

EXHIBIT 3 – CUSTOMER AND LOAD
FORECAST
2027 Cost of Service

Ottawa River Power Corporation
EB-2026-0066

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3.1 LOAD FORECASTS

3.1.1 INTRODUCTION

This exhibit describes ORPC's load and customer forecasts. The load forecast methodology and assumptions are described in detail at 3.1.3 Load Forecast Methodology and Detail.

The evidence herein is organized per the following topics:

- 1) Load Forecast;
- 2) Impacts from CDM & NWS; and
- 3) Accuracy of Load Forecast and Variance Analysis.

3.1.2 PROPOSED LOAD FORECAST

This section of the application covers:

- a) the approach and methodology used to determine the load forecast.
- b) the economic assumptions and data sources for customer and load forecasts.
- c) the rationale behind each variable used in the regression analysis.
- d) the regression results and how they were used to determine the forecast for the Bridge Year (2026) and Test Year (2027).

The table below illustrates the actual and forecast trends for customer/connection counts, kWh consumption and billed kW demand. The forecast trend has been used by ORPC to set its' proposed 2027 distribution rates.

Table 1 - Customer and Volume Trend Table

	Year	2022 Actuals	2023 Actuals	2024 Actuals	2025 Actuals	2026 Predicted	2027 Predicted
Residential	Customers	10,169	10,283	10,351	10,392	10,495	10,600
	kWh	86,112,039	85,022,917	86,752,528	90,973,051	91,218,659	92,832,140
General Service < 50 kW	Customers	1,278	1,270	1,276	1,272	1,269	1,267
	kWh	28,785,066	29,063,129	29,356,697	30,749,969	30,138,183	30,243,420
General Service > 50 to 4999 kW	Customers	142	139	139	136	134	133
	kWh	68,211,369	64,679,344	64,215,692	72,102,178	65,316,237	64,938,559
	kW	204,528	205,270	189,967	214,177	197,167	196,085
Street Lighting	Conn.	2,920	2,904	2,907	2,925	2,937	2,948
	kWh	1,002,092	998,543	996,845	1,016,652	1,012,496	1,016,551
	kW	2,822	2,784	2,774	2,824	2,826	2,837
Sentinel	Conn.	177	174	173	177	176	176
	kWh	190,718	175,555	164,745	162,265	157,403	149,812
	kW	528	479	481	444	436	415
USL	Customers	19	19	18	19	19	19
	kWh	588,782	589,689	591,629	587,172	598,467	598,467
Total	Cust/ Conn	14,704	14,788	14,864	14,920	15,031	15,143
	kWh	184,890,066	180,529,177	182,078,136	195,591,287	188,441,446	189,778,950
	kW	207,879	208,534	193,221	217,444	200,429	199,337

3.1.3 LOAD FORECAST METHODOLOGY AND DETAIL

The load forecast presented in this application has been refined since ORPC's most recent Cost of Service applications (EB-2021-0052). The 2022 load forecast used a multivariate regression to forecast total wholesale purchases that were then allocated to rate classes. The allocation to rate classes was based on average usage per customer in each class and the weather-sensitivity of each class. The 2027 load forecast uses separate multivariate regressions for each Residential and General Service rate class. The forecasts for unmetered rate classes are based on average use per connection.

The methodology proposed in this application predicts rate class consumption using multiple regression analyses that relates historical monthly kWh usage (January 2020 to December 2025) to selected variables.

ORPC did not consider the Normalized Average Consumption (NAC) method, other than for unmetered classes, because NAC is generally seen as an alternative when reliable historical data is not available.

The most significant variables used in the regressions are monthly historical heating degree days and cooling degree days. Environment Canada defines heating degree days and cooling degree days as the difference between the average daily temperature and 18°C for each day (below for heating, above for cooling). Heating and cooling degree days with base temperatures other than 18°C have also been considered. For degree days, daily observations as reported at Environment Canada's Pembroke Climate weather station¹ are used because this is the closest weather-station to ORPC with reliable historic weather data.

The regression model also uses other variables which are tested to see their relationship and contribution to the fluctuating rate class consumption. Each variable is discussed in detail later in this section.

3.1.4 LOAD DRIVERS OVERVIEW

The following table summarizes the factors that influence ORPC's loads.

Location and Service Areas	ORPC services 4 distinct service areas: the City of Pembroke and the towns of Almonte, Beachburg and Killaloe. Pembroke is located 145 kms northwest of Ottawa and 214 kms southeast of North Bay whereas Almonte is located 46 kms southwest of Ottawa. Beachburg and Killaloe are located 24 kms southeast and 60 kms southwest of Pembroke respectively. Pembroke, Beachburg and Killaloe are located in Renfrew
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¹ "Pembroke Climate" operated by ECCC-MS, Latitude:45°51'37" N, Longitude:77°15'08" W, Elevation: 161.0 m

	County whereas Almonte is a ward of the town of Mississippi Mills. ORPC currently services approximately 12,000 metered customers.
Employment	The primary employers and economic drivers in Pembroke and area are Canadian Nuclear Laboratories which employ approximately 3,000 from the region and the military base in nearby Petawawa which employs more than 6,000. ² The primary economic driver of Beachburg and Killaloe is tourism and recreation. Almonte has been seeing growth due to its proximity to Ottawa and the ability for citizens to commute.
Climate	Situated on the Ottawa River, Pembroke sits at an average elevation of 127m. Summers are typically long and cloudy while winters bring frost, snow and more cloud. Summers have an average temperature of 20.7 °C with winters are averaging -10.2 °C rendering the utility a summer peaking utility in recent years. The average yearly snowfall for Pembroke is 211.3 cms. Almonte shares very similar characteristics with Pembroke, Beachburg and Killaloe.
Growth	Almonte has been experiencing growth since 1999 with the town seeing an increase in the number of customers from 1,837 in 1999 to 3,436 in 2026. This represents an increase of 87% in that time frame. The growth has been mainly driven by the town's proximity to and increasing housing prices within Ottawa. Additional subdivisions are beginning construction in Almonte including Weaver's Way, Hannan Hills and Hilan Village. In Pembroke, there are multiple single-unit connections expected along with the potential

² The City of Pembroke, *Investment Profile Pembroke*, May 2025.
<https://www.pembroke.ca/media/pibh2uwk/investment-profile-1.pdf>

	continuation of the Golfview subdivision. Little to no growth is anticipated in Beachburg and Killaloe.
Electric Vehicle and Heat Pump Adoption	ORPC's loads are expected to increase above what would be forecast using only weather-normalized historic averages and trends from increased electrification of transportation and heat pumps. These loads are estimated using a bottom-up approach in which the specific sources of incremental loads are forecast separately. Forecast amounts are layered onto the top-down forecast that is based on historic loads. The EV and heat pump forecasts are provided in section 3.1.9.

1

2 3.1.5 OVERVIEW OF VARIABLES USED

3 For ORPC, the variation in monthly electricity consumption is influenced by 4 factors:

- 4 1) Weather (e.g. heating and cooling), which is by far the most dominant effect on most
- 5 systems;
- 6 2) Number of days per month;
- 7 3) Conservation and Demand Management (CDM) – energy saving programs and initiatives
- 8 have influenced consumers' and businesses' behaviour and usage patterns; and
- 9 4) Spring Fall Flag

10 Details relating to each variable used in the regression analysis are presented in the next section.

11 **Heating and Cooling:**

12 To determine the relationship between observed weather and energy consumption, monthly
13 weather observations describing the extent of heating or cooling required within the month are
14 necessary. Environment Canada publishes monthly observations on heating degree days (HDD)
15 and cooling degree days (CDD) for selected weather stations across Canada. Heating degree-days

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

10

[illegible]

Total	245	137	256	164	245	230	176	163	216	236	207
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3.1.6 REGRESSION RESULTS

3.1.6.1 OVERVIEW

This section provides the regression results used to determine ORPC's forecast kWh for the Residential, General Service < 50 kW, and General Service > 50 kW rate classes. The Street Lighting, Sentinel Lighting, and USL forecasts are based on average usage per connection/customer.

Multiple heating degree day and cooling degree day thresholds were considered for each regression. Degree days were selected for each regression based on the statistical results produced when different degree days were modeled. In particular, the degree day variables with the highest t-ratios and overall models with the highest adjusted R² values were selected.

Separate regressions were run for the Residential, General Service < 50 kW, and General Service > 50 kW rate classes based on six years of monthly data from 2020 to 2025 (72 observations). In the Mean Percentage Error tables below, the sum of monthly predicted values from 2016 to 2019 are compared with annual consumption of those rate classes.

One large customer in the General Service > 50 kW rate class has volatile load patterns so its volumes are modeled separately from the remaining customers in the General Service > 50 kW rate class. The forecast for this customer is provided as Appendix A to this Exhibit. The overall General Service > 50 kW forecast is the sum of the separate models.

3.1.6.2 RESIDENTIAL CLASS

The table below represents the regression results used to determine ORPC's Residential load forecast.

