Exhibit 3

Customer and Load Forecast

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2.3.1 Customer and Load Forecast

Introduction

The customer and load forecast is a key variable in the Cost of Service application. Once the revenue requirement has been determined, the customer and load forecasts then determine how the revenue requirement translates into rates. The higher the forecast customer count and load the lower the rates and vice versa.

NOTL Hydro is proud of its low rates and promotes this fact continuously in its communications with its customers. NOTL Hydro is not incented to understate its customer count and load as this would increase rates. This is not the direction from the Board of NOTL Hydro and would not serve NOTL Hydro's strategic objectives. However, overstating customer count and load also creates the risk of setting rates too low that they compromise NOTL Hydro's ability to meet its financial objectives. These are also important.

This section will explain the assumptions, factors and variables used to arrive at the proposed customer count and load forecast.

Proposed Load Forecast

The table below presents the actual and forecast trends for customer/connection counts, kWh consumption and billed kW demand for five of the six rate classes served by NOTL Hydro.

Table 3.1: Customer Classes

Customer Class Name	Energy (kWh) Weather Sensitive / Non-weather sensitive	Demand (kW) Weather Sensitive / Non-weather sensitive	Volumetric Distrubtion kWh / kW
Residential	Weather-Sensitive	n/a	kWh
General Service < 50 kW	Weather-Sensitive	n/a	kWh
Unmetered Scattered Load	Non-Weather Sensitive	Non-Weather Sensitive	kWh
General Service > 50 kW - 4999 kW	Non-Weather Sensitive	Non-Weather Sensitive	kW
Streetlighting	Non-Weather Sensitive	Non-Weather Sensitive	kW
Large User	Non-Weather Sensitive	Non-Weather Sensitive	kW

The forecast provided for the Large Use customer is not based on any regression model but instead structured to match the proposed Large Use customer rates and variance account. NOTL Hydro's previous Large Use customer ceased operations in Niagara-on-the-Lake in early 2022. There is a new Large Use customer that has recently commenced operations. This customer has been authorized by the IESO for up to 50 MW. Consistent with the Large Use rates and variance

account approved in EB-2018-0056 and amended in EB-2022-0158, NOTL Hydro is proposing that the variance account that will capture all the revenue above and below 5,000 kW. Therefore, the load forecast has been presented assuming the 5,000 kW load. The kWh forecast for this rate class has been changed from the previous Cost of Service. The new customer is a crypto currency miner so is expected to operate on a 24/7 basis. The kWh forecast reflects this. The previous Large Use customer was in the cannabis business so had a different load profile. The ramp up of this customer to the allowed 50 MW of usage is unknown. For the purpose of this application a ramp up during 2023 to 5 MW and full 5 MW 24/7 utilization in 2024 has been assumed.

Table 3.2: Customer and Load Trend Table

Rate Class	Year	2019	2020	2021	2022	2023	2024
Residential	Cust/Conn	8,011	8,076	8,117	8,173	8,282	8,404
	kWh	75,007,658	79,728,513	78,645,721	78,473,065	78,769,365	79,654,824
	kW						
General Service < 50 kW	Cust/Conn	1,363	1,388	1,437	1,470	1,487	1,523
	kWh	42,173,377	40,043,495	41,952,897	44,644,119	44,812,686	45,316,433
	kW						
General Service > 50 kW - 4999 kW	Cust/Conn	126	124	125	126	125	127
	kWh	94,000,918	75,559,208	76,914,641	86,913,746	85,629,843	86,743,031
	kW	252,730	192,751	195,348	219,945	218,199	221,036
Unmetered Scattered Load	Cust/Conn	30	30	32	50	60	60
	kWh	254,508	247,075	262,765	315,376	379,083	379,083
	kW						
Street Lights	Cust/Conn	2,153	2,148	2,245	2,254	2,254	2,254
	kWh	854,489	840,175	561,901	563,345	563,345	563,345
	kW	2,389	2,339	1,568	1,568	1,572	1,572
Large User	Cust/Conn	1	1	1	1	1	1
	kWh	17,267,572	25,776,834	19,135,794	1,250,861	19,710,000	39,420,000
	kW	56,470	87,942	67,379	8,525	30,000	60,000
Total	Cust/Conn	11,684	11,766	11,957	12,073	12,208	12,368
	kWh	229,558,522	222,195,299	217,473,718	212,160,512	229,864,323	252,076,717
	kW	311,590	283,032	264,296	230,038	249,771	282,608

