b>	<b>MIFRS</b>	<b>MIFRS</b>	<b>MIFRS</b>	<b>MIFRS</b>	<b>MIFRS</b>	<b>MIFRS</b>	<b>MIFRS</b>
Revenues Non-Utility Operations CDM	\$ 467,877	\$ 297,837	\$ 406,935	\$ 104,155	\$ 2,891	\$ 22,466	
Revenues from Non-Utility Operations NPI	\$ 3,000	\$ 3,000	\$ 3,000	\$ 1,200	\$ 1,200	\$ 600	\$ 1,200
Revenues from Non-Utility Operations GHI	\$ 600	\$ 600	\$ 600				
Revenues from Non-Utility Operations NWT	\$ 600	\$ 600	\$ 600				
Revenues from Non-Utility Operations GEI							

Revenues Non-Utility Operations AFT			\$ 8,045	\$ 13,655	\$ 756		
<b>Total</b>	\$ 472,077	\$ 302,037	\$ 419,181	\$ 119,010	\$ 4,847	\$ 23,066	\$ 1,200

4380- Expenses of Non Rate-Regulated Util

	2016 Actual <sup>2</sup>	2017 Actual <sup>2</sup>	2018 Actual <sup>2</sup>	2019 Actual <sup>2</sup>	2020 Actual	Bridge Year	Test Year
	2016	2017	2018	2019	2020	2021	2022
<b>Reporting Basis</b>							
Expenses of Non-Utility Operations CDM	\$ 427,461	\$ 297,837	\$ 286,081	\$ 104,155	\$ 6,470	\$ 22,466	
Expenses of Non-Utility Operations AFT			\$ 8,045	\$ 13,655			
<b>Total</b>	\$ 427,461	\$ 297,837	\$ 294,126	\$ 117,810	\$ 6,470	\$ 22,466	\$ -

4405-Interest and Dividend Income

	2016 Actual <sup>2</sup>	2017 Actual <sup>2</sup>	2018 Actual <sup>2</sup>	2019 Actual <sup>2</sup>	2020 Actual	Bridge Year	Test Year
	2016	2017	2018	2019	2020	2021	2022
<b>Reporting Basis</b>	<b>#REF!</b>	<b>#REF!</b>	<b>#REF!</b>	<b>#REF!</b>	<b>#REF!</b>	<b>12096</b>	<b>12660</b>
Bank Interest	\$ 4,649	\$ 3,207	\$ 3,451	\$ 2,677	\$ 438	\$ 1,000	\$ 500
Regulatory Carrying Charges	\$ 11,785	\$ 16,135	\$ 24,948	\$ 31,549	\$ 21,144	\$ 25,000	\$ 19,500
Tax Assessment			\$ 368	\$ 917	\$ 177		
<b>Total</b>	\$ 16,434	\$ 19,342	\$ 28,768	\$ 35,142	\$ 21,759	\$ 26,000	\$ 20,000