Table 3 – Residential Regression Results

Model 1: Prais-Winsten, using observations 2020:01-2025:12 (T = 72)

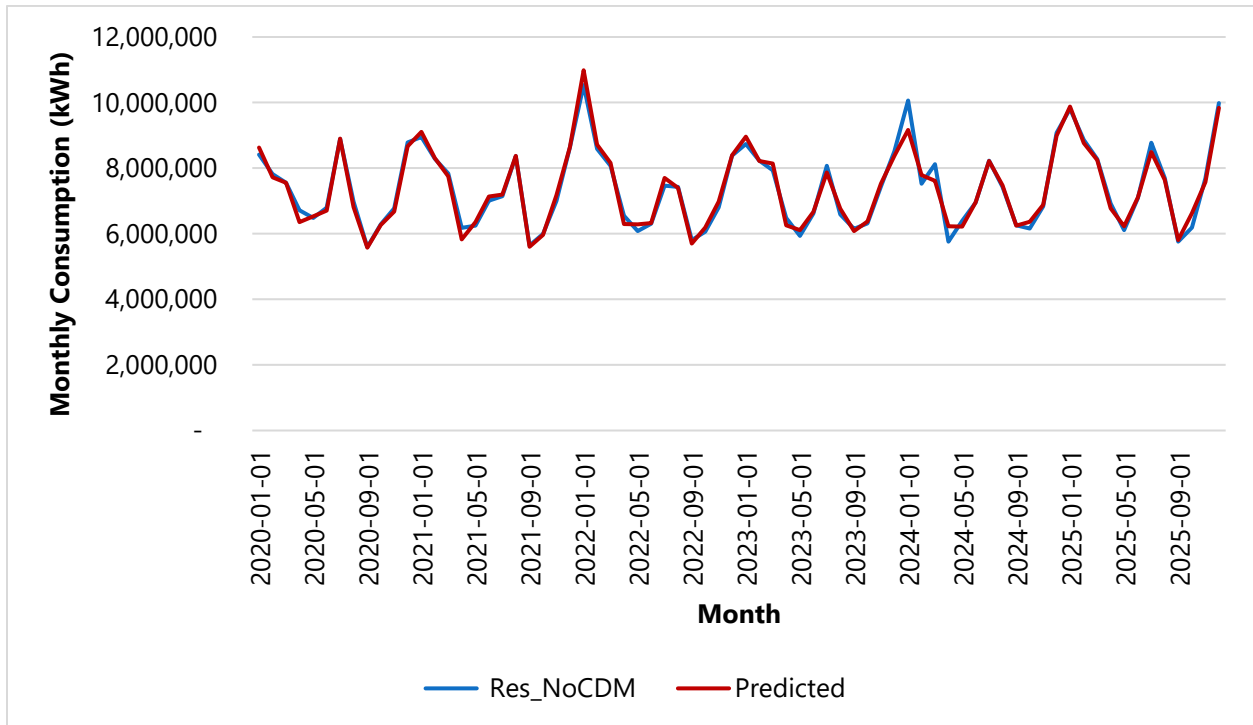
Dependent variable: Res_NoCDM				
$\rho = -0.257364$				
	coefficient	std. error	t-ratio	p-value
const	(16,404,846)	2,089,662.99	(7.85)	0.0000
HDD18	6,552	143.60	45.63	0.0000
CDD12	14,585	556.80	26.19	0.0000
Residential_Customers	1,347	192.21	7.01	0.0000
MonthDays	210,105	35,277.84	5.96	0.0000
CWFHHDD18	541	204.73	2.64	0.0103
CWFHCDD12	2,194	749.32	2.93	0.0047
Statistics based on the rho-differenced data				
Sum squared resid	2.814E+12	S.E. of regression		208,069
R-squared	0.9720	Adjusted R-squared		0.9694
F(6, 65)	486.68	P-value(F)		5.33E-52
rho	0.0391	Durbin-Watson		1.8966
Statistics based on the original data				
Mean dependent var	7,380,930	S.D. dependent var		1,189,209

Economic variables, such as Ontario and Ottawa employment and various GDP measures, were tested but not found to be statistically significant variables. The COVID Work from Home HDD and CDD variables were found to be statistically significant and more significant than other COVID variables. The Residential customer count was found to be statistically significant and is used in the model. This variable was found to be more statistically significant than other trending variables such as economic variables and a simple time trend. A variable representing the number of days in the month is used as it is statistically significant.

The following figure shows predicted monthly consumption using the variables and coefficients in Table 3 compared with actual monthly consumption.

1

Figure 1 - Residential Predicted Monthly



2

3

4 Annual estimates using actual weather are compared to actual values in the table below. Mean
5 absolute percentage error (MAPE) for annual estimates for the period is 1.1%, and 0.6% when only
6 the years used in the regression are considered. The MAPE calculated monthly over the period is
7 1.9%.

Table 4 – Residential Mean Percentage Error

<i>Period</i>	<i>Actual</i>	<i>Predicted</i>	<i>Absolute Value of Error</i>
2016	77,024,707	77,113,207	0.1%
2017	77,499,467	76,932,008	0.7%
2018	83,578,765	82,867,952	0.9%
2019	87,874,875	83,074,224	5.5%
2020	87,084,144	86,411,069	0.8%
2021	87,284,957	87,439,787	0.2%
2022	88,081,157	89,134,131	1.2%
2023	87,011,012	87,333,882	0.4%
2024	88,808,416	88,154,169	0.7%
2025	93,157,277	92,969,870	0.2%
Totals	857,404,777	851,430,299	0.7%
<i>Mean Absolute Percentage Error (Total Annual)</i>			1.1%
<i>Mean Absolute Percentage Error (2020-25 Annual)</i>			0.6%
<i>Mean Absolute Percentage Error (2020-25 Monthly)</i>			1.9%

3.1.6.3 GENERAL SERVICE < 50 KW CLASS

The table below represents the regression results used to determine ORPC's General Service < 50 kW load forecast.

Table 5 – General Service < 50 kW Regression Results

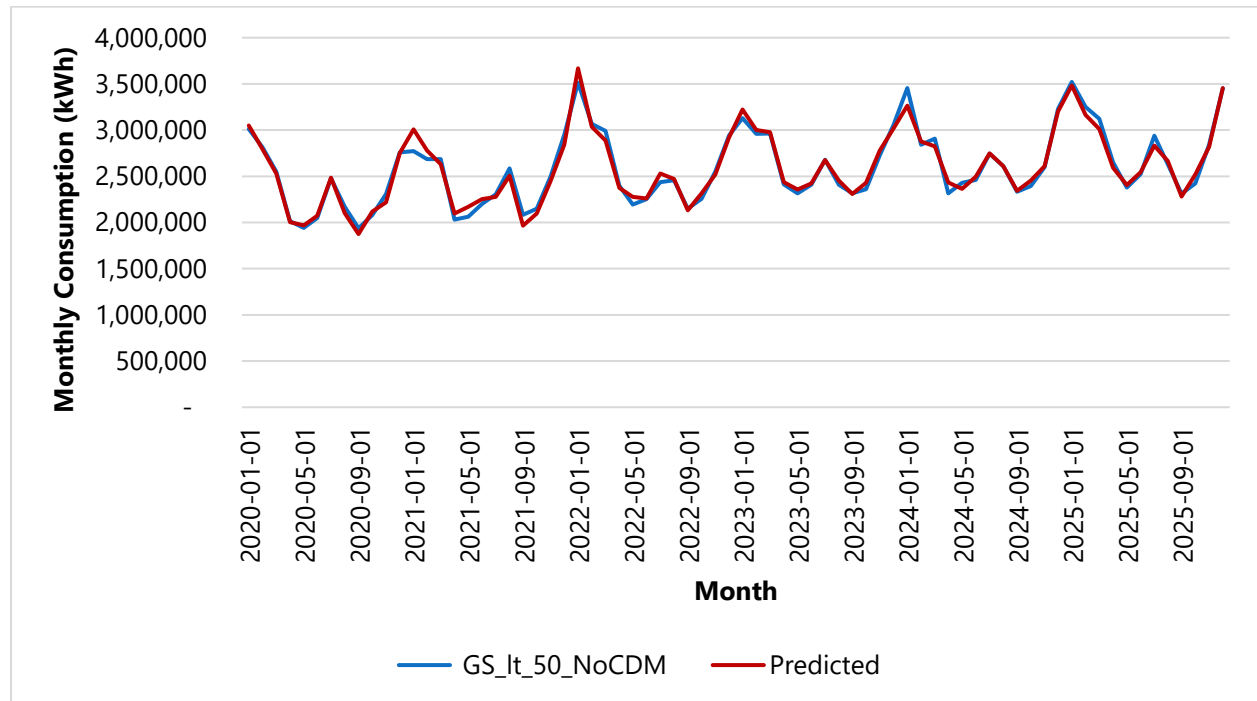
Model 2: Prais-Winsten, using observations 2020:01-2025:12 (T = 72)

Dependent variable: GS_lt_50_NoCDM				
rho = 0.0672694				
	coefficient	std. error	t-ratio	p-value
const	(2,135,517)	442,864.37	-4.82	0.0000
HDD20	1,886	53.15	35.48	0.0000
CDD12	3,713	170.85	21.73	0.0000
ONGDP	2	0.39	6.23	0.0000
MonthDays	55,575	10,275.59	5.41	0.0000
COVID_AM	(311,330)	61,587.20	-5.06	0.0000
Statistics based on the rho-differenced data				
Sum squared resid	3.493E+11	S.E. of regression	72,747	
R-squared	0.9686	Adjusted R-squared	0.9662	
F(6, 65)	379.23	P-value(F)	3.48E-47	
rho	0.0024	Durbin-Watson	1.9911	
Statistics based on the original data				
Mean dependent var	2,590,373	S.D. dependent var	395,742	

Ontario GDP from Statistics Canada was found to be statistically significant, and more significant than other economic variables, such as Ontario and Ottawa employment and various other GDP measures. This variable was found to be more statistically significant than other trending variables such as customer counts or a simple time trend. The COVID AM variable was found to be statistically significant and more significant than other COVID variables. The Residential customer count was found to be statistically significant and is used in the model. A variable representing the number of days in the month is used as it is statistically significant.

1 The following figure shows predicted monthly consumption using the variables and coefficients
2 in Table 3 compared with actual monthly consumption.

3 **Figure 2 - General Service < 50 kW Predicted Monthly**



4
5
6 Annual estimates using actual weather are compared to actual values in the table below. Mean
7 absolute percentage error (MAPE) for annual estimates for the period is 1.1%, and 0.6% when only
8 the years used in the regression are considered. The MAPE calculated monthly over the period is
9 2.1%.

Table 6 – General Service < 50 kW Mean Percentage Error

<i>Period</i>	<i>Actual</i>	<i>Predicted</i>	<i>Absolute Value of Error</i>
2016	29,877,373	29,426,985	1.5%
2017	29,920,648	29,669,932	0.8%
2018	31,714,630	31,287,408	1.3%
2019	32,703,083	31,498,651	3.7%
2020	28,109,315	27,963,853	0.5%
2021	29,009,356	29,074,596	0.2%
2022	31,199,528	31,388,805	0.6%
2023	31,728,197	32,082,529	1.1%
2024	32,322,809	32,221,129	0.3%
2025	34,041,751	33,767,382	0.8%
Total	310,626,691	308,381,270	0.7%
<i>Mean Absolute Percentage Error (Total Annual)</i>			1.1%
<i>Mean Absolute Percentage Error (2020-25 Annual)</i>			0.6%
<i>Mean Absolute Percentage Error (2020-25 Monthly)</i>			2.1%

3.1.6.4 GENERAL SERVICE > 50 KW CLASS

The table below represents the regression results used to determine ORPC's General Service > 50 kW load forecast, excluding the large customer. Within the dependent variable, "xLC" denotes the loads exclude the large customer. The large customer load forecast is provided in Appendix A.