Overview of Load Forecast Methodology

NOTL Hydro's forecast is based on a multi-variate regression model developed based on monthly wholesale purchased kWh from January 2012 to December 2022 as measured at the wholesale points of delivery (exclusive of losses, i.e., not loss adjusted) with the addition of the renewable generation within the NOTL Hydro service territory. The multi-variate regression model was chosen as it has a strong correlation (r-squared) and is, intuitively, the most suitable model.

The methodology proposed in this application predicts wholesale consumption using a regression analysis that relates historical monthly wholesale kWh usage to monthly historical heating degree

days and cooling degree days, customer count, days per month and a spring/fall flag. For the 2019 Cost of Service application load forecast, the variables cost of power and daylight hours were also used. Neither of these were determined to be of significance so neither was used for this application. Each variable used is discussed below as well as others that were considered but not ultimately used.

Table 3.3: Load Forecast Variables Used and Considered

Factor	Used / Not Used	Comments
Customer count	Used	Also used in 2019
Power purchases	Used	Also used in 2019
Weather	Used	Also used in 2019
Days per month	Used	Also used in 2019
Spring/Fall flag	Used	Also used in 2019
Daylight hours	Not used	Impact not considered material in 2019
RPP rates	Not used	Impact not considered material in 2019
CDM	Not used	Impact now considered to be built into existing usage
Pandemic	Not used	Impact considered to be largely recovered by 2022
EVs and heat pumps	Not used	Impact not considered to be material yet but may be in the future
DERs	Not used	Impact not yet to be considered material as most connections are direct supply rather than load offsetting

Customer Count

NOTL Hydro is projecting customer numbers to steadily increase (growth) in all customer classes as illustrated in the table below:

Table 3.4: Customer / Connection Projections

	Residential		General Service < 50 kW		Unmetered Scattered Load		General Service > 50 kW - 4999 kW		Streetlighting		Large User	
Date	Customers	Growth Rate	Customers	Growth Rate	Customers	Growth Rate	Customers	Growth Rate	Connections	Growth Rate	Customers	Growth Rate
2012	6,716		1,271		21		118		1,947		-	
2013	6,912	1.0292	1,220	0.9599	20	0.9679	117	0.9947	1,949	1.0010	-	0.0000
2014	7,105	1.0279	1,303	1.0688	20	0.9710	128	1.0937	2,051	1.0526	-	0.0000
2015	7,381	1.0388	1,323	1.0149	18	0.9339	127	0.9864	2,081	1.0143	-	0.0000
2016	7,656	1.0373	1,313	0.9926	17	0.9224	118	0.9322	2,120	1.0189	-	0.0000
2017	7,832	1.0230	1,330	1.0127	24	1.4505	128	1.0879	2,124	1.0018	-	0.0000
2018	7,917	1.0109	1,335	1.0043	27	1.1092	126	0.9789	2,116	0.9963	-	0.0000
2019	8,011	1.0119	1,363	1.0207	30	1.0969	126	1.0030	2,153	1.0176	1	0.0000
2020	8,076	1.0080	1,388	1.0182	30	1.0112	124	0.9822	2,148	0.9975	1	1.5000
2021	8,117	1.0051	1,437	1.0353	32	1.0624	125	1.0061	2,245	1.0453	1	1.0000
2022	8,173	1.0069	1,470	1.0231	50	1.5640	126	1.0110	2,254	1.0039	1	0.5000
Geomean		1.0198		1.0147		1.0915		1.0065		1.0148		0.0000
2023	8,335		1,492		54		127		2,287		-	
2024	8,500		1,514		59		128		2,321		-	
Adjusted												
2023	8,282	1.0134	1,487	1.0111	60	1.2020	125	0.9921	2,254	1.0000	1	0.0000
2024	8,404	1.0147	1,523	1.0242	60	1.0000	127	1.0130	2,254	1.0000	1	2.0000