Table 7 – General Service > 50 kW Regression Results

Model 4: Prais-Winsten, using observations 2020:01-2025:12 (T = 72)

Dependent variable: GSgtxLCkWh_NoCDM

$\rho = 0.42377$

	coefficient	std. error	t-ratio	p-value
const	4,121,039	190,055.85	21.68	0.0000
HDD20	2,315	283.91	8.16	0.0000
CDD10	5,402	692.63	7.80	0.0000

Statistics based on the rho-differenced data

Sum squared resid	6.933E+12	S.E. of regression	316,982
R-squared	0.5903	Adjusted R-squared	0.5784
F(6, 65)	67.33	P-value(F)	6.06E-17
rho	0.0795	Durbin-Watson	1.8209

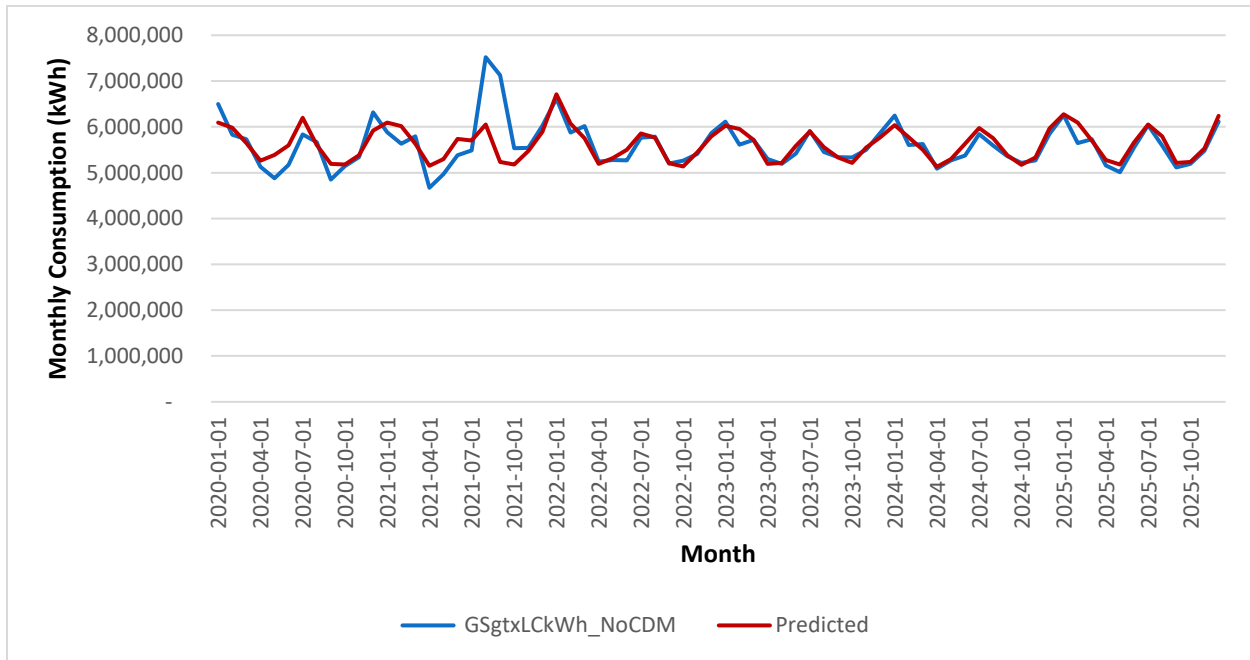
Statistics based on the original data

Mean dependent var	5,620,004	S.D. dependent var	487,659
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Economic variables, such as Ontario and Ottawa employment and various GDP measures, were tested but not found to be statistically significant variables. Consumption of the General Service > 50 kW class, excluding the large customer, has been relatively consisting since 2022 and other trending variables, customer counts and a simple time trend, were also found to not be statistically significant. None of the other calendar variables or COVID variables were found to be statistically significant.

The following figure shows predicted monthly consumption using the variables and coefficients in Table 7 compared with actual monthly consumption.

Figure 3 - General Service > 50 kW Predicted Monthly



Annual estimates using actual weather are compared to actual values in the table below. Mean absolute percentage error (MAPE) for annual estimates for the period is 3.4%, and 1.4% when only the years used in the regression are considered. The MAPE calculated monthly over the period is 3.4%.

Table 8 – General Service > 50 kW Mean Percentage Error

<i>Period</i>	<i>Actual</i>	<i>Predicted</i>	<i>Absolute Value of Error</i>
2016	73,187,221	68,078,442	7.0%
2017	71,226,706	67,557,196	5.2%
2018	72,257,067	68,616,960	5.0%
2019	74,466,689	68,019,349	8.7%
2020	66,399,109	67,447,371	1.6%
2021	69,570,047	67,480,465	3.0%
2022	67,589,732	67,749,967	0.2%
2023	66,752,783	67,013,961	0.4%
2024	66,338,908	66,954,287	0.9%
2025	66,893,124	68,249,960	2.0%
Total	694,681,385	677,167,959	2.5%
<i>Mean Absolute Percentage Error (Total Annual)</i>			3.4%
<i>Mean Absolute Percentage Error (2020-25 Annual)</i>			1.4%
<i>Mean Absolute Percentage Error (2020-25 Monthly)</i>			3.4%

3.1.7 FORECAST OF WEATHER-SENSITIVE RATE CLASSES

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

3.1.7.1 RESIDENTIAL LOAD FORECAST

Residential actual and forecast consumption is provided in the table below. The normalized/forecast figures incorporate 10-year weather normal heating and cooling degree days, actual and forecast customer count, and the COVID and calendar variables.

Table 9 – Residential Forecast

<i>Residential kWh</i>						
Year	Actual	Cumulative Persisting CDM	Actual No CDM	Normal Predicted No CDM	Cumulative Persisting CDM	Normalized / Forecast
	A	B	C = A + B	D	E = B	F = D - E
2016	76,635,115	389,592	77,024,707	76,024,918	389,592	75,635,326
2017	76,119,517	1,379,950	77,499,467	77,544,372	1,379,950	76,164,423
2018	81,716,499	1,862,266	83,578,765	80,030,965	1,862,266	78,168,699
2019	85,932,903	1,941,972	87,874,875	81,702,667	1,941,972	79,760,695
2020	85,141,857	1,942,287	87,084,144	86,678,262	1,942,287	84,735,975
2021	85,333,075	1,951,883	87,284,957	88,518,952	1,951,883	86,567,069
2022	86,112,039	1,969,118	88,081,157	89,113,628	1,969,118	87,144,510
2023	85,022,917	1,988,095	87,011,012	89,614,079	1,988,095	87,625,984
2024	86,752,528	2,055,888	88,808,416	90,734,971	2,055,888	88,679,083
2025	90,973,051	2,184,226	93,157,277	91,467,484	2,184,226	89,283,258
2026				93,312,108	2,170,023	91,142,084
2027				94,789,646	2,132,604	92,657,042

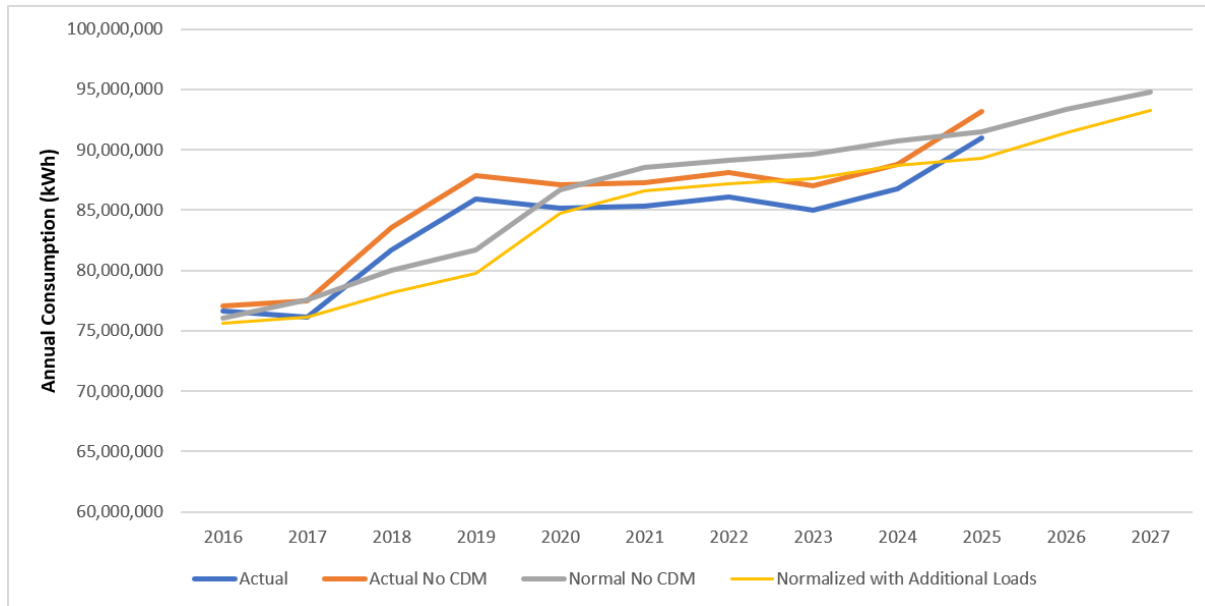
As discussed in Section 3.2, additional loads above historical trends are considered to account for increased electrification of transportation and heating. The additional loads are added to the normalized forecast from the table above.

Table 10 – Residential Additional Loads

<i>Residential kWh</i>			
Year	Normalized	Additional Loads	Forecast with Additional Loads
	F = D - E	G	H = F + G
2026	91,142,084	265,090	91,407,175
2027	92,657,042	575,886	93,232,928

A visualization of Residential actual and forecast volumes is provided in the figure below.

Figure 4 – Residential Forecast



Note that the vertical intercept does not begin at 0 in any figure in this section.

3.1.7.2 GENERAL SERVICE < 50 KW LOAD FORECAST

General Service < 50 kW actual and forecast consumption is provided in the table below. The normalized/forecast figures incorporate 10-year weather normal heating and cooling degree days, economic data and forecasts, and the COVID and calendar variables.

Table 11 – General Service < 50 kW Forecast

General Service < 50 kWh						
Year	Actual	Cumulative Persisting CDM	Actual No CDM	Normal Predicted No CDM	Cumulative Persisting CDM	Normalize d / Forecast
	A	B	C = A + B	D	E = B	F = D - E
2016	29,514,061	363,312	29,877,373	29,173,353	363,312	28,810,041
2017	28,872,534	1,048,114	29,920,648	29,765,764	1,048,114	28,717,649
2018	30,060,062	1,654,568	31,714,630	30,546,125	1,654,568	28,891,556
2019	30,767,208	1,935,875	32,703,083	31,003,571	1,935,875	29,067,695
2020	26,233,400	1,875,915	28,109,315	28,056,155	1,875,915	26,180,240
2021	27,003,039	2,006,318	29,009,356	29,424,475	2,006,318	27,418,158
2022	28,785,066	2,414,462	31,199,528	31,373,886	2,414,462	28,959,423
2023	29,063,129	2,665,068	31,728,197	32,697,511	2,665,068	30,032,443
2024	29,356,697	2,966,112	32,322,809	33,008,630	2,966,112	30,042,519
2025	30,749,969	3,291,782	34,041,751	33,331,801	3,291,782	30,040,019
2026				33,605,571	3,193,266	30,412,305
2027				34,003,037	3,100,567	30,902,470

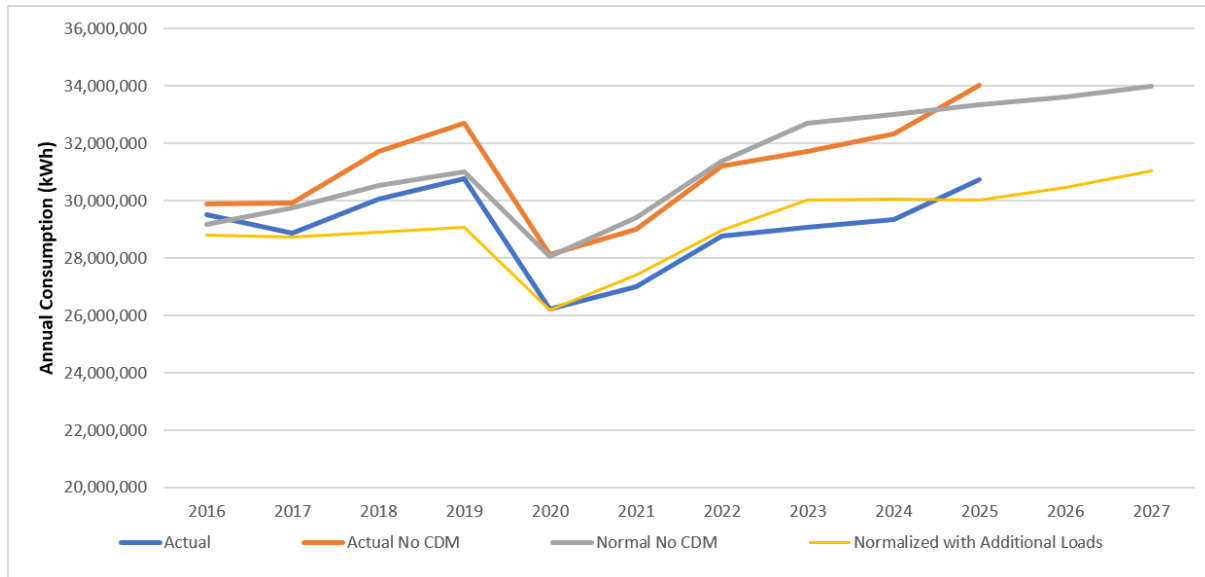
As discussed in Section 3.2, additional loads above historical trends are considered to account for increased electrification of transportation and heating. The additional loads are added to the normalized forecast from the table above.

Table 12 – General Service < 50 kW Additional Loads

General Service < 50 kWh			
Year	Normalize d	Additional Loads	Forecast with Additional Loads
	F = D - E	G	H = F + G
2026	30,412,305	65,846	30,478,151
2027	30,902,470	131,150	31,033,620

A visualization of General Service < 50 kW actual and forecast volumes is provided in the figure below.

Figure 5 – General Service < 50 kW Forecast



3.1.7.3 GENERAL SERVICE > 50 KW LOAD FORECAST

General Service > 50 kW actual and forecast consumption is provided in the table below. The normalized/forecast figures incorporate 10-year weather normal heating and cooling degree days and adjustments for the large customer. The values in the tables and figure below reflect the combined forecasts of the General Service > 50 kW class excluding the large customer and the separate large customer forecast as provided in Appendix A.

Table 13 – General Service > 50 kW Forecast

General Service > 50 kWh						
Year	Actual	Cumulative Persisting CDM	Actual No CDM	Normal Predicted No CDM	Cumulative Persisting CDM	Normalized / Forecast
	A	B	C = A + B	D	E = B	F = D - E
2016	75,048,053	331,929	75,379,982	68,807,017	331,929	68,475,089
2017	70,829,349	917,683	71,747,032	68,807,017	917,683	67,889,335
2018	71,502,339	1,409,655	72,911,994	68,807,017	1,409,655	67,397,362
2019	73,532,152	1,646,578	75,178,730	68,807,017	1,646,578	67,160,439
2020	65,161,090	1,626,238	66,787,328	68,807,017	1,626,238	67,180,779
2021	67,961,294	1,782,956	69,744,250	68,807,017	1,782,956	67,024,062
2022	68,211,369	2,218,278	70,429,648	68,807,017	2,218,278	66,588,739
2023	64,679,344	2,525,245	67,204,589	68,807,017	2,525,245	66,281,773
2024	64,215,692	2,872,665	67,088,357	68,807,017	2,872,665	65,934,352
2025	72,102,178	3,232,159	75,334,337	75,144,657	3,232,159	71,912,499
2026				68,807,017	3,173,493	65,633,524
2027				68,807,017	3,124,320	65,682,697

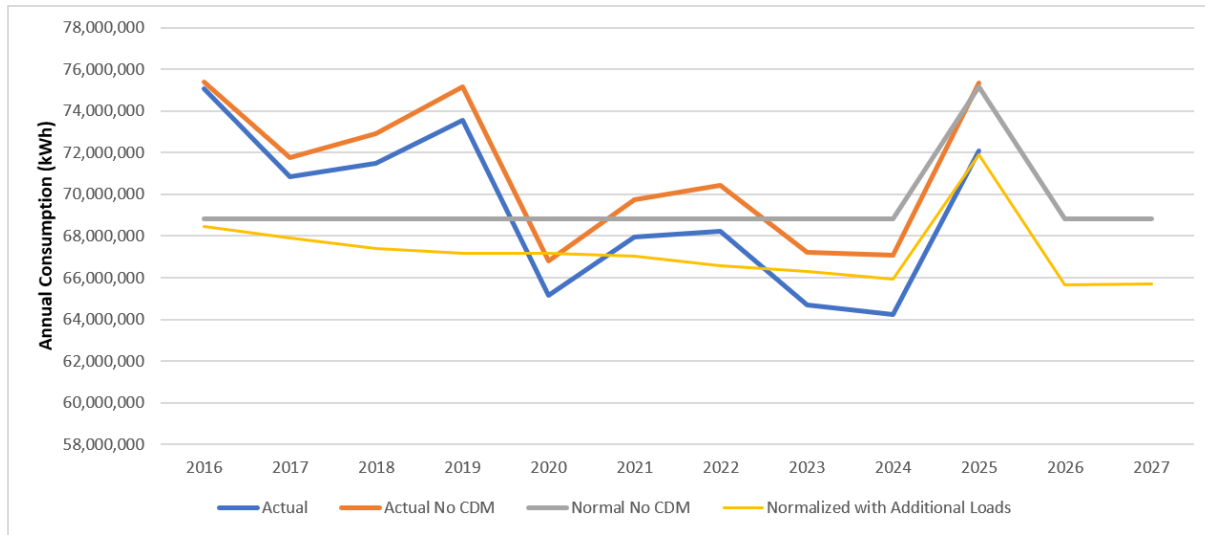
As discussed in Section 3.2, additional loads above historical trends are considered to account for increased electrification of transportation and heating. The additional loads are added to the normalized forecast from the table above.

Table 14 – General Service > 50 kW Additional Loads

General Service > 50 kWh			
Year	Normalized	Additional Loads	Forecast with Additional Loads
	F = D - E	G	H = F + G
2026	65,633,524	8,824	65,642,349
2027	65,682,697	17,395	65,700,092

A visualization of General Service > 50 kW actual and forecast volumes is provided in the figure below.

Figure 6 – General Service > 50 kW Forecast



In order to normalize and forecast class kW for those classes that bill based on kW (demand) billing determinants, the relationship between billed kW and kWh is used. The ratio is calculated as the 10-year average kW/kWh ratio from 2016 to 2025.

Table 15 – General Service > 50 kW Forecast Billed Demand

GS 50-4,999 kW

	Actual kWh	Actual kW	Ratio		
	A	B	C = B / A		
2017	75,048,053	223,174	0.002974		
2018	70,829,349	218,669	0.003087		
2019	71,502,339	229,114	0.003204		
2020	73,532,152	230,501	0.003135		
2021	65,161,090	193,233	0.002965		
2022	67,961,294	184,340	0.002712		
2023	68,211,369	204,528	0.002998		
2024	64,679,344	205,270	0.003174		
2025	64,215,692	189,967	0.002958		
	kWh Normalized	kW Normalized	10-Year Avg. Ratio	Additional kW Loads	Total Forecast
	D	E = D * F	F	G	H = E + G
2025	71,912,499	217,023	0.003018		217,023
2026	65,633,524	198,074	0.003018	78	198,152
2027	65,682,697	198,222	0.003018	162	198,384

3.1.8 NON-WEATHER SENSITIVE CLASSES

ORPC has adopted the average use per customer/connection approach to provide a load forecast for the Street Lighting, Sentinel Lighting, and Unmetered Scattered Load rate classes.