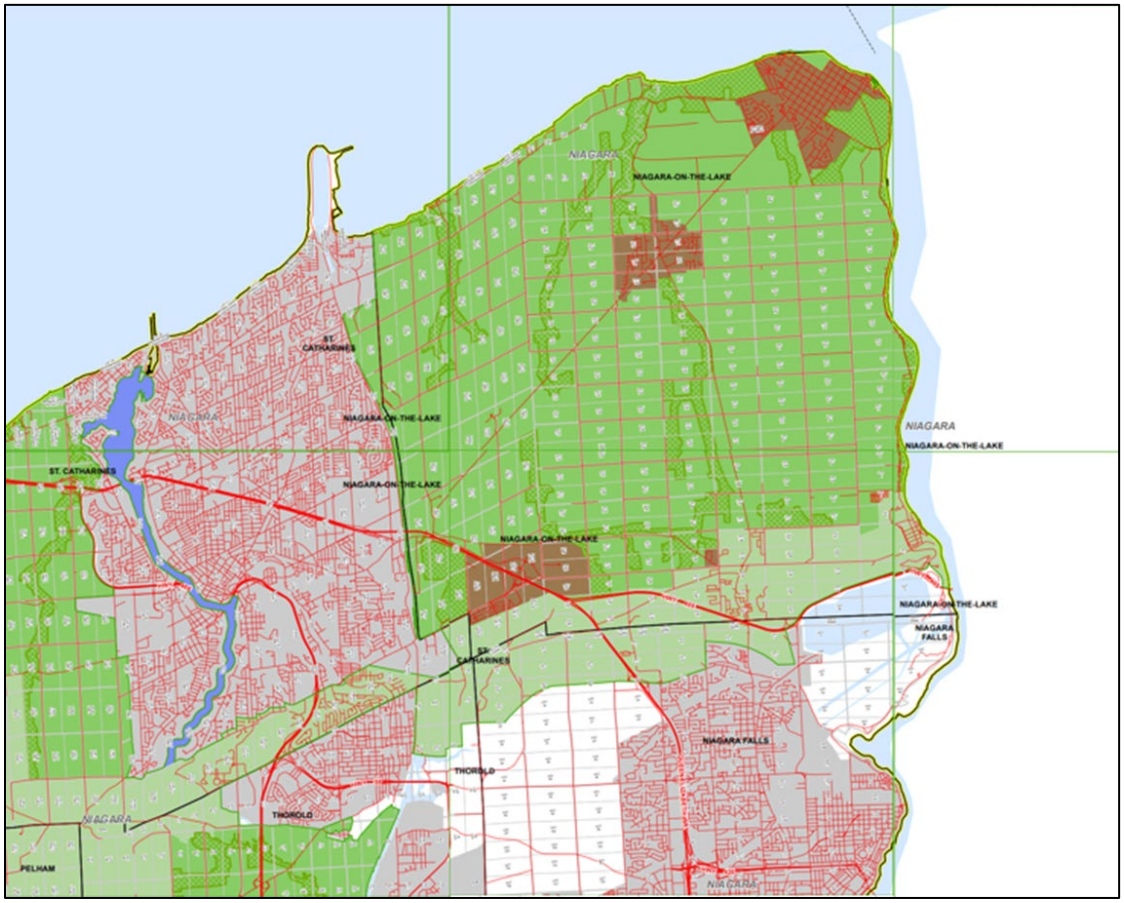
Residential Customer Count Forecast

NOTL Hydro operates within the Town of Niagara-on-the-Lake and serves the entire Town with the exception of around 50 customers served by neighbouring LDCs due to load transfers. As can be seen with the data in the chart, the growth of the residential customer count has been slowing.

Most of Niagara-on-the-Lake is protected by the Greenbelt legislation with only the towns and villages of Niagara-on-the-Lake (Old Town), Virgil, Glendale and St. David's available for development (see Map below). The proposed amendments to the greenbelt by the Provincial Government do not affect Niagara-on-the-Lake. Future development will therefore be largely driven by infill and small developments.

The proposed residential customer count growth is still larger than that seen in 2018-2022. This is due to a small development nearing readiness near Virgil which will add a bit more growth in 2023 and 2024.

Table 3.5: Map of Greenbelt Designated Land in Niagara-on-the-Lake



Areas in green are designated Greenbelt land with restricted development.