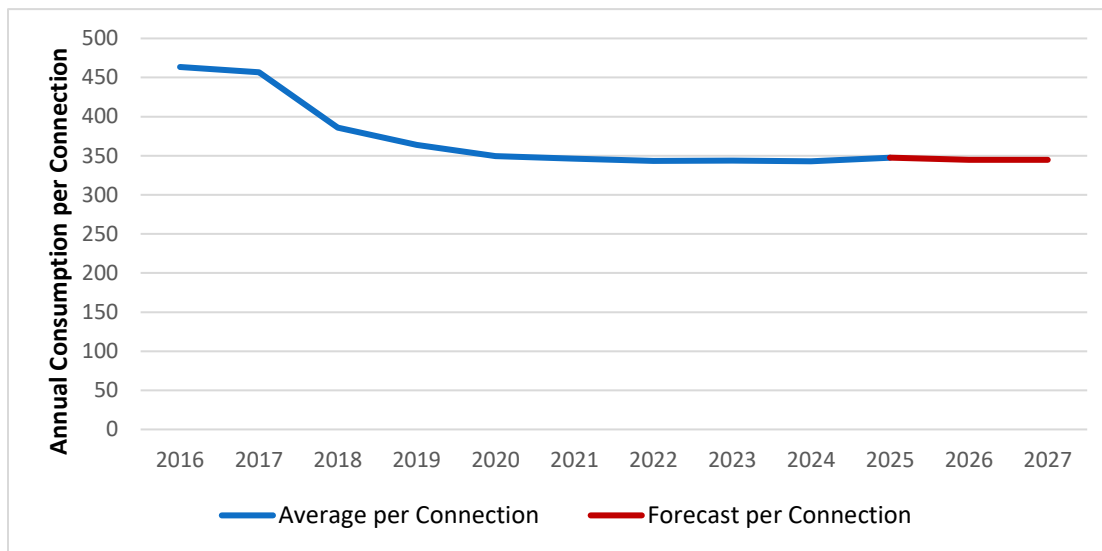
3.1.8.1 STREET LIGHTING

The Street Lighting kWh forecast is based on a three-year average (2023-2025) of kWh consumption per connection. Average use per connection and the resulting forecast are provided below.

Table 16 – Street Lighting Forecast

<i>Year</i>	<i>Actual</i>	<i>Connections</i>	<i>Average per Connection</i>	<i>Normal Forecast</i>
	A	B	C = A / B	D = B * C
2016	1,307,703	2,822	463	1,307,703
2017	1,297,582	2,840	457	1,297,582
2018	1,110,658	2,878	386	1,110,658
2019	1,053,969	2,897	364	1,053,969
2020	1,015,667	2,905	350	1,015,667
2021	1,011,636	2,920	346	1,011,636
2022	1,002,092	2,920	343	1,002,092
2023	998,543	2,904	344	998,543
2024	996,845	2,907	343	996,845
2025	1,016,652	2,925	348	1,016,652
2026		2,937	345	1,012,496
2027		2,948	345	1,016,551

Figure 7 – Street Lighting kWh per Connection



The historic relationship between billed kW and kWh is used to forecast billed kW based on the forecast of kWh provided above. The 5-year average historic kW/kWh ratio from 2021 to 2025 is applied to forecast kWh volumes. A 5-year average is used instead of a 10-year average because the ratio declined and fluctuated early in the 10-year period as ORPC transitioned to LED lights.

Table 17 – Street Lighting Forecast Billed Demand

<i>Street Lighting</i>			
	Actual kWh	Actual kW	Ratio
	A	B	C = B / A
2017	1,307,703	3,918	0.002996
2018	1,297,582	3,609	0.002781
2019	1,110,658	3,152	0.002838
2020	1,053,969	2,923	0.002773
2021	1,015,667	2,832	0.002788
2022	1,011,636	2,823	0.002790
2023	1,002,092	2,822	0.002816
2024	998,543	2,784	0.002788
2025	996,845	2,774	0.002782
	kWh Normalized	kW Normalized	10-Year Avg. Ratio
	D	E = D * F	F
2025	1,016,652	2,838	0.002791
2026	1,012,496	2,826	0.002791
2027	1,016,551	2,837	0.002791

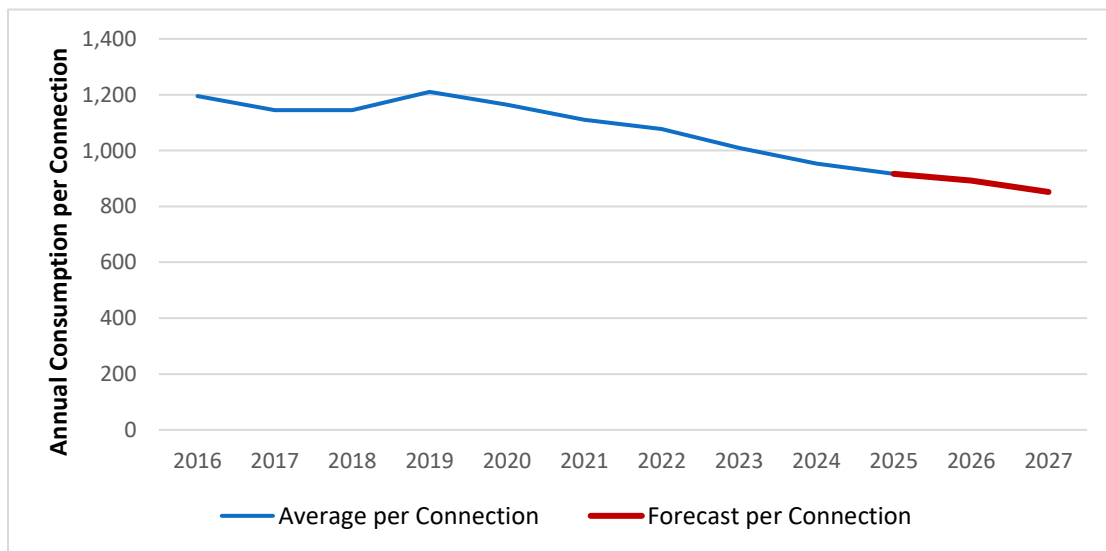
3.1.8.2 SENTINEL LIGHTING

Consumption of the Sentinel Lighting rate class has declined over time, both on an overall class basis and on a per connection basis. Consumption per Sentinel Lighting customer is forecast based on the continuation of a declining trend from 20218 to 2025. Average use per connection and the resulting forecast are provided below.

Table 18 – Sentinel Lighting Forecast

<i>Year</i>	<i>Actual</i>	<i>Connections</i>	<i>Average per Connection</i>	<i>Normal Forecast</i>
	A	B	C = A / B	D = B * C
2016	217,806	182	1,195	217,806
2017	203,681	178	1,144	203,681
2018	203,849	178	1,145	203,849
2019	211,785	175	1,210	211,785
2020	199,124	171	1,164	199,124
2021	189,809	171	1,110	189,809
2022	190,718	177	1,078	190,718
2023	175,555	174	1,009	175,555
2024	164,745	173	953	164,745
2025	162,265	177	917	162,265
2026		176	892	157,403
2027		176	852	149,812

Figure 8 – Sentinel Lighting kWh per Connection



The historic relationship between billed kW and kWh is used to forecast billed kW based on the forecast of kWh provided above. The 5-year average historic kW/kWh ratio from 2021 to 2025 is applied to forecast kWh volumes. A shorted 5-year average is used instead of a 10-year average because the ratio has fluctuated over time.

Table 19 – Street Lighting Forecast Billed Demand

<i>Street Lighting</i>			
	Actual kWh	Actual kW	Ratio
	A	B	C = B / A
2017	217,806	629	0.002888
2018	203,681	546	0.002681
2019	203,849	529	0.002595
2020	211,785	517	0.002441
2021	199,124	516	0.002591
2022	189,809	512	0.002697
2023	190,718	528	0.002770
2024	175,555	479	0.002728
2025	164,745	481	0.002917
	kWh Normalized	kW Normalized	10-Year Avg. Ratio
	D	E = D * F	F
2025	162,265	449	0.002769
2026	157,403	436	0.002769
2027	149,812	415	0.002769

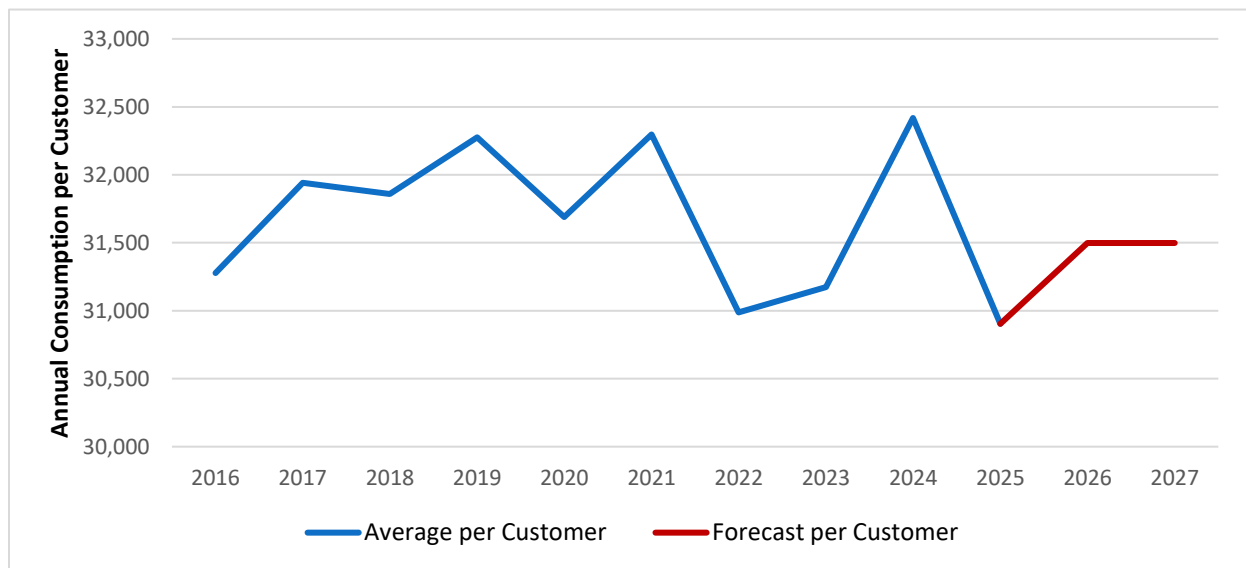
3.1.8.3 UNMETERED SCATTERED LOAD

The Unmetered Scattered Load kWh forecast is based on a three-year average (2023-2025) of kWh consumption per customer. Average use per customer and the resulting forecast are provided below.