GS < 50 kW Customer Count Forecast

In 2014, the Outlet Mall at the intersection of Glendale Avenue and the QEW was completed. Almost one hundred new General Service < 50 kW were added that year as each retail outlet in the mall has its own account. As a result, the Geomean is overstated.

Growth in commercial activities in Niagara-on-the-Lake is entirely in service sectors with growth in the retail, tourism and winery industries. There are no developments of the scale of the Outlet Mall planned for 2023-2024 or for the next five years. However, NOTL Hydro is aware of a sizable number of new commercial businesses planning to open and this has been reflected in the higher growth in 2024. These are not in any single development but across multiple locations.

GS > 50 kW Customer Count Forecast

There has been basically no growth in the GS > 50 kW customer class since 2018. The changes from year to year are primarily due to customers moving between the two general

service rate classes based on their electricity usage. The forecast for 2023 and 2024 reflects this lack of growth.

Unmetered Load

There has been more growth in unmetered accounts recently due to the installation of small cell 5G wireless units on various poles and buildings. The forecast reflects the expected additional units over 2023-2024 based on current discussions with the telecom companies.

Streetlights

There has been very little growth in the number of streetlights recently and NOTL Hydro is not aware of any being planned for 2023-2024. The actual consumption of electricity by streetlights has fallen considerably due to the installation of LED lighting.

Large Use

As discussed above, there is only one Large Use customer.

Apart from the Large Use customer, the composition of the customer base has been very stable over the time period used for the forecast input data. The impact of the Large Use customer has been removed from the input data, so it is not a factor. As such, no further variables related to the customer base were included.

Power Purchases

NOTL Hydro purchases its power from the Independent Electricity Systems Operator (IESO) and from over 160 renewable energy generators located in Niagara-on-the-Lake. The following table summarizes the kWh purchases:

Table 3.6: kWh Purchases 2012-2022

Year	IESO Delivery Point 100289 - NOTL Station	IESO Delivery Point 108509 - York Station	Unadjusted Wholesale Purchases kWh	MicroFit	FIT	SOP	Large Use Adjustment	Adjustment - Add Net Metering	Revised Wholesale Purchases
2012	104,954,341	70,060,937	175,015,278	886,451	598,435	12,668,908	0	0	189,169,073
2013	84,754,267	89,698,912	174,453,179	1,152,871	650,444	13,566,559	0	0	189,823,053
2014	80,657,885	101,609,350	182,267,235	1,453,817	851,260	12,179,335	(153,044)	0	196,598,603
2015	84,519,299	102,081,804	186,601,102	1,566,819	866,605	12,739,289	(462,286)	0	201,311,530
2016	109,645,805	84,873,738	194,519,543	1,736,631	895,000	12,038,127	(1,540,455)	0	207,648,847
2017	113,627,804	76,709,588	190,337,392	1,608,060	818,232	10,971,592	(2,592,621)	0	201,142,655
2018	123,793,054	86,816,432	210,609,486	1,648,120	1,222,769	11,824,861	(11,056,798)	108,937	214,357,375
2019	130,240,849	91,382,797	221,623,646	1,650,902	1,613,294	12,105,440	(25,819,528)	123,557	211,297,311
2020	153,057,181	61,755,030	214,812,211	1,722,145	1,689,291	12,087,397	(25,776,834)	187,317	204,721,527
2021	129,452,001	79,349,584	208,801,585	1,669,297	1,620,825	12,514,822	(19,132,814)	584,976	206,058,691
2022	126,039,958	76,723,969	202,763,927	1,603,812	1,589,812	12,143,961	(2,162,927)	551,538	216,490,123

NOTL Hydro purchases most of its power from the IESO grid. 100289 and 108509 are the two NOTL Hydro transformer stations. NOTL Hydro also purchases power from embedded local generation. These are included in the SOP, MicroFit, FIT and net metering columns.

For the purposes of this analysis, the load of the previous Large Use customer has been removed. Its inclusion would distort the results which are intended to estimate the load of all customer classes excluding the Large Use customer class.

Weather and Time of Year Factors

In order 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 NOTL Hydro, the monthly HDD and CDD as reported at Environment Canada's weather station at Port Weller *(latitude: 43°15'00.000" N; longitude: 79°13'00.000" W, elevation 79.00 metres)* was used.

The following table outlines the monthly weather data used in the regression analysis.

Table 3.7: HDD as reported at Port Weller, ON. Weather Station

HDD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2012	554.40	482.40	366.70	296.30	99.50	18.90	-	-	37.90	191.90	381.90	462.50
2013	556.40	565.90	508.70	341.30	150.35	44.30	3.20	-	51.60	159.95	416.30	608.50
2014	727.80	648.10	636.20	356.60	174.70	27.00	0.60	0.90	46.40	173.70	416.00	509.75
2015	696.25	776.40	596.90	325.90	131.80	61.20	2.60	2.20	17.10	186.05	284.45	372.95
2016	597.25	537.40	444.60	373.25	157.95	19.10	-	-	14.40	141.90	270.50	540.90
2017	556.50	468.50	528.40	273.05	181.80	27.00	-	0.30	25.10	94.70	383.85	617.20
2018	647.40	498.70	518.80	437.70	124.90	31.90	-	-	25.15	204.65	434.30	500.80
2019	663.40	548.30	536.40	356.00	226.50	53.10	-	0.90	12.70	163.10	439.10	514.30
2020	536.30	545.80	436.90	339.00	216.55	24.30	-	-	41.20	194.90	288.50	477.50
2021	567.80	574.80	432.50	318.70	160.05	9.20	0.10	-	10.70	110.20	334.20	451.90
2022	700.20	557.40	486.20	332.90	145.10	9.10	-	-	38.30	201.00	328.50	506.50

Table 3.8: CDD as reported at Port Weller, ON. Weather Station

CDD	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
2012	-	-	-	-	22.40	105.60	203.50	148.70	50.30	2.60	-	-
2013	-	-	-	-	12.15	47.50	139.50	106.40	34.40	4.80	-	-
2014	-	-	-	-	3.00	39.10	78.40	88.10	42.30	5.70	-	-
2015	-	-	-	-	9.75	19.50	121.20	104.30	84.00	1.80	-	-
2016	-	-	-	-	31.00	67.10	166.60	198.85	88.80	12.35	-	-
2017	-	-	-	-	2.80	62.80	111.60	102.00	59.50	14.90	-	-
2018	-	-	-	-	15.35	47.60	184.00	183.70	77.70	9.80	-	-
2019	-	-	-	-	-	30.30	161.15	112.60	47.60	3.10	-	-
2020	-	-	-	-	8.60	80.30	223.30	144.15	43.80	-	-	-
2021	-	-	-	-	8.80	93.60	116.75	198.40	59.80	15.40	-	-
2022	-	-	-	-	14.90	56.40	143.50	159.25	58.50	0.40	2.60	-

NOTL Hydro has adopted the ten-year average from 2013 to 2022 as the definition of weather normal consistent with the filing requirements. The proposed normal weather methodology captures the impact of increasing temperatures from climate change and NOTL Hydro has no grounds for making any non-normal assumptions.

Number of Days per Month

NOTL Hydro also used a “Days per Month” variable because this identifies less or more days in calendar months.

Spring/Fall Flag

Building on the heating/cooling days to capture the seasonality of demand across a year.

CDM

There are no ongoing CDM projects in Niagara-on-the-Lake. For the purpose of this forecast, it has been assumed that the impact of CDM has been captured by the actual results from 2012-2022 so that no additional adjustments to the forecast are required.

Pandemic

Like most LDCs, NOTL Hydro load was impacted by the pandemic. For example, in May 2020, residential load was higher by 17% than May 2019, the GS< 50 kW load was lower by 14% and the GS>50 kW load was lower by 21%. There was no discernable impact on customer count. By 2023, loads were largely back to historical norms. NOTL Hydro looked at a number of variables to capture the impact of the pandemic, but none were statistically significant. NOTL Hydro therefore did not have a separate variable for the pandemic other than through its impact on historical load.

EVs and Heat Pumps

NOTL Hydro agrees that electric vehicles (EVs) and heat pumps will have a significant impact on the local and provincial grid. As customers choose non-carbon options for transportation and heating the demand for electricity will increase. NOTL Hydro is taking steps to prepare for this likely eventuality. The timing of this impact is still an unknown; it may or may not be significant within the next five years. The penetration of both heat pumps and EVs in Niagara-on-the-Lake is still very small so the impact on the current load is minimal. NOTL Hydro has conducted scenario analysis to assess the impact of the widespread adoption of EVs but has not incorporated any impact into this forecast due to the uncertainty.