Table 20 – Unmetered Scattered Load Forecast

<i>Year</i>	<i>Actual</i>	<i>Customers</i>	<i>Average per Customer</i>	<i>Normal Forecast</i>
	A	B	C = A / B	D = B * C
2016	594,265	19	31,277	594,265
2017	606,898	19	31,942	606,898
2018	605,298	19	31,858	605,298
2019	613,238	19	32,276	613,238
2020	602,100	19	31,689	602,100
2021	613,644	19	32,297	613,644
2022	588,782	19	30,989	588,782
2023	589,689	19	31,173	589,689
2024	591,629	18	32,418	591,629
2025	587,172	19	30,904	587,172
2026		19	31,498	598,467
2027		19	31,498	598,467

Figure 9 – Unmetered Scattered Load kWh per Customer



3.1.9 ADDITIONAL LOADS

3.1.9.1 ELECTRIC VEHICLES

Electric vehicle consumption is forecast based on delayed Canada's zero-emission vehicle sales targets, estimated consumption per type of EV, and EV statistics from Statistics Canada. The data from Statistics Canada includes the total number of EVs sold in ORPC's service area and the number of EVs sold in Ontario by type of vehicle. Statistics Canada provides data for the type of vehicle at the municipal level. EVs are forecast separately by battery EVs and plug-in hybrid EVs.

The total number of battery EVs in ORPC's service area and by type and the number of battery EVs in Ontario are provided in the table below.

Table 21 – Ontario and ORPC Battery EV Statistics

	2020	2021	2022	2023	2024	2025
<i>ORPC BEVs</i>	4	10	30	25	29	22
<i>ON BEVs</i>	8,161	14,821	32,783	38,635	41,659	42,492
<i>ORPC % of ON BEVs</i>	0.05%	0.07%	0.09%	0.06%	0.07%	0.05%
<i>ORPC Passenger BEVs</i>	4	10	29	25	25	17
<i>ORPC Vans BEVs</i>	-	-	-	-	-	-
<i>ORPC Pickup Truck BEVs</i>	-	-	1.0	-	4.0	5.0
<i>Passenger BEV %</i>	100.0%	100.0%	98.1%	98.7%	95.3%	92.2%
<i>Van BEV %</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Pickup Truck BEV %</i>	0.0%	0.0%	1.9%	1.3%	4.7%	7.8%

Passenger EVs includes what is labeled by Statistics Canada as "Passenger" and "Multi-Purpose Vehicle" EVs. Multi-Purpose Vehicles are vehicles such as SUVs and crossovers. The share of Passenger and Multi-Purpose Vehicles have each changed significantly over the past nine years, but jointly the share has been reasonably consistent over time.

The total number of battery EVs in ORPC's service area from 2026 and 2027 is forecast based on the number of vehicles sold in Ontario, the share of Ontario battery EVs sold ORPC's service area, and the latest target number of EVs sold in Canada. The revised target percentage of total vehicles that are ZEV is 75% by 2035.

Table 22 – Forecast of Battery EVs by Type 2026-27

	2026	2027
<i>All Vehicles in Ontario</i>	727,513	742,063
<i>New Battery EV Target</i>	6.9%	8.0%
<i>ORPC EVs as % of Ontario EVs</i>	0.06%	0.06%
Total New ORPC BEVs	31	37
<i>Passenger BEVs</i>	30	35
<i>Van BEVs</i>	-	-
<i>Pickup Truck BEVs</i>	1	2

The number of vehicles sold is assumed to grow by according to population forecasts from the Ministry of Finance. The share of total Ontario battery EVs sold in ORPC's service area is first based on the three-year average share of 0.13% from 2023 to 2025 persisting to 2027. The total number of battery EVs sold in ORPC in each year is calculated as the total number of vehicles sold in Ontario multiplied by the target share of battery EVs sold multiplied by ORPC's share of total battery EVs. The forecast of new EVs by type is calculated based on the total new battery EVs in ORPC multiplied by the 2025 share of each type from

Table 21.

Table 23 – Ontario and ORPC Plug-in Hybrid EV Statistics

	2020	2021	2022	2023	2024	2025
<i>ORPC PHEVs</i>	4	3	8	15	19	20
<i>ON PHEVs</i>	2,356	4,989	5,879	11,497	14,934	15,957
<i>ORPC % of ON PHEVs</i>	0.17%	0.06%	0.14%	0.13%	0.13%	0.13%
<i>ON Passenger PHEVs</i>	3	3	7	14	19	20
<i>ON Vans PHEVs</i>	1.0	-	1.0	1.0	-	-
<i>ON Pickup Truck PHEVs</i>	-	-	-	-	-	-
<i>Passenger PHEV %</i>	88.0%	89.3%	88.9%	90.2%	92.9%	94.4%
<i>Van PHEV %</i>	12.0%	10.7%	11.1%	9.8%	7.1%	5.6%
<i>Pickup Truck PHEV %</i>	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Table 24 – Forecast of Plug-in Hybrid EVs by Type 2026-27

	2026	2027
<i>All Vehicles in Ontario</i>	727,513	742,063
<i>New Plug-in Hybrid EV Target</i>	2.6%	3.0%
<i>ORPC EVs as % of Ontario EVs</i>	0.13%	0.13%
Total New ORPC PHEVs	24	29
<i>Passenger PHEVs</i>	22	26
<i>Van PHEVs</i>	2	2
<i>Pickup Truck PHEVs</i>	-	-

Calculations for the average consumption per type of vehicle is provided in Table 25. The average distance is based on the average vehicle kilometers traveled per day as provided by the AES Engineering report on EV Charging Performance.³ The average efficiency per type of vehicle is based on a review of efficiency ratings from NRCan's Fuel Consumption Guides⁴ and Plug n' Drive's summary of EVs available in Canada. This figure is adjusted to account for the difference between battery electric vehicles and plug-in hybrid electric vehicles.

Table 25 – Consumption by EV Type

Vehicle Type	Average Distance	Average Efficiency	Total Consumption per Vehicle	
	km	kWh/ 100 km	Battery EV	Plug-in Hybrid
<i>Passenger</i>	14,600	20	2,920	1,752
<i>Van</i>	20,000	25	5,000	3,000
<i>Pick-Up Truck</i>	20,000	30	6,000	3,600

Cumulative and incremental kWh from EVs are calculated based on the number of EVs multiplied by the average consumption per vehicle.

³ <https://council.cleanairpartnership.org/wp-content/uploads/2021/11/2-21-050-EV-Charging-Performance-Requirements-in-GTHA.pdf>

⁴ https://natural-resources.canada.ca/sites/nrcan/files/files/pdf/2024_Fuel_Consumption_Guide.pdf
Please note that Statistics Canada no longer tracks these figures.

Table 26 – Forecast EVs and kWh Consumption by EV Type

	Passenger EVs		Van EVs		Pick-Up Truck EVs	
	2026	2027	2026	2027	2026	2027
<i>New EVs</i>	52	62	2	2	1	2
<i>Incremental kWh</i>	125,972	149,092	5,426	6,422	14,054	16,633
<i>Cumulative EVs</i>	255	317	7	9	11	13
<i>Cumulative kWh</i>	556,466	693,998	17,713	23,637	82,027	97,370

The allocation of incremental consumption is estimated based on the customer counts in each rate class and a review of allocations used by other LDCs. Judgement is required as ORPC does not have these details by rate class. The allocations and allocated incremental consumption by EV type to each class is provided below.

Table 27 – Allocations to Rate Classes

Rate Class	Passenger	Van	Pick-up Truck
<i>Residential</i>	85.0%	65.0%	60.0%
<i>GS<50</i>	10.0%	20.0%	25.0%
<i>GS 50 – 4,999</i>	5.0%	15.0%	15.0%
Total	100.0%	100.0%	100.0%

Finally, the table below provides a summary of EV consumption and demand by rate class. Incremental billed demands are forecast using an estimated 15% load factor.

Table 28 – EV Forecast Summary

	2026	2027
Incremental kWh		
<i>Residential</i>	97,361	200,240
<i>GS<50</i>	16,298	32,202
<i>GS 50 – 4,999</i>	8,824	17,395
Incremental kW		
<i>GS 50 - 4,999</i>	78	162

3.1.10 DETERMINATION OF CUSTOMER FORECAST

ORPC has used the geometric mean growth rate to determine the forecasted number of customers and connections for 2026 and 2027.

Historical yearly average number of customers / connections and the forecast number of customers / connections for 2026 and 2027 are presented in the table below.

ORPC confirms the historical numbers are the monthly average number of customers / connections in each year. These yearly averages were used to derive the annual growth rate and resulting geomean rate.

Table 29 - Customer Account / Connection Forecast

	<i>Residential</i>		<i>General Service < 50 kW</i>		<i>General Service > 50 to 4999 kW</i>		<i>Street Lighting</i>		<i>Sentinel</i>		<i>USL</i>	
<i>Year</i>	<i>Cust.</i>	<i>Growth Rate</i>	<i>Cust.</i>	<i>Growth Rate</i>	<i>Cust.</i>	<i>Growth Rate</i>	<i>Conn.</i>	<i>Growth Rate</i>	<i>Conn.</i>	<i>Growth Rate</i>	<i>Cust.</i>	<i>Growth Rate</i>
2016	9,506		1,293		150	1.00%	2,822	0.66%	182	-2.33%	19	0.00%
2017	9,600	0.99%	1,282	-0.81%	151	-1.32%	2,840	1.32%	178	0.00%	19	0.00%
2018	9,741	1.47%	1,287	0.42%	149	0.06%	2,878	0.68%	178	-1.69%	19	0.00%
2019	9,857	1.20%	1,286	-0.13%	149	0.22%	2,897	0.28%	175	-2.29%	19	0.00%
2020	9,959	1.03%	1,277	-0.69%	150	-3.40%	2,905	0.52%	171	0.00%	19	0.00%
2021	10,078	1.19%	1,278	0.12%	145	-1.84%	2,920	0.00%	171	3.51%	19	0.00%
2022	10,169	0.90%	1,278	-0.05%	142	-1.82%	2,920	-0.56%	177	-1.74%	19	-0.44%
2023	10,283	1.12%	1,270	-0.64%	139	-0.48%	2,904	0.12%	174	-0.62%	19	-3.52%
2024	10,351	0.66%	1,276	0.54%	139	-2.10%	2,907	0.61%	173	2.41%	18	4.11%
2025	10,392	0.39%	1,272	-0.37%	136	1.00%	2,925	0.66%	177	-2.33%	19	0.00%
Geomean		0.99%		-0.18%		-1.08%		0.40%		-0.32%		0.00%
2026	10,495		1,269		134		2,937		176		19	
2027	10,600		1,267		133		2,948		176		19	

3.1.11 FINAL WEATHER NORMALIZED LOAD FORECAST

The table illustrates the historic and projected weather normalized Load Forecast by customer class.