Distributed Energy Resources

There are over 160 DERs connected to the NOTL Hydro grid. Almost all of these are directly connected to the grid to supply power under contracts with the IESO (SOP, FIT, MicroFIT). As such, they are a source of supply and have no impact on load. There are also 10 net metering contract loads. These do impact load as they supply the connected load first before supplying the grid. However, as there are only ten the impact is small. The rate of new net metering connections is very low so the expected impact on the load forecast is not expected to be material. It is expected that the microFIT installations may become net metering but that is still unknown and will be more than five years in the future.

Multivariate Regression Model

The table below presents the regression results used to determine the load forecast:

Table 3.9: Correlation/Regression Results

Regression Statistics	
Multiple R	0.965888207
R Square	0.932940028
Adjusted R Square	0.930278918
Standard Error	606632.8909
Observations	132

ANOVA

	df	SS	MS	F	Significance F
Regression	5	6.45079E+14	1.29016E+14	350.5830392	4.08197E-72
Residual	126	4.63684E+13	3.68003E+11		
Total	131	6.91447E+14			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-9895576.367	2249073.953	-4.399844813	2.28252E-05	-14346427.6	-5444725.1	-14346427.6	-5444725.13
HDD	3480.467677	378.0815275	9.20560097	9.34745E-16	2732.255448	4228.6799	2732.255448	4228.679905
CDD	39278.28937	1715.399635	22.89745699	9.86958E-47	35883.56392	42673.0148	35883.56392	42673.01482
# Customers	1034.569582	94.72065566	10.92232286	5.979E-20	847.1201893	1222.01898	847.1201893	1222.018975
Day per Month	481293.7991	68023.82591	7.075370911	9.17061E-11	346676.6474	615910.951	346676.6474	615910.9508
Spring/Fall Flag	901978.7246	137415.8782	6.563861007	1.2337E-09	630036.7414	1173920.71	630036.7414	1173920.708

The resulting regression equation yields an adjusted R-squared of 93.03%. An R-squared of over 90% indicates the regression analysis is significant.

The prediction formula has the following statistical results:

Table 3.10: Regression Results

Statistic	Value
R Square	93.29%
Adjusted R Square	93.03%
F Test	350.58
T-stats by Coefficient:	
a) Intercept	(4.3998)
b) Heating Degree Days	9.2056
c) Cooling Degree Days	22.8975
d) Number of Days in Month	7.0754
e) Customer Count	10.9223
f) Spring/Fall flag	6.5639

Once a successful regression analysis has been run, the predicted wholesale purchases can be compared to the actual historical weather normalized wholesale purchases. The table below provides this comparison.

Table 3.11: Wholesale Weather Normalized Load Forecast

Year	Revised Wholesale Purchases	Weather Normalized	Variance	Variance %
2012	189,169,073	199,851,515	(10,682,442)	(5.6%)
2013	189,823,053	195,558,511	(5,735,458)	(3.0%)
2014	196,598,603	196,752,312	(153,709)	(0.1%)
2015	201,311,530	202,773,257	(1,461,727)	(0.7%)
2016	207,648,847	214,005,327	(6,356,480)	(3.1%)
2017	201,142,655	207,962,089	(6,819,434)	(3.4%)
2018	214,357,375	216,453,358	(2,095,983)	(1.0%)
2019	211,297,311	211,860,363	(563,051)	(0.3%)
2020	204,721,527	217,694,347	(12,972,821)	(6.3%)
2021	206,058,691	217,597,934	(11,539,243)	(5.6%)
2022	216,490,123	217,640,371	(1,150,248)	(0.5%)

2.3.2 Accuracy of Load Forecast and Variance Analysis

Customer Counts

Customer counts are an input, so the counts used were discussed above. The projections in the table below vary as they are being shown based on an average count rather than a year-end count. There are no major changes in the forecast composition of each customer class other than the change in the Large Use customer described above.