Table 30 - Final Load Forecast

	Year	2021 Actuals	2022 Actuals	2023 Actuals	2024 Actuals	2025 Actuals	2026 Predicted	2027 Predicted
Residential	Cust/Conn	10,078	10,169	10,283	10,351	10,392	10,495	10,600
	kWh	85,333,075	86,112,039	85,022,917	86,752,528	90,973,051	91,218,659	92,832,140
General Service < 50 kW	Cust/Conn	1,278	1,278	1,270	1,276	1,272	1,269	1,267
	kWh	27,003,039	28,785,066	29,063,129	29,356,697	30,749,969	30,138,183	30,243,420
General Service > 50 to 4999 kW	Cust/Conn	145	142	139	139	136	134	133
	kWh	67,961,294	68,211,369	64,679,344	64,215,692	72,102,178	65,316,237	64,938,559
	kW	184,340	204,528	205,270	189,967	214,177	197,167	196,085
Street Lighting	Cust/Conn	2,920	2,920	2,904	2,907	2,925	2,937	2,948
	kWh	1,011,636	1,002,092	998,543	996,845	1,016,652	1,012,496	1,016,551
	kW	2,823	2,822	2,784	2,774	2,824	2,826	2,837
Sentinel	Cust/Conn	171	177	174	173	177	176	176
	kWh	189,809	190,718	175,555	164,745	162,265	157,403	149,812
	kW	512	528	479	481	444	436	415
USL	Cust/Conn	19	19	19	18	19	19	19
	kWh	613,644	588,782	589,689	591,629	587,172	598,467	598,467
Total	Cust/Conn	14,611	14,704	14,788	14,864	14,920	15,031	15,143
	kWh	182,112,496	184,890,066	180,529,177	182,078,136	195,591,287	188,441,446	189,778,950
	kW	187,675	207,879	208,534	193,221	217,444	200,429	199,337

3.1.12 LOAD FORECAST SCENARIOS

The tables below provide alternate load forecast scenarios with low and high electrification and weather scenarios. These forecasts are provided for information only and are not used for ratemaking purposes.

Table 31 – Low Scenario Load Forecast

2027	kWh	kW	Customers / Devices
Residential	87,006,298		10,600
GS < 50	28,630,205		1,267
GS > 50	62,581,017	196,072	133
Street Light	1,016,551	2,837	2,948
Sentinel Light	149,812	415	176
USL	598,467		19
Total	179,982,350	199,324	15,143

The low scenario is based on the following alternate assumptions: EVs are forecast based on the recent growth trend of EVs instead of the accelerated trend to reach federal ZEH targets, heat pump adoption is assumed to be 10% of new customers instead of 15%, and weather variables are set at the lowest annual value in the last 10 years instead of the 10-year average (2024 for HDD and 2017 for CDD).

Table 32 – High Scenario Load Forecast

2027	kWh	kW	Customers / Devices
Residential	97,515,030		10,600
GS < 50	31,577,047		1,267
GS > 50	66,837,455	196,132	133
Street Light	1,016,551	2,837	2,948
Sentinel Light	149,812	415	176
USL	598,467		19
Total	197,694,363	199,384	15,143

The high scenario is based on the following alternate assumptions: EVs are forecast based on reaching 100% of new vehicles sales being ZEVs by 2035 instead of the updated 75% federal ZEV targets, heat pump adoption is assumed to be 20% of new customers instead of 15%, and weather variables are set at the highest annual value in the last 10 years instead of the 10-year average (2019 for HDD and 2025 for CDD).

3.2 IMPACTS FROM CDM

3.2.1 LOAD FORECAST EDSM ADJUSTMENT

On January 23, 2025, the IESO released the 2025-2027 Electricity Demand Side Management (eDSM) Program Plan. eDSM programs undertaken as part of the 2025-2027 plan will put downward pressure on ORPC's billing determinants for the General Service < 50 kW and General Service > 50 kW rate classes. An eDSM adjustment has been made to reflect the impact of planned eDSM activities that are expected to be implemented from 2025 to 2027.

eDSM activities have been forecast based on ORPC's share of consumption within the province and planned kWh savings from the 2025-2027 plan. The table below provides a summary of eDSM savings and ORPC's allocation of savings.

Table 33 – 2025-2027 eDSM Forecast and ORPC Allocation

<i>Program</i>	2025-27 eDSM Plan			ORPC Share
	2025	2026	2027	
<i>Retrofit</i>	446	519	476	0.17%
<i>Small Business</i>	14	15	16	0.19%
<i>Home Renovation Savings</i>	61	66	66	0.20%
<i>Local Initiatives</i>	641	693	750	0.14%
<i>Energy Affordability Program</i>	27	30	44	0.00%
<i>First Nations Program</i>	1	1	1	0.22%
<i>Total</i>	1,375	1,543	1,718	

ORPC's share of kWh is calculated as a 5-year average by the total provincial supplied kWh as per the OEB's open data source (2.1.5.4). Some industrial programs have been removed or adjusted downward as ORPC does not have a significant share of provincial industrial load. The share is calculated separately for each rate class. The Energy Affordability Program allocation is based on the number of households in Pembroke, Almonte, Beachburg, and Killaloe as counted by Statistics Canada within the Low-Income Measure.

3.2.2 FINAL CDM ADJUSTMENT

The cumulative eDSM savings from 2025 to 2027 are summarized for each rate class in the following table. A half-year adjustment is applied to first-year savings. Cumulative savings begin with a half-year of forecast 2025 savings as savings from those programs are not fully realized in 2025 actual consumption figures.

Table 34 – Cumulative 2025-2027 eDSM Savings

	2025	2026	2027
kWh			
<i>Residential</i>	90,129	188,516	400,788
<i>GS < 50</i>	105,961	339,967	790,200
<i>GS 50-4,999</i>	99,272	326,112	761,533
Total kWh	295,361	854,594	1,952,521
kW			
<i>GS 50-4,999</i>	296	984	2,299
Total kW	296	984	2,299

3.3 ACCURACY OF LOAD FORECAST AND VARIANCE ANALYSIS

3.3.1 VARIANCE ANALYSIS OF LOAD FORECAST

The table below shows the yearly change in consumption for the Residential class.

Table 35 - Residential Variance

Residential					
Year	Cust/Conn	Cust +/-	kWh	kWh +/-	kWh/Cust
2021 Actuals	10,078		85,333,075		8,467
2022 Actuals	10,169	91	86,112,039	778,964	8,423
2023 Actuals	10,283	114	85,022,917	(1,089,122)	8,234
2024 Actuals	10,351	68	86,752,528	1,729,611	8,368
2025 Actuals	10,392	41	90,973,051	4,220,523	8,738
2026 Predicted	10,495	103	91,218,659	245,608	8,692
2027 Predicted	10,600	104	92,832,140	1,613,481	8,758

* Number of customers is expressed in year average format

** kWh is metered without loss

The number of residential customers has increased from ORPC's last cost of service back in 2022 to 2025. The kWh consumption has seen mostly increases over the same period, with 2025 kWhs being the highest. This increase in consumption is consistent with the increase in residential customer count.

Table 36 – General Service <50 kW Variance

General Service < 50 kW					
Year	Cust/Conn	Cust +/-	kWh	kWh +/-	kWh/Cust
2021 Actuals	1,278		27,003,039		21,129
2022 Actuals	1,274	(4)	28,785,366	1,782,327	22,594
2023 Actuals	1,267	(7)	29,063,129	277,763	22,939
2024 Actuals	1,271	4	29,356,697	293,568	23,097
2025 Actuals	1,273	2	30,749,969	1,393,272	24,156
2026 Predicted	1,269	(4)	30,138,183	(611,786)	23,750
2027 Predicted	1,267	(2)	30,243,420	105,237	23,870

* Number of customers is expressed in year average format

** kWh is metered without loss

The number of customers in the GS<50 kW has experienced a slight decline since the last Cost of Service in 2022 where the overall consumption has increased. The projected consumption for 2027 is 30,243,420 kWh is on par with the 7-year average for this customer class.

Table 37 – General Service 50-4999 kW Variance

General Service > 50 to 4999 kW

Year	Cust/Conn	Cust +/-	kWh	kWh +/-	kW	kW +/-	kW/Cust
2021 Actuals	145		67,961,294		184,340		1,271
2022 Actuals	141	(4)	68,211,369	250,075	204,528	20,188	1,451
2023 Actuals	139	(2)	64,679,344	(3,532,025)	205,270	742	1,477
2024 Actuals	137	(2)	64,215,692	(463,652)	189,967	(15,303)	1,387
2025 Actuals	133	(4)	72,102,178	7,886,486	214,177	24,210	1,610
2026 Predicted	134	1	65,316,237	(6,785,941)	198,152	(16,025)	1,478
2027 Predicted	133	(1)	64,938,559	(377,678)	196,085	(2,067)	1,474

* Number of customers is expressed in year average format

** kWh is metered without loss

Similar to the GS<50kW, the number of customers in the GS 50-999 kW class have also seen a slight decline since the last Cost of Service in 2022 as commercial customers experience financial challenges. There was a significant increase in usage in 2025 resulting from a single customer consuming an extraordinary amount of usage in November and December 2025. The projected consumption for 2027 is 64,938,559 kWh and 196,085 kW which is on par with the 7-year average used to determine the test year forecast which anticipates one new customer in each of the bridge and test year.

Table 38 – Unmetered Scattered Load Variance

USL

Year	Cust/Conn	Cust +/-	kWh	kWh +/-	kWh/Cust
2021 Actuals	19		613,644		32,297
2022 Actuals	18	(1)	588,782	(24,862)	32,710
2023 Actuals	18	-	589,689	907	32,761
2024 Actuals	19	1	591,629	1,940	31,138
2025 Actuals	19	-	587,172	(4,457)	30,904
2026 Predicted	19	-	598,467	11,295	31,498
2027 Predicted	19	-	598,467	-	31,498

* Number of connections is expressed in year average format

** kWh is without loss

Connection count and consumption for the Unmetered Scattered Load class have been consistent since the last Cost of Service in 2022. The projected consumption for 2027 is 598,467 kWh which is consistent with past consumption.

Table 39 – Sentinel Lighting Variance

Sentinel							
Year	Cust/Conn	Cust +/-	kWh	kWh +/-	kW	kW +/-	kWh/Cust
2021 Actuals	171		189,809		512		1,110
2022 Actuals	177	6	190,718	909	528	16	1,078
2023 Actuals	173	(4)	175,555	(15,163)	479	(49)	1,015
2024 Actuals	177	4	164,745	(10,810)	481	2	931
2025 Actuals	177	0	162,265	(2,480)	444	(37)	917
2026 Predicted	176	(1)	157,403	(4,862)	436	(8)	894
2027 Predicted	176	0	149,812	(7,591)	415	(21)	851

* Number of connections is expressed in year average format

** kWh is without loss

The connection count, consumption and kWh for the Sentinel Lighting class have remained stable since the last Cost of Service in 2022. The usage has steadily decreased since 2022 with LED replacements.

The table below illustrates the yearly change in connections, kWh consumption and kW demand for the Streetlight class:

Table 40 – Streetlight Variance

Street Lighting							
Year	Cust/Conn	Cust +/-	kWh	kWh +/-	kW	kW +/-	kWh/Cust
2021 Actuals	2,920		1,011,636		2,823		346
2022 Actuals	2,920	-	1,202,092	190,456	2,822	(1)	412
2023 Actuals	2,908	(12)	998,543	(203,549)	2,784	(38)	1,015
2024 Actuals	2,906	(2)	996,845	(1,698)	2,774	(10)	931
2025 Actuals	2,973	67	1,016,652	19,807	2,824	50	917
2026 Predicted	2,937	(36)	1,012,496	(4,156)	2,826	2	894

2027 Predicted	2,948	9	1,016,551	4,055	2,837	11	851
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** Number of connections is expressed in year average format*
*** kWh is without loss*

The connection count, consumption and demand for the Streetlight class have been consistent since ORPC’s last Cost of Service in 2022. At the end of 2025, ORPC had 5 street lighting customers which combined for a total of 2,973 connections.

The table below summarizes the variance between the 2022 Board Approved Load Forecast and the Test Year (2027) Load Forecast.

Table 41 – 2022 Board Approved VS 2027 Load Forecast

	Year	2022 Approved	2027 Forecast	Variance
Residential	Cust/Conn	10,191	10,600	409
	kWh	79,466,998	92,832,140	13,365,142
	kW	-	-	-
General Service < 50 kW	Cust/Conn	1,264	1,267	3
	kWh	30,190,015	30,243,420	53,405
	kW	-	-	-
General Service > 50 to 4999 kW	Cust/Conn	151	133	(18)
	kWh	71,904,756	64,938,559	(6,966,197)
	kW	219,896	196,085	(23,811)
Sentinel	Cust/Conn	166	176	10
	kWh	195,500	149,812	(45,688)
	kW	492	415	(77)
Street Lighting	Cust/Conn	2,949	2,948	(1)
	kWh	1,105,631	1,016,551	(89,080)
	kW	3,103	2,837	(266)
USL	Cust/Conn	19	19	-
	kWh	609,268	598,467	(10,801)
	kW	-	-	-
Total	Cust/Conn	14,741	15,143	402
	kWh	183,472,167	189,778,950	6,306,783
	kW	223,491	199,337	(24,154)

Overall, the increase in consumption is a result of the growing Residential class, which is somewhat offset by reductions on the consumption of other classes.

The tables below illustrate the actual average kWh consumption and kW demand per customer, by customer class, and historical and adjusted forecast average use per customer generated from the load forecast. As can be seen from the results below, the predicted use per customer follows the trend created from its historical usage per customer.

Table 42 – Residential Customer Average

Residential kW

Year	Cust	%chg	kWh	%chg
2016	9,506		76,635,115	
2017	9,600	0.99	76,119,517	(0.67)
2018	9,741	1.47	81,716,499	7.35
2019	9,857	1.19	85,932,903	5.16
2020	9,959	1.03	85,141,857	(0.92)
2021	10,078	1.19	85,333,075	0.22
2022	10,169	0.90	86,112,039	0.91
2023	10,283	1.12	85,022,917	(1.26)
2024	10,351	0.66	86,752,528	2.03
2025	10,392	0.40	90,973,051	4.87
2026	10,495	0.99	91,407,175	0.48
2027	10,600	1.00	92,832,140	1.56

Table 43 – GS<50kW Customer Average

GS<50 kW

Year	Cust	%chg	kWh	%chg
2016	1,293		29,514,061	
2017	1,282	(0.85)	28,872,534	(2.17)
2018	1,287	0.39	30,060,062	4.11
2019	1,286	(0.08)	30,767,208	2.35
2020	1,277	(0.70)	26,233,400	(14.74)
2021	1,278	0.08	27,003,039	2.93
2022	1,278	-	28,785,066	6.60
2023	1,270	(0.63)	29,063,129	0.97
2024	1,276	0.47	29,356,697	1.01
2025	1,272	(0.31)	30,749,969	4.75
2026	1,269	(0.24)	30,478,151	(0.88)
2027	1,267	(0.16)	30,243,420	(0.77)

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Table 44 – GS50-4999kW Customer Average

GS>50 kW

Year	Cust	%chg	kWh	%chg	kW	%chg
2016	150		75,048,053		223,174	
2017	151	0.67	70,829,349	(5.62)	218,669	(2.02)
2018	149	(1.32)	71,502,339	0.95	229,114	4.78
2019	149	-	73,532,152	2.84	230,501	0.61
2020	150	0.67	65,161,090	(11.38)	193,233	(16.17)
2021	145	(3.33)	67,961,294	4.30	184,340	(4.60)
2022	142	(2.07)	68,211,369	0.37	204,528	10.95
2023	139	(2.11)	64,679,344	(5.18)	205,270	0.36
2024	139	-	64,215,692	(0.72)	189,967	(7.46)
2025	136	(2.16)	72,102,178	12.28	214,177	12.74
2026	134	(1.47)	65,642,349	(8.96)	198,152	(7.48)
2027	133	(0.75)	64,938,559	(1.07)	198,384	0.12

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Table 45 – Sentinel Customer Average

Sentinel

Year	Cust	%chg	kWh	%chg	kW	%chg
2016	182		217,806		629	
2017	178	(2.20)	203,681	(6.49)	546	(13.20)
2018	178	-	203,849	0.08	529	(3.11)
2019	175	(1.69)	211,785	3.89	517	(2.27)
2020	171	(2.29)	199,124	(5.98)	516	(0.19)
2021	171	-	189,809	(4.68)	512	(0.78)
2022	177	3.51	190,718	0.48	528	3.13
2023	174	(1.69)	175,555	(7.95)	479	(9.28)
2024	173	(0.57)	164,745	(6.16)	481	0.42
2025	177	2.31	162,265	(1.51)	444	(7.69)
2026	176	(0.56)	157,403	(3.00)	436	(1.80)
2027	176	-	149,812	(4.82)	415	(4.82)

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Table 46 – Street Lighting Customer Average

Street Lighting

Year	Cust	%chg	kWh	%chg	kW	%chg
2016	2,822		1,307,703		3,918	
2017	2,840	0.64	1,297,582	(0.77)	3,609	(7.89)
2018	2,878	1.34	1,110,658	(14.41)	3,152	(12.66)
2019	2,897	0.66	1,053,969	(5.10)	2,923	(7.27)
2020	2,905	0.28	1,015,667	(3.63)	2,832	(3.11)
2021	2,920	0.52	1,011,636	(0.40)	2,823	(0.32)
2022	2,920	-	1,002,092	(0.94)	2,822	(0.04)
2023	2,904	(0.55)	998,543	(0.35)	2,784	(1.35)
2024	2,907	0.10	996,845	(0.17)	2,774	(0.36)
2025	2,925	0.62	1,016,652	1.99	2,824	1.80
2026	2,937	0.41	1,012,496	(0.41)	2,826	0.07
2027	2,948	0.37	1,016,551	0.40	2,837	0.39

Table 47 – USL Customer Average

USL

Year	Cust	%chg	kWh	%chg
2016	19		594,265	
2017	19	-	606,898	2.13
2018	19	-	605,298	(0.26)
2019	19	-	613,238	1.31
2020	19	-	602,100	(1.82)
2021	19	-	613,644	1.92
2022	19	-	588,782	(4.05)
2023	19	-	589,689	0.15
2024	18	(5.26)	591,629	0.33
2025	19	5.56	587,172	(0.75)
2026	19	-	598,467	1.92
2027	19	-	598,467	-

The table below summarizes the variance between the 2022 Board Approved Load Forecast and actual 2022 volumes.

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Table 48 – 2022 Board Approved VS 2022 Actuals

	Year	2022 Approved	2022 Actuals	Variance
Residential	Cust/Conn	10,191	10,169	(22)
	kWh	79,466,998	86,112,039	6,645,041
	kW	-	-	
General Service < 50 kW	Cust/Conn	1,264	1,278	14
	kWh	30,190,015	28,785,066	(1,404,949)
	kW	-	-	
General Service > 50 to 4999 kW	Cust/Conn	151	142	(9)
	kWh	71,904,756	68,211,369	(3,693,387)
	kW	219,896	204,528	(15,368)
Sentinel	Cust/Conn	166	177	11
	kWh	195,500	190,718	(4,782)
	kW	492	528	36
Street Lighting	Cust/Conn	2,949	2,920	(29)
	kWh	1,105,631	1,002,092	(103,539)
	kW	3,103	2,822	(281)
USL	Cust/Conn	19	19	-
	kWh	609,268	588,782	(20,486)
	kW	-	-	
Total	Cust/Conn	14,741	14,704	(37)
	kWh	183,472,167	184,890,066	1,417,899
	kW	223,491	207,879	(15,612)

2 The 2022 load forecast did not include an adjustment for the direct and indirect impacts of the
3 COVID-19 pandemic, however the trend of higher Residential consumption and lower General
4 Service consumption and demands persisted to 2022. Overall consumption was higher than
5 forecast despite five out of six classes having lower consumption. The impact of not including
6 specific COVID-19 adjustments may have been exacerbated by the previous methodology of
7 forecasting system purchases and allocating the forecast to rate classes, as the composition of
8 ORPC's loads by rate class changed in that period.

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3.4 APPENDICES

Appendix 3A	Large Customer Load Forecast
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1 3.4.1 APPENDIX 3A - LARGE CUSTOMER LOAD FORECAST