Table 3.12: Forecast Customer / Connection Count

	RRR - Year End	RRR - Year End	RRR - Year End	RRR - Year End	Average	Average	Average
Rate Class	Board Approved 2019	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	8,152	8,060	8,115	8,127	8,173	8,282	8,404
General Service < 50 kW	1,342	1,371	1,393	1,478	1,470	1,487	1,523
General Service >= 50 kW	131	126	123	125	126	125	127
Large User	1.0	1.0	1.0	1.0	0.5	0.5	1.0
Unmetered Scattered Load Connections	26	30	31	45	50	60	60
Street Lighting Connections	2,187	2,148	2,148	2,254	2,254	2,254	2,254
Total	**11,839**	**11,736**	**11,811**	**12,030**	**12,073**	**12,208**	**12,368**

Rate Class	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	1.0%	0.7%	0.1%	0.6%	1.3%	1.5%
General Service < 50 kW	1.3%	1.6%	6.1%	(0.5%)	1.1%	2.4%
General Service >= 50 kW	(0.8%)	(2.4%)	1.6%	0.8%	(0.8%)	1.3%
Large User	0.0%	0.0%	0.0%	(50.0%)	0.0%	100.0%
Unmetered Scattered Load Connections	3.4%	3.3%	45.2%	10.9%	20.2%	0.0%
Street Lighting Connections	(0.5%)	0.0%	4.9%	0.0%	0.0%	0.0%
Total	**0.8%**	**0.6%**	**1.9%**	**0.4%**	**1.1%**	**1.3%**

The following table provides a comparison between the forecast 2018 and 2019 customer counts in the 2019 Cost of Service application and the actual counts for those years.

Table 3.13: Customer / Connection Count Actual versus Previous Cost of Service

Class	2018 Forecast	2018 Actual	Variance	2019 Forecast	2019 Actual	Variance
Residential	7,976	7,981	5	8,152	8,060	(92)
GS<50 kW	1,335	1,353	18	1,342	1,371	29
GS>50 kW	131	127	(4)	131	126	(5)
Large Use	1	1	-	1	1	-
Streetlights	2,155	2,158	3	2,187	2,148	(39)
Unmetered	26	29	3	26	30	4

The residential class had lower than expected growth. This was mostly due to Niagara-on-the-Lake having growth only from infill rather than from new developments.

The GS<50 kW class had higher than expected counts. Some of this was due to residential customers upgrading to a service over 200 amps, some was due to GS>50 kW whose volumes have fallen below 50 kW on average and some was due to higher than expected new commercial customers.

The GS>50 kW was lower than expected. There are a number of customers with demand around the 50 kW level so will move back and forth between the two general service classes.

Streetlight connections were lower due to an audit conducted by the Town of Niagara-on-the-Lake.

Customer Load

The tables below provide the forecast consumption by rate class for 2023 and 2024.

Table 3.14: Forecast Consumption

	Consumption (Weather Normalized)						
Rate Class	Board Approved 2019	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	74,690,535	75,207,533	84,780,759	83,049,864	78,473,065	78,769,365	79,654,824
General Service < 50 kW	42,839,906	42,285,758	42,580,976	44,302,250	44,644,119	44,812,686	45,316,433
General Service >= 50 kW	84,345,116	93,826,101	75,490,206	76,922,415	86,913,746	85,629,843	86,743,031
Large User	23,308,825	17,267,572	25,776,834	19,135,794	1,250,861	19,710,000	39,420,000
Unmetered Scattered Load Connections	251,508	254,508	247,075	262,765	315,376	379,083	379,083
Street Lighting Connections	886,616	854,489	840,175	561,901	563,345	563,345	563,345
Total	**226,322,506**	**229,695,962**	**229,716,025**	**224,234,989**	**212,160,512**	**229,864,323**	**252,076,717**

	Consumption (Weather Normalized) Variance Analysis					
Rate Class	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
Residential	(3.3%)	12.7%	(2.0%)	(5.5%)	0.4%	1.1%
General Service < 50 kW	(1.9%)	0.7%	4.0%	0.8%	0.4%	1.1%
General Service >= 50 kW	(3.1%)	(19.5%)	1.9%	13.0%	(1.5%)	1.3%
Large User	0.0%	49.3%	(25.8%)	(93.5%)	1475.7%	100.0%
Unmetered Scattered Load Connections	(4.0%)	(2.9%)	6.4%	20.0%	20.2%	0.0%
Street Lighting Connections	(0.3%)	(1.7%)	(33.1%)	0.3%	0.0%	0.0%
Total	**0.0%**	**0.0%**	**(2.4%)**	**(5.4%)**	**8.3%**	**9.7%**

The residential growth is generally low reflecting the low growth in number of customers and the general decline in average consumption per household. GS<50 kW growth is also low as newer customers tend to be smaller in size. GS>50 kW consumption in 2023 declined due to the forecast loss of one customer. Large Use growth reflects the closure on the one customer in 2022 and the potential growth in the new customer in 2023-2024.

The following tables provide a comparison between the forecast 2018 and 2019 customer loads in the 2019 Cost of Service application and the actual loads for those years.

Table 3.15: Consumption Actual versus Previous Cost of Service

Class	2018 Forecast	2018 Actual	Variance	2019 Forecast	2019 Actual	Variance
Residential	73,760,865	76,998,170	4.39%	74,690,535	75,007,658	0.42%
GS<50 kW	42,306,679	42,619,952	0.74%	42,839,906	42,102,477	(1.72%)
Unmetered	251,508	264,993	5.36%	251,508	254,508	1.19%

The previous forecasts for residential, GS<50 kW and unmetered consumption are close to actual results, especially for 2019.

Customer Demand

Customer demand is determined by converting the weather normalized kWh to kW for each applicable customer class. For GS>50 customers the average ratio of kWh/kW from the period 2012 – 2022 was utilized which resulted in a ratio of 0.00255 kW/kWh. For the Large Use customer, the kW were assumed to be 5,000kW per month consistent with the treatment for use of the variance account and the kWh was determined based on 90% usage 24 hours a day for the year which resulted in a forecast of 39,420,000 kWh. The resulting kW/kWh ratio is 0.00152. For the Street Lighting customers, the 2022 actual ratio of 0.697 kW/kWh was utilized as the ratio changed significantly following a street light audit performed by the Town of Niagara-on-the-Lake in 2020.

Table 3.16: Forecast Demand

Rate Class	Board Approved 2019	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
General Service >= 50 kW	217,115	244,871	192,701	195,348	219,945	218,199	221,036
Large User	60,000	56,470	87,942	67,379	8,525	30,000	60,000
Street Lighting Connections	2,475	2,390	2,339	1,568	1,568	1,572	1,572
Total	**279,590**	**303,731**	**282,982**	**264,296**	**230,038**	**249,771**	**282,608**

	Demand (Weather Normalized) Variance Analysis					
Rate Class	Historical 2019	Historical 2020	Historical 2021	Historical 2022	Bridge Year 2023	Test Year 2024
General Service >= 50 kW	0.5%	(21.3%)	1.4%	12.6%	(0.8%)	1.3%
Large User	0.0%	55.7%	(23.4%)	(87.3%)	251.9%	100.0%
Street Lighting Connections	0.1%	(2.1%)	(32.9%)	0.0%	0.2%	0.0%
Total	**0.0%**	**(6.8%)**	**(6.6%)**	**(13.0%)**	**8.6%**	**13.1%**

The GS>50 kW demand growth is low reflecting the anticipated low growth in the number of customers in this class. The Large User demand reflects the matching of the demand in the forecast to the operation of the variance accounts. No growth is projected for streetlighting connections.

Table 3.17: Consumption Demand versus Previous Cost of Service

Class	2018 Forecast	2018 Actual	Variance	2019 Forecast	2019 Actual	Variance
GS > 50 kW	221,277	243,711	9.87%	217,115	244.871	12.78%
Streetlighting	2,469	2,389	(3.24%)	2,475	2,390	(3.43%)
Large Use	-	-	-	60,000	56,470	(6.25%)

The higher demand in the GS>50 kW class is due to the growth in the early months in what would become a Large Use customer. The Large Use demand is lower than forecast as for a few months the customer did not meet the 5,000 kW demand threshold. Actual demand would have been higher as any demand above the 5,000 kW would have been booked to the variance account.

Appendix

List of Appendices

Appendix A	Notlh_2024_load_forecast_model_20230427 Filed in Excel